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A typology of blood donor motivations

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Abstract

Background: Although the need for whole blood is declining, so too are the number of first-time and repeat blood donors. To develop new recruitment and retention strategies, therefore, we need to draw on as wide a variation in blood donor motivations as possible. The primary aim of this study is to draw on a large survey of donors to develop a broad, theoretically instantiated typology of donor motivations to identify new and less common, yet practically important, motivations that have not been previously reported.

Study Design and Methods: Using data from the UK Blood Donor Survey run by NHS Blood and Transplant/Public Health England Epidemiology Unit (N = 61 123 donors), we analyze fixed (N = 52 225) and free (N = 8867) responses to develop a more comprehensive typology of blood donor motivations based on theories from the biology, psychology, philosophy, economics, and sociology of altruism.

Results: We identified 54 motivations, including a number of newly identified motivations, for blood donations which we organized into 12 superordinate categories (eg, “inspiration via moral elevation,” “perceived social closeness,” and “fungibility of donations”). These are linked to intervention suggestions such as donating blood in memoriam or donating blood as an alternative to other charitable acts.

Conclusion: We present the most comprehensive account of blood donor motivations to-date. This work also offers a structure for coding free-text responses, developing motivational measures, and identifying tangible interventions. Thus, we feel that this is a valuable resource for blood donor researchers, marketers, and policy makers.

KEYWORDS

donors, health research methodology, study design, statistics

1 | INTRODUCTION

Although the need for red blood cells is declining, two recruitment and retention challenges still face transfusion services worldwide.¹ First, the numbers of first-time and repeat donors are declining.²⁻⁵ Second, more specific donor-recipient matching would enhance treatments for conditions such as sickle cell disease.^{6,7} These two challenges make the search for novel recruitment and retention strategies a continuing need^{8,9} and one that would be facilitated by an extensive typology of donor motivations.¹⁰ The aim of the current paper is to extend and develop the most extensive typology, to date, proposed by Bednall and Bove¹¹ and identify new intervention ideas.

1.1 | Existing typologies of donor motivations

Bednall and Bove¹¹ developed the most comprehensive typology of blood donor motivations. This was based on a secondary analysis of data, and as with all secondary analyses, this is limited by the information contained in the primary papers in terms of the: (a) theoretical adequacy of the original interpretation, (b) reliability of the coding, and (c) exploration of more nuanced motivational categories.¹² Furthermore, while the combined overall sample

size was large (154 122), many studies included by Bednall and Bove¹¹ and published subsequently are based on small samples.^{13,14} Indeed, 48% of the studies reviewed by Bednall and Bove¹¹ had sample sizes in the range of 100-500. Studies with smaller sample sizes reduce the probability of identifying rarer motivations (ie, those mentioned by a few donors). Therefore, the primary aim of this study is to confirm, update and extend the Bednall and Bove¹¹ typology based on a large primary dataset and suggest potential interventions. We achieve this by applying Bednall and Bove's¹¹ typology, as well as theoretical insights from the psychology, economics, biology, sociology, and philosophy of altruism and cooperation¹⁵⁻²³ to motivations derived from both free-text and fixed-responses from a survey of 61 123 whole blood donors in the UK.

2 | MATERIALS AND METHODS

2.1 | Study population

The sample consisted of active, non-remunerated whole blood donors who took part in the UK Donor Survey on donor compliance and behaviour.²⁴ Table 1 provides comparative data on the characteristics of the survey sample indicating that the survey sample is generally representative of donors then and now.

Characteristic	UK survey N (%)	NHSBT donors at time of survey N (%)	NHSBT donors 2018 N (%)
Total	61 123	901 700	843 076
Motivations questions			
Answered the fixed questions only	52 255 (85.5)		
Answered a fixed question and give a free response as well	4431 (7.2%)		
Gave a free response only	4436 (7.3%)		
Donor status			
First-time donor	16 493 (27.0%)	15.4%	20.2%
Age groups			
17-24	10 217 (16.7%)	13.9%	10.8%
25-34	10 054 (16.4%)	15.7%	21.3%
35-44	10 551 (17.3%)	17.6%	18.3%
45-54	13 444 (22.0%)	24.5%	21.2%
55+	16 857 (27.6%)	28.3%	28.5%
Sex			
Female	39 871 (65.2%)	54.4%	58.2%
Missing	1		

TABLE 1 Characteristics of the survey sample

TABLE 2 Fixed response motivations

Fixed question	Theoretical construct	Reference from MOA literature	Bednall and Bove motivation (2011)	Prevalence	
				Of total	Of those who responded
"To help someone in need."	Pure altruism	15, 25	Prosocial	66.8%	71.8%
"To do a good thing."	Prosociality	26	Prosocial	70.9%	76.4%
"To feel good."	Warm-glow	15	Intrinsic (self-esteem)	23.9%	25.8%
"To get a blood test."	Selfish	27	Incentives (health check)	0.50%	0.50%
"To find out blood type."	Selfish	27	Incentives (learn blood type)	7.5%	8.0%
"My friend(s)/workmates/family were going."	Social reputation/peer pressure	28	Social norms (subjective norms)	5.8%	6.1%
"My partner was going."	Social reputation/sexual selection/peer pressure	28, 29	Social norms (subjective norms)	2.0%	2.2%
"So my partner can give."	Social reputation/sexual selection/peer pressure	28, 29		0.40%	0.50%
"Advert"	Appeal response	10	Marketing communications (advertising)	5.6%	6.0%
"I was just passing/I had nothing else to do."	Spontaneous altruism	30		0.70%	0.80%
"I would rather not say."	Privacy			0.10%	0.10%
"Not sure"	Uncertainty			0.30%	0.40%

*Total = 61 124. Number of people who provided a tick box response = 55 255.

