

ORIGINAL RESEARCH

Blood Donors and Blood Collection

TRANSFUSION

Engaging blood donors as advocates: Social media preferences and associations with marketing stimuli

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Abstract

Background: Various critical medical procedures would become impossible without blood donations—saving lives in emergencies, surgeries, and chronic conditions like thalassemia. Therefore, it seems crucial to enhance donor recruitment and ensure blood supply. For this, we rate donor motivations and explore associations between donors' engagement with marketing stimuli and willingness to participate in donor recruitment. To help design tailored marketing strategies, this study examines age-specific social media preferences for promoting blood donation.

Study Design and Methods: To reach these objectives, we conducted a cross-sectional survey with 907 donors at Israeli blood-donation centers. Data on donation motivations, social media preferences, and willingness to recruit others were collected through a structured questionnaire.

Results: The leading motivators for blood donation were solidarity and marketing stimuli. The results also revealed a significant association between donors' engagement with marketing stimuli and willingness to encourage others to donate blood. The channel preferred by donors of all age groups for promoting blood donation content was WhatsApp. The choice of other social media varied significantly by age. While younger donors (18–30) favored Instagram, other donor age groups (31–50; 51+) preferred Facebook. Based on average values, the most popular social media for promoting blood donation content were WhatsApp, Facebook, and Instagram.

Discussion: Insights from this research can support blood collection agencies in refining marketing strategies for donor recruitment. For maximizing the reach of recruitment efforts, it seems essential to use various social media based on donors' age groups.

KEYWORDS

blood donation, donor motivations, donor pool, donor recruitment, marketing stimuli, social media

1 | INTRODUCTION

Blood donations are crucial for saving lives and supporting healthcare systems. Despite attempts to create blood substitutes, no technology currently allows for the elimination of the need for donated blood.^{1,2} Unfavorable demographics have further reduced the pool of potential donors: while only 5% of the global population was 65 or older in 1950, this figure doubled to 10% by 2022, limiting the number of eligible donors.^{3–5} Stricter donor screening requirements for transfusion safety have also shrunk the donor pool.⁶ Combined with seasonal declines during summer and winter holidays, these trends present a significant challenge to healthcare systems striving to maintain sufficient blood supplies.^{6–8}

In the light of the above, it seems increasingly crucial to enhance donor recruitment and ensure a steady supply of blood. This requires, first of all, a thorough understanding of donor motivations. Numerous studies refer to the desire to help others as the primary motivation for many donors. This desire can be called solidarity or altruism.^{9–12} Another factor enhancing donor recruitment, as analyzed in scientific literature, is marketing stimuli. Studies indicate that active blood donors are highly responsive to marketing efforts.^{9,13}

To be effective and comprehensive, a marketing strategy should involve various channels, such as TV, radio, and newspapers; direct mail, direct phone calls, and emails; blood drives and community events, social media platforms, and others.^{14,15} As shown in many studies, social media have now become essential tools for public health education and donor recruitment.^{16,17} They are viewed as an effective channel for disseminating blood donation requests and fostering a sense of community among donors.^{18–20}

Social media platforms most commonly studied in the context of blood donation are Facebook, WhatsApp, TikTok, and X.^{18–24} For example, Facebook has been shown to encourage blood donations and increase donation rates, particularly among first-time donors (a 4.0% total increase and an 18.9% increase among first-time donors).²¹ Another social media platform, WhatsApp, has been identified as the primary platform for communication across three generations of blood donors.²² As for TikTok, it has been reported to help normalize and encourage blood donation among young people by using relatable, emotionally engaging content that dispels myths and fosters community involvement.²⁴

Perhaps more powerful than digital communications are social interactions conducted face-to-face. Direct contact with donors among friends and family has been found to have a significant impact on first-time donors.^{9,11,12,25–29} To illustrate, in a study comparing

personal and impersonal recruitment methods, 35 donors encouraged others to donate by sharing their recent donation experience. This approach proved significantly more effective with friends, yielding a 31% donation rate compared to 14% among strangers.³⁰

