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# **Emotions experienced when receiving a temporary deferral: Perspectives from staff and donors**

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## **ABSTRACT**

**BACKGROUND AND OBJECTIVES:** Temporary deferrals negatively impact on donor retention. However, little is known about why donors are deterred from returning. One unexplored area is the emotions experienced by donors when deferred. This study investigated these emotions from the perspectives of both the front-line staff involved in applying deferrals and deferred donors themselves, with the aim of identifying which emotions impact on donors' intention to return.

**MATERIALS AND METHOD:** Telephone interviews were conducted with front-line staff who apply deferrals (n=47) to explore perceived reasons for donor non-return following a deferral. Findings informed a survey administered to donors who had received a temporary deferral one day prior (n=397). The questionnaire included items about donors' emotional reactions to receiving the deferral and intention to re-donate.

**RESULTS:** Staff reported that donors frequently had negative emotional responses to being deferred – particularly anger, frustration, and rejection. Exploratory factor analysis of 31 emotions assessed in the donor survey revealed six factors. Deferred donors' intention to re-donate was negatively associated with anger-related emotions, and positively associated with calm-related emotions. The association between emotions and intention was moderated by whether the deferral was applied in-centre or during the pre-donation telephone call.

**CONCLUSION:** Emotional reactions to receiving a deferral impact on donors' intention to re-donate, particularly among those deferred in-centre. Blood collection staff may be able to address donors' emotional responses to help diminish the impact of being deferred on donors' intentions to return.

**Key words:** deferrals, emotions, blood donation, retention, intention

## INTRODUCTION

Potential blood donors may at times be unable to donate due to concerns about the impact of the donation on their health or about the safety of the blood transfusion for the recipient. Temporary donor deferrals are applied for a variety of reasons, including lifestyle factors (e.g., travel to a malarial-infected area) and medical reasons (e.g., low haemoglobin). Research indicates that between 12.8% and 13.4% of donation attempts in the US result in a deferral [1, 2] and deferrals are more common among first-time donors than repeat donors [3]. However, even those with established regular donation patterns are at risk of becoming ineligible, with 10% of blood donors in Australia who had donated three times or more in the previous year receiving a deferral within a 12 month period [4].

Temporary deferrals impact negatively on donor retention, with a large proportion of donors failing to return when they become eligible to donate again [4, 5]. This impact is most pronounced among those who are deferred at their first donation attempt [3], although deferrals predict non-return even among frequent blood donors [4]. Temporary deferrals also impact on the time taken for donors to return after their period of ineligibility and the number of donations they make over subsequent years [5]. The loss of donors through deferral has a large impact on blood collection agencies. Zou and colleagues [2] estimated that during a period of six years deferrals resulted in the potential loss of more than 3.7 million donors in the US.

Several research groups have identified factors associated with poor post-deferral retention. The impact on likelihood of donor return varies by deferral type [5], with shorter deferral periods and deferrals designed to safeguard the donor's health (rather than the recipient's) having less impact on donor return [3, 6]. The impact of a deferral also varies as a function of

characteristics of the donor. Deferrals have a more pronounced negative impact on the return behaviour of female, younger, ethnic minority, and first-time donors [1, 3-6].

The reasons why deferrals have such a strong negative impact on future donation behaviour are unclear. One suggestion is that donors may incorrectly believe that their deferral is permanent rather than temporary [7]. For other donors who are motivated to donate by social pressure [8], receiving a deferral may allow them to feel ‘off the hook’ as they have tried to donate but are unable to [9]. For more experienced donors, the application of a deferral may disrupt their habitual behaviour, resulting in the eventual lapse of that donor [9, 10]. Alternatively, both novice and more experienced donors may fail to return once eligible in order to avoid potentially being deferred again and repeating the negative experience of being ineligible to donate. This negative experience may leave donors feeling unhealthy and incapable [9].