2.2 | Materials

Respondents were asked to indicate their motivations for their most recent blood donation using a ten-item fixed response tick box. While a number of these represent motivational categories from Bednall and Bove,¹¹ the fixed response options were designed to assess wider theoretical constructs linked to cooperation (see Table 2).^{10,15,25-30} A free text response format allowed participants to provide additional motivations.

2.3 | Free responses: the coding framework

The coding frame was developed iteratively using Thematic Analysis³¹ following best practice procedures.³² Prior to examining the free-responses, the first author (EF) used the definitions provided by Bednall and Bove¹¹ and the wider literature on human cooperation^{15-23,25-30} to derive an initial coding frame. The first author reviewed all the free-responses and adapted the initial

coding frame accordingly. Next, an independent researcher (ML), trained in the use of the coding frame, reviewed all the free responses to check for any additional categories needed or for existing ones that needed refining. Finally, inter-rater reliability was based on a randomly selected sample of 20% of the 8867 free-responses (N = 1733: Supplementary File Text S1 and Table S1 for extensive details of this analysis). The inter-rater reliability analysis was conducted by ML and a third independent researcher (AH) also trained in the use of the coding frame (Supplementary File S1).

3 | RESULTS

3.1 | Fixed response questions

Table 2 contains the fixed responses and their percentage endorsements. Altruism/prosociality were the most cited motivations followed by warm-glow and all the Bednall and Bove¹¹ categories included were endorsed.

TABLE 3 Higher order categorization based on Bednall and Bove (2011)

Super-ordinate categories in bold (sub-categories in italics)	Primary categories in this study
1. Convenience of collection site	"Convenience" [κ .611]
2. Prosocial motivation	
"Altruism" & "collectivism (community)"	"Altruism" [κ .727]
3. Personal values	
<i>Religiosity</i>	"Religion" [κ 1.00]
<i>Personal moral norms</i>	"Duty" [κ .814]
<i>Reputation of collection agency</i>	"Blood service inspired," "Research," "Supporting the NHS" [$m\kappa$.710].
4. Perceived Need for Donation	
<i>Everyday</i>	"Need," "Short-supply" [$m\kappa$.677].
5. Indirect Reciprocity	
<i>Upstream & downstream</i>	[see main text and reciprocity below]
<i>Intrinsic motivations self-esteem</i>	"Pride," "Personal goal," "Guilt," "Want," "Overcome personal barriers" [mV .716]
<i>Curiosity</i>	"New experience" [V .727]
6. Marketing communications	
<i>Direct marketing</i>	"Reminder," "Appointment," "Donation due" [$m\kappa$.849]
7. Incentives	
<i>Health checks & infectious disease screening</i>	"Health check" [κ 1.000]
<i>Perceived health benefits</i>	"Health benefits" [κ 0.769]
<i>Time off work or school & Gifts</i>	"Rewards" [κ 0.846]
8. Social norms	
<i>Subjective norms</i>	"Peer pressure" [κ .488]

Abbreviation: $m\kappa$, Mean Kappa.

*(κ): 0.0-0.20 = No agreement; 0.21-0.39 = minimal agreement; 0.40-0.59, weak agreement; 0.60-0.79 = moderate reliable; 0.80-0.90 = strong and >0.90 almost perfect agreement.³³

3.2 | The typology

Free responses were provided by 8867 donors. The coding process resulted in a final typology of 47 motivations (Tables 2 and 3 and Supplementary Tables S1-and S3 for definitions, reliability, and supporting references). Forty-seven percent of motivations had Kappa reliabilities greater than .80 (strong to perfect agreement), 28% had

Kappa reliabilities of .70 or higher and 8.5% of .60 or higher (indicating moderate agreement: see Supplementary File Text S1 and Table S1 for details). Thus, 83% had moderate to strong/perfect agreement with an average Kappa across all 47 categories of 0.748.

Seven sub-categories of motivation from Bednall and Bove¹¹ were not reported by our donors: (a) "*Money*," (b) "*Collectivism (friends and family)*," (c) "*Blood drives*," (d) "*Recognition*," (e) "*After catastrophic events*," (f) "*Advertising*," and (g) "*Descriptive norms*." Our sample is UK-based where donors are not paid (*money*) and cannot donate blood to friends/relatives (*Collectivism [friends and family]*) and *blood drives* are rare. However, recognition schemes are used (<https://www.blood.co.uk/the-donation-process/recognising-donors/>). A major catastrophe had not occurred in the UK at the time of the survey. However, tragic events have since occurred in the UK and UK blood donors have turned out to help (<https://www.manchestereveningnews.co.uk/news/greater-manchester-news/manchester-blood-banks-terror-attack-13077365>). Advertising campaigns are used in the UK, and indeed were reported in the fixed response questions in Table 2. It is also known that awareness of friends/relative donating (*descriptive norms*) predicts donation.³⁴ As these are all possible motivations we feel they should be part of any typology, resulting in 54 motivations.

We grouped the motivations in terms of the eight super-ordinate categories from Bednall and Bove¹¹ (Table 3 and Figure 1; Supplementary File and Table S2 for more details) as well as 12 new super-ordinate categories identified in this study (Table 4 and Figure 1; Supplementary File Table S3 for more details supporting this typology). We focus on the 12 new super-ordinate categories and highlight potential interventions (Supplementary File Table S4 for greater detail about interventions).