For this reason, it seems promising to engage existing blood donors in new donor recruitment. However, studies that analyze blood donors' willingness to share their experience and recruit other blood donors are very few and mostly limited to China and the Netherlands.^{31–34} In China, Blood Donor Volunteer Teams actively promote donations by sharing their personal experiences with first-time donors.³² Another study analyzing blood donor volunteering sought to establish factors that influence the donors' willingness to participate in new donor recruitment.³³ Involving existing donors in donor recruitment could be an effective method of amplifying the reach of blood donation campaigns and expanding the donor pool, thus increasing blood donation rates.

While the studies above explore blood donors' willingness to help recruit new blood donors, no studies, to the best of our knowledge, have specifically examined the relationship between marketing stimuli and the willingness of blood donors to assist with the recruitment. Therefore, our objectives in this research are as follows:

1. To explore the relationship between the donors' engagement with marketing stimuli and their willingness to encourage their friends and family members to donate blood;
2. To identify social media platform(s) preferred by blood donors of different age groups for promoting blood donation content;
3. To rank the factors that motivate donors to donate blood.

2 | STUDY DESIGN AND METHODS

2.1 | Study setting

This cross-sectional study was conducted across mobile and stationary Magen David Adom (MDA) donation centers throughout Israel. Data collection took place between January and March 2024.

2.2 | Study design and procedure

A random sample of 1000 blood donors was selected from individuals who donated blood. Donors were informed about the importance of their participation, assured of anonymity, and encouraged to contribute to the study by

completing a questionnaire. The questionnaires were printed out and distributed to the donors during a 10-min rest period following their donation.

2.3 | Data capture

The study utilized a questionnaire designed to examine the categories that motivate donors to donate blood as well as their willingness to participate in new donor recruitment. In order to fulfill its two goals, the questionnaire comprised two main sections.

3 | DONATION MOTIVATIONS

Section 1 was based on the scale of donation motivations proposed by Romero-Domínguez et al. that was found to be a valid and reliable tool. After the validation process, the proposed scale of donation motivations included 23 items categorized into five dimensions: solidarity, health benefits, appreciation, marketing stimuli, and social approval.⁹ For the purposes of this study, we translated the score from English to Hebrew. Following this, to assess the quality of the translated score, we translated it back to English. This method allowed us to compare the back-translated version with the original and make sure there were no discrepancies between the two. To examine the categories that motivate donors to donate blood, we asked the participants to rate each statement describing a donation motivation (in Section 1) on a Likert scale, from 1 (strongly disagree) to 5 (strongly agree).

4 | WILLINGNESS TO RECRUIT AND SOCIAL MEDIA ENGAGEMENT

Section 2 aimed to assess several donor-related aspects. First, it contained a multiple-choice question on the subjects' willingness to encourage friends and family to donate blood. Participants were offered three response options: yes, no, and maybe. Another multiple-choice question in Section 2 asked the subjects who are active in at least one social media, on which platform would they be willing to share content to encourage blood donations. The response options they were presented with covered major social media platforms: WhatsApp, Facebook, Instagram, X (formerly Twitter), TikTok and included an option for those who were not willing to share any content. When answering this question, the participants could select more than one answer. Finally, Section 2 included questions on the participants' demographics.

4.1 | Ethics

The study design and consent form were approved by the Ethics Committee of Bar-Ilan University. Participation in the study was entirely voluntary and not rewarded. The participants were explicitly informed that the questionnaire was completely anonymous—it did not ask for names, email addresses, phone numbers, or any other identifying information. The participants were also informed that they were free to refuse to fill in the questionnaire and could stop at any point if they felt uncomfortable.

4.2 | Pilot study

To test the feasibility of the study design and evaluate the data collection tools, we conducted a pilot test on 62 participants at the MDA Blood Services Center. Based on the pilot study results, we reduced the number of statements in Section 1 of the questionnaire from 23 to 18. The final questionnaire was distributed to 1000 donors, 959 of whom submitted their responses. After the exclusion of incomplete responses, the final sample comprised 907 completed questionnaires, yielding a 90.7% response rate.