Consistent with this observation, Custer and colleagues [3] suggested that donors experience negative cognitive and/or emotional responses to being temporarily deferred. Permanent deferral has been shown to result in feelings of fear and anger, with donors feeling hurt, rejected, stigmatised, or punished when told they are ineligible to donate [11]. Such negative emotions endure, with ex-donors appearing confused, upset, annoyed or frustrated several months after being informed of their permanent deferral [11, 12]. However, less is known about whether donors who can potentially return following a temporary period of ineligibility experience similar kinds of emotions. Hillgrove and colleagues [9] conducted one of the few studies that sought to understand why donors who are deferred fail to return. In this study, 25 Australian donors who had been deferred due to low haemoglobin concentration in the two weeks prior were interviewed to explore their motivations for giving blood, perceptions of the

deferral process, previous experiences of lapsing, and intentions to return. Donors reported a range of reactions to being deferred, including anger or annoyance (about the rejection, their time being wasted in attempting to donate, or poor treatment from collection staff), and anxiety about a medical condition underlying the deferral. However, with the exception of a small number of donors who reported being upset by their treatment by staff, the donation experience did not appear to predict return. Rather, negative emotional reactions to the deferral appeared short-lived, with many donors reporting they had given little thought to the deferral event in the subsequent two week period. Hillgrove and colleagues [9] suggested that donor return was related to non-affective factors, such as a strong 'blood donor' identity, opportunities and support to donate again in the context of other commitments, and whether the donor felt valued and appreciated following the deferral.

Although Hillgrove and colleagues [9] provide a valuable insight into how donors experience a deferral for low haemoglobin, it has been shown that donors respond differently to this type of deferral than to others. Custer and colleagues [6] demonstrated that donors who are deferred for low haemoglobin return to donate again more quickly than donors temporarily deferred for other reasons. It is also possible that the interviews conducted by Hillgrove and colleagues [9], which took place up to two weeks post-deferral, did not adequately capture the types or intensity of emotions that donors experienced upon receiving the deferral. As such, further research is required to explore the immediate emotional reactions of donors who receive a deferral for a range of medical and lifestyle reasons. With current research limited to analyses of routinely collected data and a small number of qualitative studies with deferred donors, it is also important to determine whether there is a relationship between donors' emotional reactions to being deferred and their likelihood of donating again once the deferral ends.

The aim of this study was to investigate the emotions donors experience upon receiving a temporary deferral and the impact of those emotions on donors' intention to return once they are eligible to donate. Through conducting interviews with front-line staff involved in applying temporary deferrals either over the telephone or in person at a blood donation centre, we sought to identify the potentially broad range of emotions expressed by donors in response to being deferred. This insight informed a survey of donors who had recently been temporarily deferred to gauge the prevalence of these emotional reactions to being deferred and to determine which emotions impact on intention to return. The relative impact of emotional reactions and non-emotive factors, such as level of donors' knowledge about the deferral and views of the information provided about the deferral, was of particular interest.

## **MATERIALS AND METHOD**

### **Design**

This study used a mixed methods design combining qualitative and quantitative approaches. Qualitative data were collected by means of semi-structured telephone interviews with staff involved in applying deferrals, and quantitative data were gathered from recently deferred donors using a questionnaire. The study was approved by the Blood Service Human Research Ethics Committee.

### **Participants**

Forty-seven staff members who had direct contact with donors during the deferral process were recruited for the telephone interviews from three divisions within the Australian Red Cross Blood Service (the Blood Service). Participants were: a) medical officers, who are involved in applying complex deferrals or attending to donor enquiries regarding their deferral (n=8); b) call centre agents, who pre-screen donors for eligibility via telephone prior to making an

appointment to donate (n=10); and c) blood collection staff, who screen donors at the donor centre prior to donating (n=29).

All eligible whole blood donors who received a lifestyle or medical temporary deferral during July and August 2017 were invited to participate in the study within 24 hours of receiving their deferral (n=1,613). Of these, 397 (24.6% of those invited) completed and returned the survey.

No restrictions were placed on the duration a donor was deferred for, the only restriction was that the end date had to be a clear end date that would not be indicative of a permanent deferral.

Donors were excluded from participating in the study if they were aged less than 18 years, or their last donation was a therapeutic donation. The Blood Service has an age restriction policy on donors under the age of 18 who, at the time of data collection, could donate only once during a 12-month period.