4 | DISCUSSION

4.1 | Superordinate categories 1 & 2: reciprocity and cooperation with the future

Our conceptualization of reciprocity is based on a framework of direct and indirect reciprocity that considers three potential interacting agents: "A" the helper, "B" the recipient, and "C" a person influenced directly or indirectly by the interaction between "A" and "B."^{20,39} In our analysis "A" is always the transfusion service, "B" the recipient of blood, and "C" a relative/friend of "B" or a stranger helped by "B" (Figure 2). While there are similarities between our conceptualization and Bednall and Bove's¹¹ there are a few differences which are discussed below.

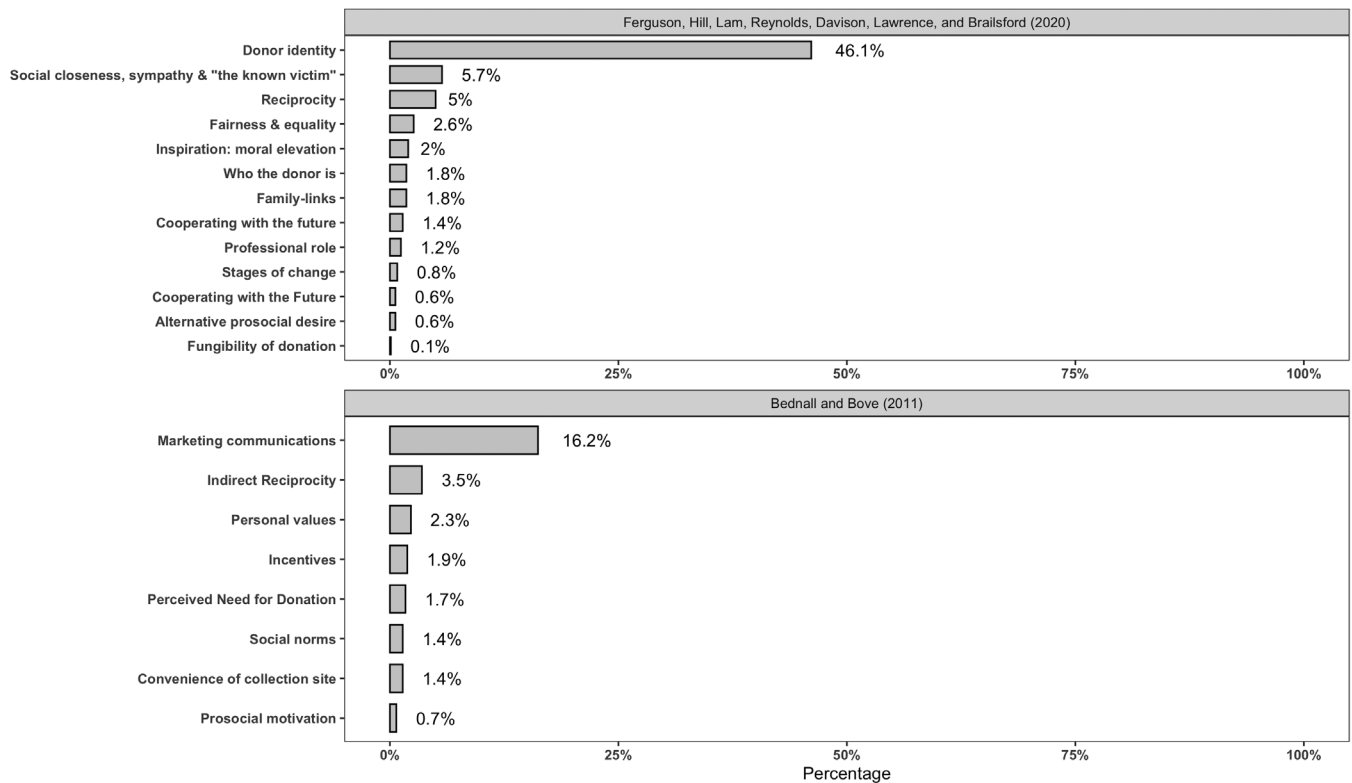


FIGURE 1 Percentage endorsement of each superordinate category

4.1.1 | Direct reciprocity

Direct reciprocity refers to "A" helping "B" and "B" directly repaying "A" (sequence A-B-A).^{20,39} Since 2004, recipients of blood post-1980 in the UK (<https://www.transfusionguidelines.org/dsg/wb/guidelines/tr014-transfusion>; <https://my.blood.co.uk/knowledgebase/Index/T>) cannot donate blood. Thus, the transfusion service ("A") cannot be repaid by a recipient ("B"). However, we identify two types of direct reciprocity: *promised* and *prohibited*. Direct reciprocity - *promised* concerns individuals who were considered for a transfusion but never transfused. They are repaying the promise (or intention) of a transfusion.⁴⁰ Direct reciprocity - *prohibited* concerns a donor who directly repays (donates) after having received a transfusion. Being prohibited would depend on a particular service's rule, and donors may or may not know if they are allowed to donate or not. Thus, transfusion services may wish to check a donor's understanding of an exclusion rule. Our "direct reciprocity - *prohibited*" is similar to Bednall and Bove's¹¹ *upstream indirect reciprocity (self)*, which they refer to as a motivation to give blood having received a blood product (Figure 2 and Table 2).