4.3 | Statistical analysis

An Exploratory Factor Analysis (EFA) was conducted during the pilot test in order to refine Section 1 of the questionnaire and categorize donor motivations. The analysis was performed using IBM SPSS Statistics version 28. The suitability of the data for factor analysis was confirmed by the Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy, which yielded a value of 0.67, and Bartlett's Test of Sphericity, which was significant ($p < .001$). Principal Axis Factoring with Varimax rotation was applied to the 23 items. Items with low factor loadings (<0.3), singularity, or split loadings (<0.32 on multiple factors) were removed. The final questionnaire included 18 items grouped into four motivation categories: solidarity, appreciation, religion and tradition, and marketing stimuli. These categories explained 60.91% of the total variance. The data used for the EFA are summarized in Table 1, which presents the rotated factor matrix for motivational factors in blood donation. The analysis identified four distinct factors, with corresponding motivational items and factor loadings. These factors represent the underlying dimensions of donor motivations. Each factor was extracted using Principal Axis Factoring with Varimax rotation, and the final factor

TABLE 1 Summary of EF results: Rotated factor matrix of motivational factors in blood donation.

Motivation	Factor			
	1	2	3	4
I donate blood to receive social recognition for being a blood donor	0.930			
I donate blood to know my blood type.	0.853			
I donate blood to find out if I have an infectious disease.	0.794			
Receiving a symbolic gift for donating blood would encourage me to donate more.	0.722			
Receiving a certificate recognizing my blood donation history would encourage me to donate more.	0.686			
I donate blood so that others will have a good opinion of me.	0.632			
For me, blood donation provides personal satisfaction derived from helping others.		0.888		
I see blood donation as fulfilling a social/moral obligation to help others.		0.808		
I donate blood out of human solidarity, to help others, and/or to save lives.		0.784		
Giving blood makes me feel needed and useful to society.		0.661		
In my personal opinion, since blood cannot be artificially produced, we are all obligated to cooperate and donate blood.		0.612		
Blood donation does not require much effort from me.		0.601		
Watching or listening to an advertising campaign on TV, radio, or social media would encourage me to donate blood.			0.860	
Receiving a call or message requesting a blood donation from the Blood Services Center would encourage me to donate blood.			0.794	
Hearing testimonies from people who received blood transfusions would encourage me to donate blood.			0.717	
The arrival of a blood donation vehicle near my home, workplace/academic center, or in crowded areas would encourage me to donate blood.			0.680	
I donate blood because blood donation is a tradition in my family.				0.631
My religion/beliefs encourage me to donate blood.				0.559
Eigenvalues	5.70	2.99	2.57	1.30
% of variance	21.44	19.4	14.66	5.41
Cronbach's alpha	0.74	0.7	0.8	0.67
Factors mean (SD)	1.54 (0.73)	4.53 (0.48)	3.40 (0.98)	2.61 (1.24)
Range	1.00– 5.00	1.33– 5.00	1.00– 5.00	1.00– 5.00

Note: Extraction Method: Principal Axis Factoring. Rotation converged in five iterations. Factor 1 = Appreciation, Factor 2 = Solidarity, Factor 3 = Marketing Stimuli, Factor 4 = Religion and Tradition.

Abbreviation: EF, exploratory factor.

structure converged in five iterations. The item loadings provide strong evidence of construct validity, and the four motivational categories collectively explain the donor motivations identified through the questionnaire refinement process.

