

Increasing blood donation through blood donor identity: An intervention study

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Summary

Using social psychological theories of motivation, identity, and effective health messages, we developed a brochure that aimed to increase people's intention and desire to donate blood. In comparison to people who read an NHS brochure or those in a no-brochure control condition, those who read our final experimental brochure were significantly more likely to register to become a blood donor with NHS Blood and Translate. Our intervention was, therefore, successful. Although all empirical work is complete, we have yet to complete all our planned dissemination activities. We request, therefore, that the final funds are made available for our use so that we can complete these activities (see below for our dissemination plan).

Background and rationale for the study

Around 8,000 blood transfusions are carried out in England every day. Yet, only 4% of the UK population give blood, with numbers of young donors decreasing (Roberts, 2011). This is particularly problematic because blood can only be stored for a limited time; red blood cells can be stored for a maximum of 35 days, and platelets for only a week. In light of this, the NHS are aiming to recruit 205,000 new blood donors every year (NHSBT, 2015). Thus, interventions that encourage people to begin and/or continue to donate blood are much sought after and highly valued by society. Accordingly, this project applied recent social psychological research into motivation and identity processes to develop a novel intervention that aimed to increase first-time and continued blood donation. The objectives of this study were *a*) to design a novel intervention to increase blood donation by increasing people's motivation to become and/or remain a blood donor, and *b*) to test whether this intervention can produce increases in first-time and retained blood donations.

Theoretical underpinnings of the study

Social psychological research has consistently found that people behave in ways that are in line with how they see themselves, and that such 'self-congruent' behaviours are more likely to be sustained over time (Sheldon & Elliot, 1999). For example, how important a particular life domain is to a person's self-concept is now a core component of the extended theory of planned behaviour—one of the most influential theories of human behaviour—and is consistently a strong predictor of behavioural intentions and actual behaviours (Rise, Sheeran, & Hukkelberg, 2010). Indeed, research has found that the extent to which donating blood is an important part of one's identity strongly predicts one's intentions to donate blood and actual blood donation (Masser, Bednall, White, & Terry, 2012; Masser, White, Hyde, Terry, & Robinson, 2009). Furthermore, actually donating blood increases the importance of blood donation to people's self-concept (Masser et al., 2012), suggesting there may be a self-reinforcing relationship between holding a blood donor identity and blood donation.

This suggests that researchers should focus on the factors that motivate people to incorporate blood donation into their self-concepts. Several theorists have proposed specific motivations that influence how people construct their self-concepts, and these are brought together into a unified model by motivated identity construction theory (MICT, Vignoles, 2011). MICT suggests there are (at least) six motivations that people strive to satisfy when constructing their identities: People strive to define themselves in ways that give them a sense of meaning, belonging, self-continuity, distinctiveness, self-efficacy, and self-esteem. Aspects of people's lives that satisfy these motives are incorporated into their self-concepts, while those that frustrate these motives are rejected or marginalised (Easterbrook & Vignoles, 2012; Vignoles, Regalia, Manzi, Gollidge, & Scabini, 2006). Importantly, the *expected* satisfaction of these motives has been shown to predict whether a *possible future identity* is desired or feared (Vignoles, Manzi, Regalia, Jemmolo, & Scabini, 2008).

The above review suggests that an intervention targeting these six motives could increase blood donation by increasing people's desire to become—or to remain—someone who donates blood. This could be a catalyst for a mutually reinforcing bidirectional relationship between holding a blood donor identity and actual blood donation (Masser et al., 2012), leading to sustained blood donation.

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Although no published research has used this theoretical approach to invoke behaviour change, a small, unpublished study suggests this style of intervention may be effective. This study found that a brochure which implied blood donation will satisfy the self-esteem, efficacy, self-continuity, and meaning motives increased students' intentions to donate blood in comparison to a NHS brochure promoting blood donation (May & Vignoles, 2009). Although these initial results are encouraging, there are several limitations to this study which restrict the conclusions that can be drawn. Firstly, the sample size was small, with around 30 participants in each condition, which reduces the confidence we can have in the results. Secondly, May & Vignoles only measured students' *intentions* to donate blood. Although intentions are sometimes a strong predictor of behaviour, a robust assessment of any intervention must measure actual behaviour. In this study, we addressed these issues.

Methods

Development of materials. The standard brochure used by the NHS to encourage and inform people about blood donation included four headlines (e.g., "What will it take for you to give blood"). Below the fourth headline was some information about the benefits of blood donation and how easy it is to donate blood. The remainder of the brochure contained stories of people who had received blood, factual information about the procedures of blood donation, the pressing need for donated blood, and contact details for those wishing to donate their blood.

To design our experimental brochure, we first conducted focus groups that included experts in psychological motivation and health messages (e.g., Dr. V. Vignoles, Dr. R. de Visser; Prof. P. Harris, University of Sussex) to brainstorm the wording of the messages. We then copied the existing design and main informational content of the standard NHS brochure, but we substituted new headlines targeting each of the six identity motives in order to activate a desired possible self as blood donor (e.g., "Do something to be proud of"). We also included some stories of people who talked about their donation experience, which made specific references to identity motives. One example is: "I always thought of myself as the type of person who would donate blood, but now I actually have, I can proudly call myself a blood donor. It says something about my values and is actually a really important part of who I am."