Indirect reciprocity comes in two forms: *downstream* and *upstream*.^{20,26,39} *Downstream* indirect reciprocity occurs when "A" helps "B" and "C" then helps "A," as

"A" gained a good reputation from helping "B." In terms of our conceptualization "C" who is a friend/relative of the recipient ("B") repays the transfusion service ("A") for helping their friend (Sequence A-B-C-A). Bednall and Bove¹¹ refer to this as "Upstream (friends or family)." Bednall and Bove¹¹ refer to downstream indirect reciprocity as a donor ("A") helping a recipient ("B"), and encouraging others to donate blood so that there is blood if they need it in the future. This is what we refer to as "future reciprocity - self." Where the sequence is C-A-C. The person (C) donates to help the transfusion service (A) to ensure there is enough blood for them (C) in the future. We differentiate this from the sequences C-A-B. The person (C) donates to help the transfusion service (A) to ensure there is enough blood for friends/relatives (B) in the future. *Upstream* indirect reciprocity refers to "A" helping "B" and "B" then subsequently helping "C" (sequence A-B-C).¹⁷ This pattern was not observed in our analyses.

The above highlights the central role of the transfusion service (A) as the target for reciprocal payback. As gratitude is predictive of all forms of reciprocity,²⁶ campaigns featuring people expressing their gratitude to the transfusion services could be beneficial. As a lack or loss of trust can undermine reputation a more detailed understanding of trust in transfusion services would be valuable to guide intervention design.^{9,41-43}

TABLE 4 New motivational categories

Super-ordinate categories and definition	Subordinate categories	Subordinate categories definition of the underlying specific motivation
New		
1. Reciprocity [$m\kappa$.867]. Paying back because you have been helped (Direct) or a significant other has been helped. ²⁰	“Direct reciprocity-promised,” “Direct reciprocity-prohibited,” “Downstream indirect reciprocity”	Repaying an actual or promised donation. Repaying the transfusion service for helping someone known to the donor. ²⁰
2. Cooperating with the future [$m\kappa$.783]. Acting now to protect a future need that may be endangered ²³	“Future-cooperation (self);” “Future cooperation (other)”	Cooperating now to protect their own and loved ones’ future. ²³
3. Inspiration: moral elevation [$m\kappa$.742]. Feelings of moral elevation inspire donation ³⁵	“Family and significant others inspiration”; “Medic inspiration,” “Inspiration – encouragement for others”	Moral elevation inspired by the acts or encouragement of others. ^{35,36}
4. Social closeness, sympathy & “the known victim” [κ .809]	“Known victim”	A transfusion recipient “known to” the donor increases sympathy.
5. Family-links [$m\kappa$.819]. Family ties lead to specific family focused acts of donation	“In memoriam,” “Substitute”	Honoring the memory of a loved one. Donating in place of someone else who is unable to donate.
6. Fairness & equality [$m\kappa$.621]. Donate to Increase fairness and reduce inequality. ³⁷	“Voluntary reciprocal altruism” “Reluctant altruism” “Advantageous inequality aversion”	Fairness, equality, and reciprocity from a willingness to accept a transfusion motivates donation. Not trusting others to donate. Reduce the health inequality between a donor and a patient
7. Fungibility of donation [κ 1.0]. One form of charitable act is exchangeable for another.	“Voluntary substitution”	Substituting blood donation for another type of donation (eg, financial)
8. Stages of change [κ .833]. A sequence of stages of change underlies behavior change. ³⁸	“Contemplation-action”	A pre-action stage from the processes of change theory of behavior change. ³⁸
9. Professional role [κ .944]. The importance of blood donation is contingent on the persons professional role	“Medical professional”	The experience of being a health care worker highlights way blood donation is important
10. Alternative prosocial desire [κ 1.0]. Wanting to donate in order to do another action linked to blood donation	“Bone marrow”	To becoming a blood marrow donor
11. Donor identity [$m\kappa$.640] Why being a donor is part of their identity ³⁴	“Identity,” “Important” “Habit”	Donating blood constitutes part of who they are Perceives being a blood donor as important. Regards themselves as a regular blood donor who enjoys donating
12. Who the donor is [$m\kappa$.712]. Characteristics of the donor.	“Rare blood group” “Last chance,” “Returning donor” “Previous overseas”	Possesses a rare blood type. Donates before they know they will no longer be able, for reasons such as piercing, tattoo and travel. Used to donate and now recommencing donation. Used to donate blood overseas, now donate in the England

*Kappa (κ) calibration as in Table 3.