Cronbach's alpha was used to assess the internal reliability of each motivation category. The results demonstrated acceptable levels of internal consistency for all categories: solidarity ($\alpha = 0.70$), appreciation ($\alpha = 0.74$), marketing stimuli ($\alpha = 0.80$), and religion and tradition ($\alpha = 0.67$). To examine relationships

between motivational categories, demographic characteristics, and social media engagement in promoting blood donation, we used descriptive statistics (means, standard deviations) and inferential statistics (t-tests, chi-square tests, and ANOVA). For all statistical tests, a significance level of $p < .05$ was used to determine statistical significance. These analyses aimed to address the study's research questions, specifically the donors' willingness to promote blood donation on social media and the association between being motivated by marketing stimuli, as reported by donors,

and their willingness to encourage friends and family to donate.

5 | RESULTS

5.1 | Characteristics of blood donors

A total of 907 participants completed the questionnaire. Their demographic characteristics are presented in Table 2. The majority of donors were male (62.0%). The age distribution shows that 44.3% of participants were aged 18–30, 37.3% were aged 31–50, and 18.3% were aged 51 and above. Table 3 provides insights into the donor behavior metrics. Based on the results reported in the questionnaire, 15.3% of the study participants were first-time donors, while the remaining 84.7% were existing donors. Of these existing donors, 41.8% had donated three or more times in the last 2 years, 32.6% had donated less than three times, and 10.3% had not donated blood in the last 2 years.

5.2 | Motivation categories for blood donation

In the present study, the concepts identified and categorized as motivation categories were solidarity, religion and tradition, appreciation, and marketing stimuli. Based on the results obtained in the course of the study, solidarity had the highest mean score ($M = 4.53$, $SD = 0.48$),

which suggests that a strong sense of moral obligation as well as a desire to help others and save lives plays a key role in donor motivation. The category with the second highest score was marketing stimuli ($M = 3.41$, $SD = 0.98$) represented by various marketing efforts, such as advertising messages, direct calls, blood donors' testimony, and blood drives. The category that followed next was religion and tradition ($M = 2.61$, $SD = 1.24$), represented by such motivators as religious beliefs and family tradition to donate blood. The lowest score was registered for the category of appreciation ($M = 1.54$, $SD = 0.73$) that included such motivators as social approval, good reputation, an appreciation certificate, and a symbolic gift for blood donation. The comparison of the mean scores reported for each motivation category is presented in Figure 1.

5.3 | Social media preferences for promoting blood donation

Our next research objective was to identify social media platforms preferred by blood donors of different age groups for promoting blood donation content. Based on the results obtained, WhatsApp was consistently popular across all age groups. It was selected as a preferred platform for promoting blood donation content by 54.2% of participants aged over 51, 46.8% of participants aged 18–30, and 45.9% of those aged 31–50. It appears that WhatsApp was particularly common in the oldest age group (over 51) and least common among people aged 31–50. At the same time, the differences between age groups were found not to be statistically significant ($\chi^2 [2] = 3.43$, $p = .18$).

Instagram was most popular among younger participants aged 18–30 (30.8%), compared to 16.9% among those aged 31–50 and only 5.4% of those aged ≥ 51 . The differences in Instagram usage between age groups were highly significant ($\chi^2 [2] = 42.03$, $p < .000$), indicating that younger participants were significantly more likely to use Instagram for blood donation promotion.

Facebook displayed the opposite trend, being more popular among participants in the middle-age category (31–50): 38.5%. In the ≥ 51 age group, it was selected by

TABLE 2 Sample profile of blood donors ($N = 907$).

Characteristics	N	%
Gender		
Male	562	62.0
Female	344	38.0
Age (years)		
18–30	401	44.3
31–50	338	37.4
≥ 51	166	18.3

First-time donors (%)	Existing donors (%)					
15.3	84.7					
	No donation		<3		≥ 3	
	N	%	N	%	N	%
	93	10.3	296	32.6	415	41.8

Note: Existing donors in the last 2 years.

TABLE 3 Donor behavior metrics.

29.5% of respondents, compared to only 17.3% of participants in the youngest age group.^{18–30} These differences were also statistically significant ($\chi^2 [2] = 41.85, p < .000$).