## **Data-collection procedure**

### *Telephone Interviews*

Three different procedures were used to recruit staff for the telephone interviews: medical officers were sent an email invitation by a member of the research team and asked to respond with their interest in being involved; call centre agents were nominated by their team leader; blood collection staff were nominated by a senior manager to participate. Two researchers affiliated with the Blood Service coordinated an appropriate time with each staff member to conduct the telephone interview. These interviews were carried out using a semi-structured format, which encouraged respondents to talk about their deferral experiences in their own words[13]. The topics in the interview schedule included the process of deferring a donor, the reasons why some donors do not return after a deferral, and if there is anything that can be done



[to improve the deferral process.](#) The interviews ranged in duration between 6 and 40 minutes.

All participants provided written informed consent.

### *Survey*

Whole blood donors deferred the day prior were randomised to be sent either an email invitation with a link to the online survey (n=862; RR: 27%) or a hardcopy survey sent in the mail (n=751; RR: 22%). Donors who were invited to complete the survey online were sent an email reminder five days after the initial invitation if they had not yet completed the survey. Those who received the survey via the mail received a reminder email four weeks after the initial invitation was sent, asking them to return the completed hardcopy questionnaire or click on the link provided to complete the survey online. Donors took on average 4 days to submit the completed online survey and 27 days to return the completed postal survey.

The survey asked donors to indicate the extent to which they had experienced a number of emotions when deferred. On the basis of the results of the staff interviews, a modified version of the 32-item Discrete Emotions Questionnaire (DEQ) was administered [14]. Ten of the original DEQ items were removed as they were identified as irrelevant to donors who had been temporarily deferred (wanting, grossed out, terror, grief, nausea, desire, craving, longing, relaxation and liking) and 9 items were added based on the findings from the staff interviews (offended, disappointed, uncomfortable, guilty, relieved, undervalued, rejected, unsatisfied, unfair). Donors indicated the extent to which they had experienced each of the emotions when they were told they were ineligible to donate, using a 7-point scale (1=not at all to 7=an extreme amount).

Donors were also asked about their intention to return to donate, using Masser and colleagues' [15] 3-item intention scale (scored from 1=strongly disagree to 7=strongly agree). They were also asked to indicate whether they believed they were currently eligible to donate (yes, no, or maybe). Finally, donors were asked about their level of satisfaction with the quantity and quality of the information they were provided upon receiving their deferral and how knowledgeable they felt about why they were deferred. Routinely collected donor data were extracted from Blood Service records: age, gender, deferral information (type, date applied, and date expired), where the deferral was applied (on the phone trying to make a booking or at a donor centre trying to donate), and prior donation behaviour. A dichotomous variable was created to define the type of deferral the donor received: lifestyle (e.g., travel, tattoo), or medical (e.g., low haemoglobin, illness).

## **Analysis**

An external transcription service provider transcribed the interviews verbatim. The transcripts were analysed using inductive thematic analysis by two authors (CNG, AT) using NVivo Version 11. Coding schemes identifying key categories in the deferral process were revised and expanded, resulting in core themes.

Statistical analyses of the quantitative data were performed using statistical software IBM SPSS (IBM SPSS Statistics 23.0; IBM Corporation). Demographic and donation characteristics were described by means ( $\pm$  standard deviation) for continuous parametric variables and by totals (percentages) for categorical variables. Independent t-tests were conducted to determine any univariate means differences between the groups. Exploratory Factor analysis (EFA) was conducted to examine the fit of the emotion subscales. Oblimin rotation was used, along with

principal component analysis. The initial model was refined to produce the final model by excluding items that had a standardised loading of less than 0.4.

Correlational analysis was conducted with Pearson's  $r$  correlations obtained on all covariates correlated against intention to donate. All models were standardised by sex and prior donation experience. Univariate linear regression analyses were conducted to determine the significance of variables prior to being entered into the multivariate model. Hierarchical multivariate linear regression analyses were used to assess the association of covariates on donor intention to return to donate. Moderation analyses were conducted using the Johnson-Neyman (J-N) technique in PROCESS macro [16]. Probing for moderation using this technique provides information regarding the critical value of the moderator at which the relationship between the predictor and outcome is significant. For example, if calm-related emotions moderate the relationship between place of deferral and intention to return to donate, the J-N technique indicates at which values of calm-related emotions the relationship between place of deferral and intention to return to donate is statistically significant. Variables were mean-centered before being included in the model. Standardised Betas ( $s\beta$ ) are reported, with 95% Confidence Intervals (95% CI's). Statistical significance was defined at  $p \leq 0.05$ .