We piloted this draft brochure with a small sample of students ($N = 70$) to investigate whether it successfully targeted the six motives and increased intentions to donate blood. We also asked the participants to give us some feedback about what they thought was most useful aspect of the brochure, what motivated them to donate blood, and what the negative aspects of the brochure was. Based on these initial findings and feedback, the brochure was adapted and refined. We then conducted data collection with ($N=267$) this refined brochure. Although our brochure proved more effective than the NHS brochure at enhancing donation intentions and desire (see findings below), it did not enhance these outcomes in comparison to the control condition, and we did not have a successful behavioural outcome. In light of these results, we updated the brochure again, this time drawing on psychological literature about the most effective way of designing health messages. With this final brochure, we collected data once again ($N=189$).

Data collection. We had two rounds of data collection, in which research assistants approached members of the public in the city of Brighton and Hove who lived or worked near to a mobile blood donation site, asking them to take part in a study on blood donation. Participants were offered a small incentive to participate (e.g., chocolate bars). We adopted a three-factor experimental design: participants were randomly allocated to read one of two brochures—our new experimental intervention brochure or the current NHS brochure on blood donation—or a control condition without a brochure. Alongside these brochures, participants were given a list of locations and times that a mobile blood donation van would be in the local area. After participants had read the appropriate brochure (NHS vs. experimental vs. no brochure) and looked at the times and locations of the mobile donation van, they were asked to complete a questionnaire assessing previous blood donations, intentions to donate blood at the van, intentions to donate blood in the near future, how important blood donation is to their self-concept, and how much they desire to become a blood donor, along with some demographic questions.

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In the first round of data collection ($N = 267$), participants were also asked for their personal contact details so that we could contact them in a month's time to follow up whether they donated blood in the van. This would allow us to investigate the impact of the intervention on self-reported blood donation behaviour (via email and phone). However, less than 1/4 of the participants replied to our text or e-mail connections; so we did not have enough statistical power to meaningfully follow this up.

In the second round ($N = 189$), we used the same procedure, but this time we included a new behavioural measure for blood donation. Extracted from the original NHS brochure for blood donation, we provided participants for a sheet which they could fill in and return to us during the experiment if they wished to be *registered as blood donors*. This way, participants would be included in the national blood donation system, and they would be regularly contacted and invited for blood donation sessions. Although we hoped to collect actual blood donation records from NHS blood, they rejected our application for this.

Findings

Analysis of variance of round one data revealed that our experimental brochure significantly enhanced donation intentions and desire to be a blood donor in comparison to the NHS brochure. However, further analyses revealed that there were no significant differences between the experimental brochure and the control condition; instead, the NHS brochure led to significantly lower levels of intentions and desire.

In light of these results, we updated the experimental brochure for the second round of data collection. Our findings from round two for intentions and desire to donate blood were similar to round one. Crucially, however, we found significant differences between conditions on our behavioural outcome: the experimental brochure led to a significant increase in the number of people signing up to join the blood donor register in comparison to both the NHS brochure and control condition. We were therefore successful in our aim of enhancing blood donation intentions, as indicated by participants' actual behaviour.

Implications and impact

Our intervention was successful at increasing the proportion of people who registered to donate blood. This has the most direct impact of this is for those in need of blood by increasing the amount of people who donate this valuable resource, thus increasing its availability. Our findings also have significant implications for NHS Blood and Transplants: Not only did we find an effective and cost-efficient way of promoting blood donation, we also found that the current NHS brochure was detrimental, actually decreasing people's desire and intentions to donate blood against a control group. Our findings strongly imply that NHS Blood and Transplants should update their materials.

There are also wider implications of our findings. We have developed a theoretical framework that combines psychological research on identity processes, motivation, and effective health messaging that we have shown increases people's behavioural intentions to donate blood. This is an important theoretical development that researchers in the field will benefit from, and an empirically validated framework that a range of services and organisations can use to develop materials aiming to encourage a range of donation or prosocial behaviour (for organs or money, for instance).

Dissemination

We have yet to hold our main dissemination even for non-academic audiences, for which we hope we will be able to use the remaining funds. Our main dissemination even will be a free research showcase at the University of Sussex. Invitations will be sent to those most likely to directly benefit from this study, including representatives from NHS Blood and Transplant, and various charities that promote donation (e.g. ACLT, a charity promoting bone marrow and blood donation; fleshandblood.org, a charity promoting blood donation in the church), and the Association of Donor Recruitment Professionals. A report and webpage for the event will be created and made available online and widely advertised via social media. I will also work with the University of Sussex's press office to promote the study and the accompanying website, and to disseminate the findings to the wider media.

There is likely to be a wide academic audience who will be interested in the findings and who

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could employ similar interventions to different areas of health research. I have had a symposium submission accepted to the European Association of Social Psychology's 2017 general meeting in Granada in July, the top social psychology conference in Europe. I am currently working on research a wider academic audience as well: I am currently writing the results up into a manuscript that I hope to publish in a high-ranking health journal (BMJ, *Transfusion*), and will soon approach online psychological and health social media outlets with shorter pieces outlining this work (British Psychological Society's Research Digest Blog, Society for Personality and Social Psychology's Blog). A key aim of these dissemination activities will be to develop new links with health and motivation researchers and to begin a wider programme applying social psychological research to potential health interventions.

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