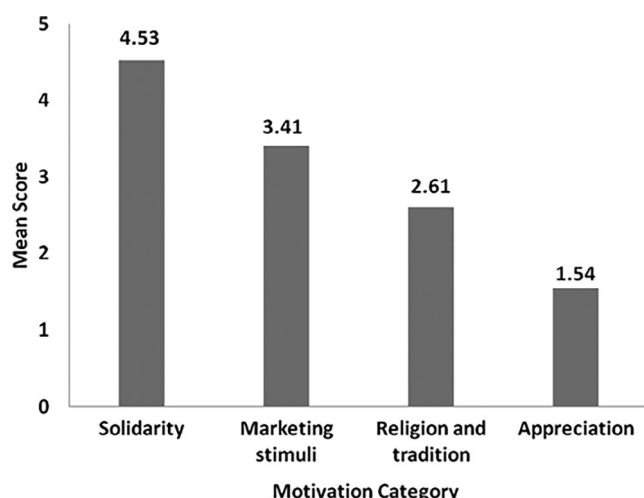


FIGURE 1 Mean scores of motivation categories.

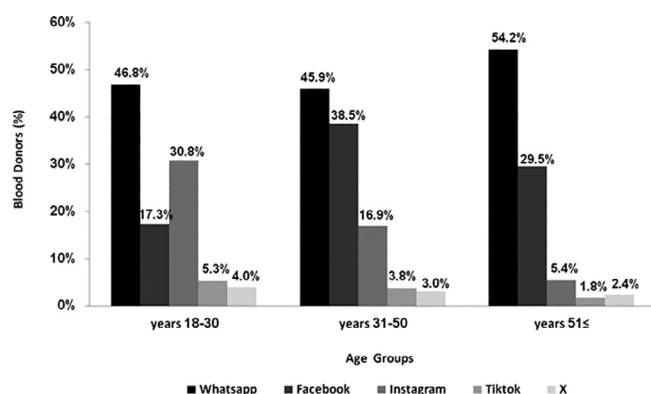


FIGURE 2 Age-specific social media preferences for promoting blood donation. The total percentage for each age group may exceed 100%, as respondents were allowed to select more than one platform in the questionnaire.

TABLE 4 Preferences of social media platforms for promoting blood donation in different age groups.

Age group	18–30 years	31–50 years	≥51 years	χ^2	p-value
Social media					
WhatsApp	46.8%	45.9%	54.2%	3.43	0.18
Instagram	30.8%	16.9%	5.4%	42.03	<.000*
Facebook	17.3%	38.5%	29.5%	41.85	<.000*
TikTok	5.3%	3.8%	1.8%	3.63	0.16
X	4.0%	3%	2.4%	1.14	0.57

*Significant differences.

Note: The total percentage for each age group may exceed 100%, as respondents were allowed to select more than one platform in the questionnaire.

As for TikTok, it yielded low results across all age groups, with 5.3% in the youngest group, 3.8% in the middle-aged group, and 1.8% in the oldest group. The differences between age groups were not significant ($\chi^2 [2] = 3.63, p = .16$).

Finally, X was the platform least favored by respondents in all age groups. Its usage ranged from 4.0% among participants aged 18–30 to 2.4% among those aged ≥51. Additionally, there was no significant difference between age groups ($\chi^2 [2] = 1.14, p = .57$).

The participants' willingness to promote blood donation on various social media platforms is shown in Figure 2 (based on Table 4).

Based on average values, the highest preference was reported for WhatsApp (48.9%), followed by Facebook (28.4%) and Instagram (17.7%). As for TikTok and X, the average percentage of donors selecting them for promoting blood donation content was rather low—3.6% and 3.1%, respectively. Notably, 30.8% of participants reported unwillingness to share content on any social media platform. Although this represents a potential barrier to engagement, the study's primary focus was identifying platforms actively used for promoting blood donation content. The average values for the social media platforms under study are visualized in Figure 3.