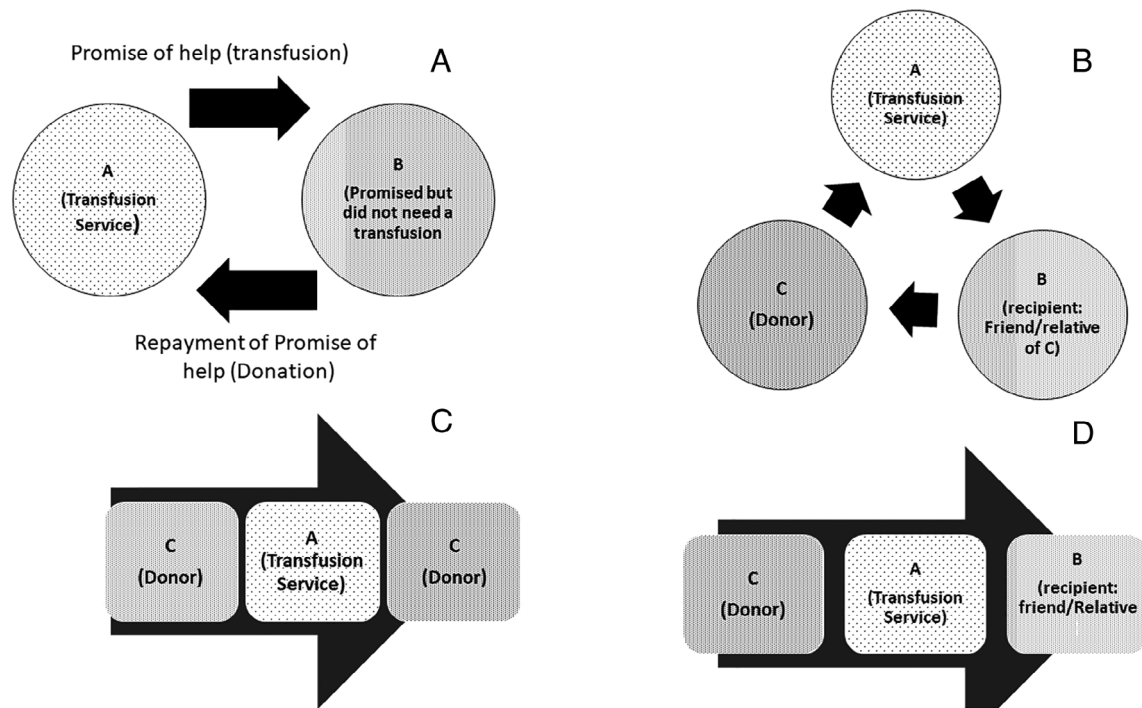


FIGURE 2 Conceptualizing reciprocity within blood donation. A, Direct reciprocity – promised: Where B repays the transfusion service (A) for the possibility of a transfusion (sequences A-B-A). B, Indirect reciprocity – downstream. Where C repays the transfusion services (A) for a transfusion that helped a friend/relative (B) (sequences A-B-C-A). C, future reciprocity – self. Where the donor (C) donates to ensure there is enough blood for them in the future (sequence C-A-C). D, future reciprocity – other. Where the donor (C) donates to ensure there is enough blood for friends/relatives in the future (sequence C-A-B)

4.2 | Superordinate category 3: inspiration: moral elevation

Moral elevation, elicited by observing the moral behavior of others that goes beyond everyday expectations,³⁵ promotes prosociality.³⁶ Interventions eliciting moral elevation could be very *specific* (eg, focusing on family members who are inspirational donors) or *generic* (eg, campaigns focusing on: [a] donors' and recipients' inspirational accounts, [b] morally elevating the transfusion service by highlighting the inspirational breadth and diversity of patients and conditions treated with blood and blood products, and [c] morally elevating the act of blood donation itself to a morally high place). Indeed, the role of the transfusion services and the unconditional generosity of regular and convalescent plasma donors, during the COVID-19 pandemic are archetypal examples for such moral elevation. More tangentially, healthcare professionals could encourage others to donate by communicating inspiring stories featuring the importance of blood donation in saving lives. Indeed, for autologous donation this is successful⁴⁴ and worthy of future study for volunteer donors.⁴⁵

4.3 | Superordinate category 4: social closeness, sympathy and “the Known Victim”

Being motivated by a “Known Victim” occurs when a recipient of blood is “*known to*” or “*acquainted with*” the potential donor. This potentially increases psychological closeness, and induces more concrete thinking about blood donation.⁴⁶ This closeness may encourage donation by activating sympathy toward those needing blood.²⁵ The potential donor is also likely motivated by seeing the tangible positive impact of blood transfusion.⁴⁷ The “Known Victim” motivation is related to, but different from, the “*Identifiable Victim Effect*.”^{48,49} The critical difference is that the “Known Victim” is “*known to*” the person, whereas the person “*knows of*” an “Identifiable Victim.”⁵⁰ Also, while similar to the *downstream indirect reciprocity*, the “Known Victim” is distinguishable in terms of its mechanism. “Downstream indirect reciprocity” focuses on the potential donor *repaying* a debt of *gratitude* to the transfusion services, the “Known Victim” motivation is based on *sympathy* for those who need blood.²⁵

Drawing together the “Known Victim” motivation with the “*Identifiable Victim Effect*” suggests interventions focusing on reducing the psychological distance between the recipient and donor may be beneficial. Hyper-local campaigns highlighting local community members who have had a transfusion may be effective. They identify a single individual as the recipient of blood activating the “*Identifiable Victim Effect*” while the hyper-locality increases the psychological closeness.

4.4 | Superordinate category 5: family links (“in memoriam” and substitution)

It is becoming a common practice for relatives of the deceased (or the deceased in their will) to request that friends/relatives donate to the deceased’s chosen charity. It may be possible to extend a wish for family members to donate blood as an option during will-making, in the same way that many charities do (<https://www.rememberacharity.org.uk/>). Specifically, transfusion services could offer group donation sessions for those who wish to donate “in memorium.” Similarly, donating by *substituting* for a family member who is no longer able to give blood, offers a simple way to generate family links to donation and carrying on a “family tradition.”

These ideas require people knowing members of their family donate blood. Thus, encouraging donors to talk about being a donor is crucial. Campaigns that focus on developing family links to donation such as a recent campaign targeted at new fathers (“She gives birth, you give blood”: <https://www.donateblood.com.au/she-gives-birth>) may help in this context but need to be evaluated.

It is important to avoid making these types of interventions guilt-inducing, which could reduce willingness to donate.⁵¹ Rather, such campaigns could focus on keeping the memory of an inspiring blood donor (cf. moral elevation) alive or representing an inspiring person who can no longer help by donating blood and continuing a family tradition to save lives.