## RESULTS

### Staff perspectives

When asked why some donors do not return at the end of their deferral period, many staff felt non-return may be attributed to the donors' emotional responses to their deferral. Staff reported that some donors appear to feel rejected when they are unable to give blood. One staff member commented, "*These people are giving a gift and they still want to give a gift and we're saying no you can't.*" Although many felt most donors accept the decision to apply a deferral, staff

reported that some donors react with anger, annoyance, or frustration. These emotions were primarily reported by staff working at donor centres as opposed to the call centre, with one staff member claiming one in five donors feels “*disgruntled*” at being deferred.

Another main theme that arose from the staff interviews was the perception that donors feel disappointed or saddened when unable to give blood and help others. Staff felt these emotions were particularly common for donors who have given blood many times previously. One staff member described a donor with a long donation career as “*devastated*” after being deferred for six months: “*...she’s donated since she was about 18 and she’s, like, 74 or something. So she was quite upset.*”

Staff indicated that the negative emotions experienced by some donors when deferred appeared to be exacerbated by the time and effort those donors had invested in attending their appointment, as well as by poor understanding regarding why they had received the deferral. For example, one staff member explained: “*the hard thing is when they wait 10, 15, 20 minutes and then they come through and you say ‘I’m really sorry but you can’t donate today for [this reason].’ That’s when they tend to get annoyed.*” An overview of the emotion themes is provided in Table 1. These themes were used to inform the content of the donor survey.

### **Donor perspectives**

An overview of the characteristics of those who returned the survey is presented in Table 2. The sample had a greater proportion of females than males (65.5% vs. 34.5%), a mean age of 46.4 years (range 31-60 years), and a mean prior donation count of 14.5 times (range 0-109 donations). The average duration of the deferral was 163 days (range 5-1884 days) and was predominately applied for medical reasons (93.7%). Compared to the characteristics of the

sample invited to participate, the only notable difference was that the survey sample had a longer deferral duration (1,825 vs. 325 days). Most donors had been deferred via a pre-donation phone call (82.9%), with the remaining 17.1% deferred in a donor centre when presenting to donate. When asked if they were currently eligible to give blood, only 63% correctly identified themselves as ineligible (13.9% reported currently eligible; 8.8% unsure; 14.3% did not respond to the question).

### *Factor Analysis*

An EFA was conducted to determine the number of factors from the modified DEQ that provided an appropriate fit to the data. The nine additional emotions suggested by staff were added until a parsimonious model was reached. Exclusion criteria included standardised loadings of less than 0.4 and Kaiser's criterion of eigenvalues  $<1$ . This resulted in a six-factor model, which accounted for 64.8% of the total variance. One emotion from the discrete emotions scale (lonely) and three of the added emotions (offended, unsatisfied, uncomfortable) did not correlate with the other emotions and were therefore removed from the final model. The fit indices of the EFA indicated that this model provided a good fit,  $\chi^2(351) = 4904.6$ ,  $p < 0.0001$ . The final model is presented in Table 3, with the corresponding Cronbach's alpha for each factor. The factors represent deferral-related anger-related emotions (comprising traditional anger emotions along with emotions representing rejection), anxiety, calm, sadness (including disappointment), happiness (including relief), and disgust.

The mean scores and standard deviations for all covariates are provided in Table 4. On average, donors experienced a low level of emotional reaction to being deferred (mean scores of  $<2$  on the 7-point scale). Mean scores were slightly higher for the Sadness factor ( $M=2.35 \pm 1.29$ ). The

highest emotional response was recorded for the Calm factor, with a mean score of 4.03 (SD±1.72).

#### Deferral Location

The impact of -where a donor was deferred was further examined (see Table 5). Significant differences were found for all the emotional factors with donors deferred at a donor centre reporting significantly greater negative emotional responses (on the anger, anxiety, sadness and disgust factors) and lower positive emotional response (on the calmness and happiness factors) than those deferred by phone.

Further, differences in the ratings of the quality, quantity of information provided and donor's knowledgeability of why they were deferred for the two different deferral locations were examined. No significant difference in the quality of information provided was observed, however donors' rating of the quantity of information provided significantly differed, with those deferred in centre reporting receiving less information (M=1.1; SD=0.6) than those deferred over the phone (M=5.8; SD=2.0). In addition, those deferred over the phone reported greater knowledge of why they were deferred (M=6.6; SD=1.1) than those deferred in centre (M=6.1; SD=1.5).