5.4 | Association between willingness to encourage friends/family to donate and being motivated by marketing stimuli

In order to explore the association between being motivated by marketing stimuli as reported by blood donors and their willingness to encourage friends and family to donate, we conducted a one-way analysis of variance (ANOVA). The results indicated that participants who were willing to encourage friends and family to donate exhibited the highest engagement with marketing stimuli ($M = 3.49, SD = 0.97$), compared to those who were unwilling ($M = 2.92, SD = 0.98$) and those who

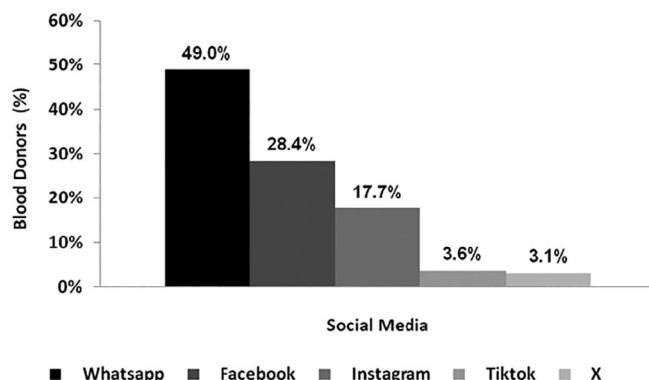


FIGURE 3 Social media preferences for promoting blood donation.

were unsure ($M = 3.14$, $SD = 0.91$). The overall ANOVA revealed a statistically significant difference in blood donors' engagement with marketing stimuli among the three groups—those who gave the “Yes,” “No,” and “Maybe” answers to the question “Will you be willing to encourage friends and family to donate blood?” ($F(2, 902) = 13.38$, $p < .001$).

Based on the post hoc LSD test, the blood donors in the “Yes” group had significantly higher engagement with marketing stimuli compared to both the “No” group ($p < .001$) and the “Maybe” group ($p < .001$). At the same time, the difference between the “Maybe” group and the “No” group was not statistically significant ($p = .185$). These findings suggest that individuals who are willing to promote blood donation in their social networks are significantly more engaged with marketing stimuli.

It is also worth noting that the majority of participants (721 donors) reported a willingness to encourage friends and family to donate, followed by those who were unsure (143 donors). The group who expressed unwillingness to encourage others was the smallest (42 donors).

The association between the willingness to encourage friends/family members to donate and being motivated by marketing stimuli is shown in Figure 4.

6 | DISCUSSION

This study aimed to explore the factors motivating blood donors to donate blood, social media platforms preferred for promoting donation content across different donor age groups, and the relationship between donors' engagement with marketing stimuli and their willingness to encourage friends and family to donate. The findings provide essential insights that can support blood collection

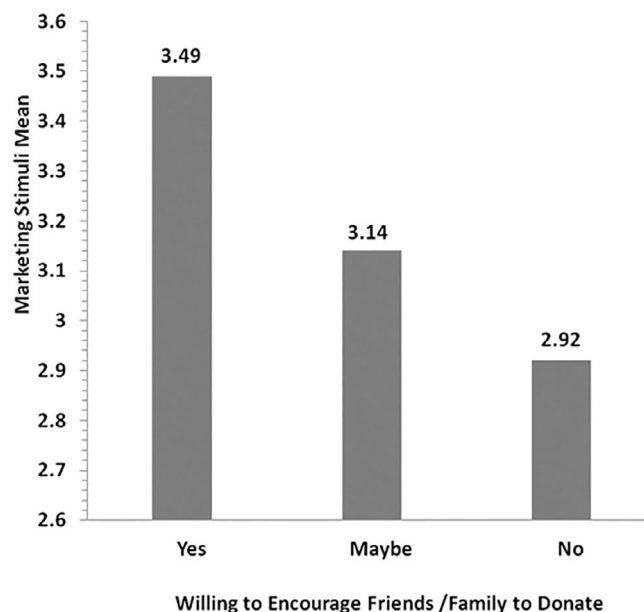


FIGURE 4 Association between willingness to encourage friends/family to donate and being motivated by marketing stimuli. (A) one-way ANOVA showed a significant difference in engagement with marketing stimuli among the groups: Yes, No, and Maybe, $F(2, 902) = 13.38$, $p < .001$. Post hoc LSD tests indicated that the “Yes” group had significantly higher engagement compared to the “No” group ($p < .001$) and the “Maybe” group ($p < .001$). The difference between the “No” and “Maybe” groups was not statistically significant ($p = .185$).

agencies in refining strategies for donor recruitment, retention, and effective management.