4.5 | Superordinate category 6: fairness and equality

Fairness is a central mechanism for understanding cooperation.³⁷ For example, models of inequality aversion suggest that people are motivated to *reduce inequality* between themselves and others.³⁷ As eligible

donors are healthier than recipients they have an *advantageous inequality* over the recipient in terms of health. This should motivate a desire to reduce this inequality. Thus, simple messages such as “... as a comparatively healthy and fit person, you can help those less fortunate and healthy by giving blood...,” would tap into this idea.

Another intervention based on fairness and equality, that also includes reciprocity is Voluntary Reciprocal Altruism (VRA).⁵² VRA involves asking two questions: (a) “Would you be willing to accept a transfusion if you needed one in the future?” and (b) “Are you willing to donate blood?” This taps into the idea that if you are willing to accept blood donated by others, it is only *fair* to reciprocate by donating blood. VRA manipulations have been successful in the field of organ donor recruitment⁵² and could be effective for blood donation. Ferguson and Lawrence⁵³ have shown that such an intervention in the blood donation context increased perceptions of blood donation being a fair thing to do.

4.6 | Superordinate category 7: fungibility of donation

The concept of *fungibility* in behavioral economics describes a product or concept being seamlessly exchanged/substituted with another.⁵⁴ What is novel is the idea that prosocial acts are fungible with people exchanging prosocial currency such as warm-glow,¹⁵ which is known to motivate blood donors especially.^{9,55,56}

In this case, people could be offered the opportunity to exchange their usual prosocial behavior, such as charitable volunteering, for donating blood, as this offers more potential for warm-glow. This might involve direct *competitive marketing*, highlighting how the gift of blood has an immediate impact benefiting both the donor and recipient.⁵⁷ Such a message could be: “You already help others by giving money and time to charities, why not experience real warm-glow by helping someone in need by giving blood directly?”

This idea depends on recruiting blood donors from other nonhealth-based philanthropy. Indeed, there is some evidence that blood donors are more likely to engage in other forms of nonhealth-based philanthropy.⁵⁸⁻⁵⁹ However, others find that nonhealth-based philanthropy and blood donation are unrelated.^{53,60} Therefore, the overlap of these two forms of philanthropy needs to be further explored, as this notion of fungibility may be a valuable focus for interventions.

4.7 | Superordinate category 8: stages of change

The trans-theoretical model (TTM) of behavior change identifies five stages of behaviour change: no intention to act (*Pre-contemplation*), thinking about it (*Contemplation*), intention formation (*Preparation*) action (*Action*) and sustained behavior (*Maintenance*).³⁸ Indeed, research confirms that the donor career, from first-time to committed donor, follows these stages.⁶¹⁻⁶³ Furthermore, a recent trial indicated that interventions based on TTM enhance intentions to donate in BAME groups.⁶⁴

4.8 | Superordinate category 9: professional role

Targeting medical professionals to be blood donors is a possibility. Indeed, hospital-based initiatives in the US have been successful.⁶⁵ We know that UK healthcare professionals do donate and campaigns to capitalize on this could be effective.

4.9 | Superordinate category 10: alternative prosocial desires

Someone may want to donate blood because they desire to do some other health-based prosocial act. For example, in the UK, anyone joining the British Bone Marrow Registry (BBMR) must also be a blood donor (<https://www.nhs.uk/british-bone-marrow-registry/how-can-i-help/>). As this may result in single donations rather than repeat donations without further interventions to increase maintenance, further work is needed to examine this particular group of donors. However, not all bone marrow registries require blood donation (eg, Anthony Nolan).

4.10 | Superordinate categories 11 & 12: “donor identity” and “who the donor is”

We differentiate between donor *identity* (ie, Why being a donor is part of the person’s identity) from donor *characteristics* (ie, “Who the Donor is.”). *Identity* comes with time and experience, and is linked to sustained donation.³⁴ Such donor identity could be activated from the start of the donor career by informing first-time donors that “... you have now become a blood donor” or “...now that you are a blood donor....” “Who the donor is” reflects other aspects of them as a person (eg, a rare blood group).

4.11 | Research implications

As well as suggesting new lines for interventions, this typology offers a framework for researchers working in donor behavior. It offers a structure to code free-response motivation data, providing a standardized approach. It could also be the basis of developing more quantitative tools to examine blood donor motivations. At present, such tools exist based on mechanisms of altruism⁶⁶ and social determination theory.⁶⁷ These existing tools could be combined with the motivations highlighted here to develop a more comprehensive quantitative tool. In doing so we would recommend that researchers adopt a psychometric approach (a) based on exploratory followed by confirmatory factor analysis; (b) explore for social desirability confounding at the item and factor level; and (c) supplement this with the use of Multi-Indicators-Multi-Causal (MIMIC) models to explore variation at the item and factor level with respect to age, sex, sexuality, and ethnicity.^{68,69}

4.12 | Limitations

Our typology offers the most comprehensive typology of motivations to date, but does not have the final word on donor motivations. Our sample is UK based, and self-selected from the sample invited to participate. However, we have added to our typology motivations identified by Bednall and Bove that did not emerge in our sample and reflects donation in other countries. Future research could identify and add new or culturally specific motivations.