#### *Determinants of intention*

Table 4 presents the correlations between the predictors and the outcome variable, intention. All variables except sex, Happiness, and Sadness significantly correlated with intention to return to donate once eligible. The strongest relationship observed was between intention and Anger ( $r = -0.25$ ), followed by location of the deferral ( $r = -0.24$ ) for which the reference category was deferral by phone.

To explore the determinants of intention to return to donate, a hierarchical regression analysis was conducted. Sex, prior donation count, and deferral location were entered at Step 1. The remaining variables - donors' perception of the information provided when deferred (quantity and quality), donors' understanding of why they were deferred (knowledge), and all six emotion factors were entered at Step 2. The results of this analysis are presented in Table 6.

The full model explained 13.9% of the variance in intention. Sex, prior donation count and deferral location accounted for 8.8% of the variance,  $F(3,326) = 10.50, p < 0.0001$ . The addition of the information variables and the emotion factors accounted for a further 5.1% of the variance,  $F(9,317) = 2.08, p = 0.03$ . A consideration of the standardized beta coefficients shows that location of the deferral is the strongest predictor of intention, with lower intention to return if the donor was deferred at a donor centre,  $s\beta = -0.18, p = 0.03$ . Further, greater endorsement of the anger-related emotions,  $s\beta = -0.18, p = 0.03$  was also associated with a weaker intention to return. A greater number of previous donations,  $s\beta = 0.16, p = 0.005$ , and stronger endorsement of calm emotions,  $s\beta = 0.13, p = 0.05$ , were associated with a stronger intention to return once eligible. Donors' satisfaction with the quantity and quality of the information they were provided at the point of deferral and their self-rated level of knowledge about the deferral were not significantly associated with intention to return once eligible.

#### *Exploratory moderation analyses*

Exploratory analyses were conducted to determine whether the relationship between location of the deferral or donation history and intention to return was moderated by the donors' emotional reaction to being deferred. While a moderation effect was not observed for the

relationship between number of prior donations and intention, two statistically significant interactions were observed between the emotion factors and the location of the deferral.

The interaction between the Calm factor and location of the deferral accounted for a significant proportion of variance in intention to re-donate,  $sr^2=0.02$ ,  $F(1,325)=7.50$ ,  $p=0.003$ ,  $\beta=0.24$ ,  $t(330)=9.03$ ,  $p=0.003$ . Being deferred at a donor centre was significantly negatively associated with intention to return to donate only for those donors who reported that they did not experience Calm emotions to more than a moderate degree (i.e., mean agreement of  $< 4.16$ ;  $p<0.05$ , 51.3% of sample). Similarly, the interaction between Happiness and location of the deferral accounted for a significant proportion of variance in intention to return,  $sr^2=0.02$ ,  $F(1,325)=7.50$ ,  $p=0.007$ ,  $\beta=0.42$ ,  $t(325)=2.74$ ,  $p=0.007$ . The relationship between being deferred at a donor centre and intention to return was significant and negative for those donors indicating very low levels of happiness in response to being deferred ( $< 1.90$  on the 1-7 scale;  $p<0.05$ , 60.2% of sample). In addition, there was a significant positive relationship between being deferred in-centre and intention to return, for the very small group of donors who expressed extreme levels of happiness ( $\geq 6.88$ ;  $p<0.05$ , 0.03% of sample).

## **DISCUSSION**

This research study investigated how donors experience the application of a temporary deferral. Drawing on research that has shown the strong emotional impact of a permanent deferral on donors [11, 12], we conducted interviews with front-line staff before surveying donors about their experience of being temporarily deferred. Staff perceived that donors reacted to being deferred with strong emotions. These included rejection, sadness, disappointment, anger, annoyance, and frustration. These negative emotions were heightened when the deferred donor had made a great effort to attend the appointment or when they did not appear. Further, the



reaction of donors to being deferred was seen as more extreme by staff when the donor had made an effort to present to donate and when they did not understand why they had been deferred. In contrast to this perception of staff, however, our survey of recently deferred donors found that most did not report an intense emotional reaction to being deferred. Nevertheless, emotions did play a significant role in donors' intentions to return to donate once eligible, whereas satisfaction with the quality and quantity of information provided and feeling knowledgeable about why the deferral was applied, did not. Feeling low levels of anger and rejection-related emotions, and having a calm response to being deferred, significantly predicted a donor's intention to return, along with when and where the deferral was applied (with in-centre deferrals negatively related to intention to return) and number of prior donations (with more experienced donors expressing higher intention to return). Exploratory analyses demonstrated that the negative impact of being deferred in centre on intention to return remained significant only for those donors who did not express high levels of calm in relation to their deferral and who felt little to no happiness in relation to their experience.