6.1 | Motivational factors for blood donation

The results indicate that solidarity is the most effective motivator for blood donation, consistent with prior studies emphasizing altruism and the desire to help others as primary motivators.^{9–12} This strong sense of social responsibility highlights the importance of campaigns that showcase the life-saving impact of blood donation. Marketing stimuli also emerged as a powerful motivator, ranking second overall. This finding aligns with previous research demonstrating the effectiveness of marketing campaigns engaging both existing and first-time donors.^{9,13} The role of marketing in reaching and retaining donors suggests that utilizing diverse channels, particularly social media, is essential for maximizing the reach of recruitment efforts. At the same time, donor motivations may vary in other cultural and geographical contexts. To illustrate, a Canadian study reports peer pressure and workplace norms to be significant motives

for donation, particularly in first-time donors, while personal motives are reported by experienced blood donors.³⁵

In addition to being characterized by geographical variability, blood donor motivations may not necessarily align with subsequent donation behavior. While often reporting altruistic motivations, donors do not always follow up with subsequent donation attempts. Results of previous research suggest that donation behavior may not exhibit statistically significant associations with reported motivators. In contrast, it tends to be significantly associated with reported barriers (or inhibitors)—primarily those related to unpleasant sensations of blood draw and personal fears.³⁶ However, based on another study, the donors' awareness of the importance of donating blood prevails over such inhibitors.³⁷ Furthermore, donors with higher numbers of past donations have been reported to have higher social responsibility motivation scores: 16.46 in those who donated 6–10 times in the last 5 years compared to 15.09 in donors donating just once in the last 5 years.³⁸ Based on these findings, studying blood donor motivations may be viewed as a valuable tool to understand donation behavior, despite complex relationships between reported motivations and actual donation behavior.

6.2 | Social media preferences by age group

To better tailor marketing strategies that motivate current blood donors to share blood donation content on social media, this study also explored social media preferences across different age groups of donors. The analysis identified meaningful age-related differences, with WhatsApp emerging as a universally preferred platform, highlighting its potential as an effective tool for engaging blood donors. Several studies have similarly documented WhatsApp's effectiveness across diverse populations.^{18,22–23,39} A cross-sectional study examining the role of WhatsApp in motivating blood donation found it to be a valuable recruitment tool.²³ However, this 2020 study differs from our research in two key aspects: it uses WhatsApp as a direct tool for blood donation rather than as a platform for promoting donation content, and it focuses solely on a younger donor population (ages 18 to 33), while our study spans a wider age range (18 to ≥51). Other studies similarly focus on using social platforms primarily for recruiting and retaining blood donors, while our research uniquely examines how current donors might use these media to actively encourage blood donation.^{18–21}

While WhatsApp was selected as the #1 social media platform for promoting blood donation content in all

three age groups, the blood donors' second preferences varied depending on the age group. The youngest donors favored Instagram (30.8%), while the middle-aged group and 51 + age group opted for Facebook (38.5% and 29.5% respectively). These findings agree with previous research on age-specific social media usage, suggesting that recruitment strategies should be tailored to match platform-specific demographics.^{18–23,39–40}

At the same time, based on empirical data, social media preferences are highly dynamic and display significant variations across regions and cultures. While adults in middle-income countries most commonly report using WhatsApp (a median of 73% across Argentina, Brazil, India, Indonesia, Kenya, Mexico, Nigeria, and South Africa), the use of this social platform in the United States is reported by a mere 29% of the respondents. Instead, US adults typically opt for Facebook (68%)—in contrast to India, where this social platform is used by only 39% of those surveyed. However, notwithstanding these variations in the use of individual social media platforms, the four dominant social media platforms across regions and cultures are WhatsApp, Facebook, TikTok, and Instagram.⁴¹

Similarly, based on average values reported by the blood donors participating in our study, the most popular social media platforms in the context of promoting blood donation content were WhatsApp, Facebook, and Instagram. Practical implications of these findings could be important for blood donation centers in enabling them to reach a specific target age group of blood donors through social media and expand the donor pool.