4.13 | Summary and conclusions

Our results confirm and support Bednall and Bove’s typology, extending this to identify new motivational categories, that not only offer new insights into donor motivation, but also highlight novel interventions such as donating blood (a) in memoriam, (b) in place of a family member, and (c) as an alternative to other prosocial acts.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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REFERENCES

1. Yazer MH, Jackson B, Beckman M, et al. Changes in blood center red blood cell distributions in the era of patient blood management: the trends for collection (TFC) study. *Transfusion* 2016;56:1965-73.
2. Carter MC, Wilson J, Redpath GS, et al. Donor recruitment in the 21st century: challenges and lessons learned in the first decade. *Transfus Apher Sci* 2011;48:31-43.
3. Bosne V, Aldrin M, Heler HE. Predicting blood donor arrival. *Transfusion* 2005;45:162-70.
4. Greinacher A, Fendrich K, Alpen U, et al. Impact of demographic changes on the blood supply: Mecklenburg-West Pomerania as a model region for Europe. *Transfusion* 2007;47:395-401.
5. Greinacher A, Fendrich K, Hoffman W. Demographic changes: the impact for safe blood supply. *Transfus Med Hemother* 2010;37:141-8.
6. van Dongen A, Mews M, de Kort WLAM, et al. Missing minorities: a survey based description of the current state of minority blood donor recruitment across 23 countries. *Diversity Equality Health Care* 2016;13:138-45.
7. Shaz BH, Zimring JC, Demmons DG, et al. Blood donation and blood transfusion: special considerations for African Americans. *Transfus Med Rev* 2008;22:202-14.
8. Ferguson E, France CR, Abraham C, et al. Improving blood donor recruitment and retention: integrating social and behavioral science agendas. *Transfusion* 2007;47:1999-2010.
9. Ferguson E, Murray C, O'Carroll RE. Blood and organ donation: health impact, prevalence, correlates and interventions. *Psychol Health* 2019;34:1073-104.
10. Godin G, Vezina-Im LA, Belanger-Gravle A, et al. Efficacy of interventions promoting blood donation: a systematic review. *Transfus Med Rev* 2012;26:224-37.
11. Bednall TC, Bove LL. Donating blood: a meta-analytic review of self-reported motivators and deterrents. *Transfus Med Rev* 2011;25:317-34.
12. Sharpe D. Of apples and oranges, file drawers and garbage: why validity issues in meta-analysis will not go away. *Clin Psychol Rev* 2007;17:881-901.
13. Muthivhi TN, Olmsted MG, & Park H, et al. Motivators and deterrents to blood donation among black South Africans: a qualitative analysis of focus group data. *Transfus Med* 2015;25:249-58.
14. Burzynski ES, Nam LS, Le Vior R. Barriers and motivations to voluntary blood donation in sub-Saharan African settings: a literature review. *ISBT Sci Ser* 2016;11:73-81.
15. Andreoni J. Impure altruism and donations to public goods: a theory of warm glow giving. *Econ J* 1990;100:464-87.
16. Bshary R, Bergmüller R. Distinguishing four fundamental approaches to the evolution of helping. *J Evol Biol* 2008;21:405-20.
17. Ferguson E. Mechanism of altruism approach to blood donor recruitment and retention: a review and future directions. *Transfus Med* 2015;25:211-26.
18. Rand DG, Nowak M. Human cooperation. *Trends Cogniti Sci* 2014;17:413-25.
19. Penner LA, Dovidio JF, Piliavi JA, et al. Prosocial behavior: multilevel perspectives. *Annu Rev Psychol* 2005;56:365-92.
20. Nowak MA. Five rules for the evolution of cooperation. *Science* 2006;314:1560-3.
21. Fehr E, Rockenbach B. Human altruism: economic, neural and evolutionary perspectives. *Curr Opin Neurobiol* 2004;14:1-7.
22. Fehr E, Fischbacher U. The nature of human altruism. *Nature* 2003;425:785-91.
23. Hauser OP, Rand DG, Peysakhovich A, et al. Cooperating with the future. *Nature* 2014; 51: 220-223.
24. Davison KL, Teynolds CA, Andrews N, et al. Getting personal with blood donors - the rationale for, methodology of and an overview of participants in the UK Blood Donor Survey. *Transfus Med* 2015;25:265-75.
25. Batson CD, Lishne A, Carpenter A, et al. "... As you would have them do unto you": does imagining yourself in the other's place stimulate moral action? *Pers Soc Psychol Bull* 2003;29:1190-201.
26. Ma L, Tunney R, Ferguson E. Does gratitude enhance prosociality: a meta-analytic review. *Psychol Bull* 2017;143:601-35.
27. Goette L, Stutzer A, Yavuzcan G, et al. Free cholesterol testing as a motivation device in blood donations: evidence from field experiments. *Transfusion* 2009;49:524-31.
28. Cain DM, Dana J, Newman GE. Giving vs giving in. *Acad Manag Ann* 2014;8:505-33.
29. Miller GF. Sexual selection for moral virtues. *Q Rev Biol* 2007; 82:97-125.
30. Darley JM, Latane B. Bystander intervention in emergencies: diffusion of responsibility. *J Pers Soc Psychol* 1968;8:377-83.
31. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol* 2006;3:93.
32. O'Brien BC, Harris IB, Beckman TJ, et al. Standards for reporting qualitative research: a synthesis and recommendations. *Acad Med* 2014;89:1245-51.
33. McHugh ML. Inter-rater reliability: the kappa statistic. *Biochem Med (Zagreb)* 2012;22:276-82.
34. Piliavin JA, Callero PL. Giving blood: the development of an altruistic identity. Baltimore: John Hopkins University Press. 1991
35. Keltner D, Haidt J. Approaching awe, a moral, spiritual, and aesthetic emotion. *Cogn Emot* 2003;17:297-314.
36. Schnall S, Roper J, Fessler DMT. Elevation leads to altruistic behavior. *Psychol Sci* 2010;21:315-20.
37. Fehr E, Schmidt K. A theory of fairness, competition and cooperation. *Q J Econ* 1999;114:817-68.