6.3 | Marketing engagement and willingness to encourage others

This study delved into the relationship between engagement with marketing stimuli and blood donors' willingness to encourage friends and family members to donate. The findings reveal a significant association: donors who are more engaged with marketing stimuli are more likely to encourage friends and family to donate blood, compared to those who are unsure or unwilling ($F[2, 902] = 13.38, p < .001$). To our knowledge, this study is among the first to directly examine this relationship.

These results suggest that individuals who respond positively to marketing efforts are not only motivated to donate themselves but are also likely to encourage friends and family to donate blood. This aligns with the concept of peer influence, which highlights the importance of personal advocacy in expanding the donor pool.³⁰ By leveraging the influence of donors who are already highly engaged with marketing stimuli, blood collection

agencies and public health organizations can amplify their reach through peer-driven recruitment strategies. When active donors become advocates within their social circles, it can create a ripple effect, significantly boosting donation rates. This approach may ultimately lead to more sustainable blood collection efforts, underscoring the impact of marketing-driven advocacy on expanding and diversifying the donor pool.

6.4 | Limitations and future research

While this study provides valuable insights, its findings have certain limitations. The cross-sectional design used in this study may limit causal inferences, as the data capture donor motivations at a single point in time. This research design may also limit the applicability of reported motivations due to their potential disconnect with actual donation behavior. The present study did not examine the blood donors' actual behavior, assuming instead that it would be consistent with their donation goals and claims. Designing future research as a longitudinal study and basing it on Labaw's behavioral approach to predicting blood donation behavior⁴² may hopefully overcome this limitation.

Additionally, the generalizability of the findings may be limited due to the specific cultural and geographical context of the study. First, there exist substantial variations in blood donor profiles among countries, particularly in blood donors' gender and age. While the average proportion of donations by female donors across 113 countries is 33%, 15 countries report less than 10% of donations by women including 10 countries in the Eastern Mediterranean.⁴³ The reason for this may hypothetically be societal restrictions on women's mobility or concerns about their health status, which results in male dominance in the donor pool. Agewise, there are variations in the proportions of donations by different age groups, depending on the countries' Gross National Income per capita. In high-income countries, blood donations mostly come from donors aged over 24, with those aged 24 years or younger constituting only 25% of all blood donations. In contrast, young donors (≤ 24) contribute around 38% of the total donations in both low- and middle-income countries.⁴³

These variations in blood donors' gender and age, in turn, may affect their social media preferences and result in deviations from the results reported in this study. Based on the 2023 data, 18- to 29-year-olds commonly use Instagram, Snapchat, and TikTok. However, the use of Facebook displays virtually no age gap.⁴⁴ Finally, cultural, social, economic, and demographic factors can have an impact on the donors' core motivations—with

solidarity and altruism likely resonating across multiple donor bases as universal themes.^{35,45–46} The variations considered above are essential for a comprehensive interpretation of our results and should be taken into account when designing blood donor recruitment strategies.

Future research could address these limitations by using longitudinal designs to explore how donor motivations and behaviors change over time. Expanding research to include diverse cultural settings could also help understand how different contexts impact the effectiveness of marketing and social media campaigns in promoting blood donation. Given the rapid evolution of social media platforms, blood donation campaigns require strategic flexibility. Continuous monitoring of social media preferences in specific settings is essential to ensure these campaigns resonate with diverse donor groups and maintain their relevance in an ever-changing digital landscape.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest related to this study.

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