38. Prochaska J, DiClemente CC, Norcross JC. In search of how people change. Applications to addictive behaviors. *Am Psychol* 1992;47:1102-14.
39. Nowak MA, Sigmund K. Evolution of indirect reciprocity. *Nature* 2005;437:1291-8.
40. Falk A, Fehr E, Fischbacher U. Testing theories of fairness—intentions matter. *Games Econ Behav* 2008;62:287-303.
41. Guerrero N, Mendes de Leon CF, Evans DA, et al. Determinants of trust in health care in an older population. *J Am Geriatr Soc* 2015;63:553-7.
42. Boenigk S, Mews M, de Kort WLAM. Missing minorities: explaining low migrant blood donation participation and developing recruitment tactics. *Voluntas* 2015;26:1240-60.
43. Boulware LE, Ratner LE, Cooper LA, et al. Understanding disparities in donor behavior: race and gender differences in willingness to donate blood and cadaveric organs. *Med Care* 2002;40:85-95.
44. Moltzan C, Proulx N, Bormanis J, et al. Perceptions and motivations of Canadian autologous blood donors. *Transfus Med* 2001;11:177-82.
45. Taş A, Kiraz EDE. Are future doctors ready to donate blood and encourage blood donation? *Transfus Apher Sci* 2018;7:569-572.
46. Trope Y, Liberman N, Wakslak C. Construal levels and psychological distance: effects on representation, prediction, evaluation, and behaviour. *J Consum Psychol* 2007;17:83-95.
47. Gemelli CN, Carver A, Garn A, et al. Evaluation of the impact of a personalized post-donation short messaging service on the retention of whole blood donors. *Transfusion* 2018;58:701-9.
48. Jenni K, Loewenstein G. Explaining the 'identifiable victim effect'. *J Risk Uncertain* 1997;14:235-57.
49. Kogut T, Ritov I. The singularity effect of identified victims in separate and joint evaluations. *Org Behav Hum Dec Processes* 2005;97:106-16.
50. Small DA, Simonsohn U. Friends of victims: personal experience and prosocial behaviour. *J Consum Res* 2007;32:532-42.
51. Renner S, Lindenmeier J, Tscheulin DK, et al. Guilt appeals and prosocial behavior: an experimental analysis of the effects of anticipatory versus reactive guilt appeals on the effectiveness of blood donor appeals. *J Nonprofit Public Sect Mark* 2013;25:237-255.
52. Landry DW. Voluntary reciprocal altruism: a novel strategy to encourage deceased organ donation. *Kidney Int* 2006;69:957-9.
53. Ferguson E, Lawrence C. It's only fair: blood donors are more sensitive to violations of fairness norms than non-donors – converging psychometric and ultimatum game evidence. *Vox Sang* 2018;113:424-50.
54. Thaler RM. Anomalies: savings, fugibility and mental accounts. *J Econ Perspect* 1990;4:193-205.
55. Ferguson E, Taylor M, Keatley D, et al. Blood donors' helping behavior is driven by warm glow more evidence for the blood donor benevolence hypothesis. *Transfusion* 2012;52:2189-200.
56. Ferguson E, Lawrence C. Altruistic and warm-glow motivations: variation by blood donor career. *TPM Test Psychom Methodol Appl Psychol* 2019;29:6339-651.
57. Varadarajan PR, Yadav MS. Marketing strategy and the Internet: an organizing framework. *J Acad Mark Sci* 2002;30:296-312.
58. Merz E-M, van den Hurk K, de Kort WLAM. Donation registration and decision making among current blood donors in the Netherlands. *Prog Transplant* 2017;27:266-72.
59. Studte S, Clement M, Soliman M, et al. Blood donors and their changing engagement in other prosocial behaviors. *Transfusion* 2019;59:1002-15.
60. Ferguson E, Dorner L, France CR, et al. Blood donor behaviour, motivations and the need for a systematic cross-cultural perspective: the example of moral outrage and health-and non-health-based philanthropy across seven countries. *ISBT Sci Ser* 2018;13:375-83.
61. Ferguson E, Chandler S. A stage model of blood donor behaviour: assessing volunteer behaviour. *J Health Psychol* 2005;10:359-72.
62. Amoyal NR, Robbins ML, Paiva AL, et al. Measuring the processes of change for increasing blood donation in black adults. *Transfusion* 2013;53:1280-90.
63. Burditt C, Robbins ML, Paiva A, et al. Motivation for blood donation among African Americans: developing measures for stage of change, decisional balance, and self-efficacy constructs. *J Behav Med* 2009;32:429-42.
64. Robbins ML, Paiva AL, Amoyal NR, et al. Tailored internet-delivered intervention to promote blood donation in blacks. *Health Promot Pract* 2015;16:227-35.
65. Kanner WA, Jeffus S, Wehrli G. An academic-based hospital donor site: do physicians donate blood? *Ann Clin Lab Sci* 2009;39:339-44.
66. Evans R, Ferguson E. Defining and measuring blood donor altruism: a theoretical approach from biology, economics and psychology. *Vox Sang* 2014;106:118-26.
67. France CR, Kawalsky JM, France JL, et al. The blood donor identity survey: a multidimensional measure of blood donor motivations. *Transfusion* 2014; 54: 2098-2105.
68. Ferguson E, Cox T. Exploratory factor analysis: a users guide. *Int J Select Assess* 1993;1:84-94.
69. Ferguson E, Atsma F, de Kort W, et al. Exploring the pattern of blood donor beliefs in first time, novice and experienced donors: differentiating reluctant altruism, pure altruism, impure altruism and warm-glow. *Transfusion* 2012;52:343-55.

SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of this article.

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