The discord between front-line staff perceptions of donors' reactions to being temporarily deferred and the low intensity of negative emotions indicated by donors was unexpected. One possibility for this result is that front-line staff misperceive how donors react to being deferred, as a function of the context and role they find themselves in (i.e., delivering 'bad' news) [17]. Additionally, staff may experience a form of memory bias by projecting onto donors how they think they feel, from observing a few salient examples of donors who did not take the news well. Another, perhaps more likely, possibility is that donors do not accurately recall the nature, or intensity, of their affective experience at the very point at which they were deferred. In an examination of donors' memories for the affect they experienced in-centre, Breckler [18] found that donors recalled feeling more intense anxiety pre-donation than they

actually reported. In our study, we asked donors to report how they felt at the moment they were deferred. However, donors' accounts were retrospective, with participants taking several days, on average, to complete and return their surveys. This delay in responding may explain the low levels of negative affect (e.g., anger) and higher levels of positive affect (e.g., calm) reported by our donors, and highlight the importance of assessing affect at the time and within the context it occurs [18, 19]. It may also be the case, however, that donors are reluctant to report their negative emotions. In their analysis, Vavic and colleagues [20] noted that donors underreported anticipatory anxiety because they considered such emotions to be a sign of weakness.

That at least some donors feel negative emotions upon receiving a deferral is perhaps not surprising. However, and in contrast to Hillgrove et al. [9], the significant relationship of anger and calmness to intention to return observed in the current analysis shows the potency of recalled emotions in how donors anticipate that they will behave in the future. Donors' recollection of the emotions they experienced when deferred predicted their intention to return whereas satisfaction with the quality and quantity of information provided and feeling knowledgeable about why they were deferred did not. However, across all the factors assessed in the current study, the strongest determinant of intention to return was the timing and location of deferral, with donors deferred in-centre having a weaker intention to return than those deferred over the phone prior to presenting to donate. Donors who present in-centre have overcome the 'inconvenience' factor [21], and are psychologically and emotionally expecting to donate blood, only to be told that they are unable to. Although temporary deferral is relatively common among donors, it is not typically anticipated. Further, some donors may feel duped that they were 'cleared' to donate through the pre-donation telephone conversation but are then

deferred at the donation centre. In these situations, it is perhaps not surprising that receiving a temporary deferral in-centre has such a substantial impact on a donor's intention to return.

However, the exploratory moderation analyses suggest that the impact of being deferred in-centre may not always be so negative. The intention of donors who recalled being very calm at the point of their deferral and experiencing moderate to high levels of happiness and relief did not differ as a function of when and where they were deferred. This finding raises the possibility that intervening to reduce recalled anger and bolster recalled calmness and happiness may improve retention rates, particularly for those donors deferred in-centre. The results of the current study suggest that such interventions could either target the emotions experienced by donors in-centre or their recollection of those emotions in the immediate aftermath of their deferral.

The current materials provided to temporarily deferred donors do not mention or target affective reactions to being deferred, and staff are not trained or encouraged to address emotional reactions to deferrals. While previously trialled interventions to improve retention of temporarily deferred donors using 'thank you' brochures have had limited success [22], the results of the current study suggest that encouraging donors to reframe their affective response to deferral may strengthen donors' intentions to return. In centre, donor centre staff may represent a key resource in this process. Donors look to staff for guidance and techniques to manage their emotional experience [23]. Further, the social support provided by, and the interpersonal skills of, staff members have been demonstrated to improve donors' in-centre experiences [24, 25].

One technique that may be particularly beneficial in improving donor retention is explicitly giving donors the opportunity to express their emotional reaction to being deferred. Research shows that providing people with the opportunity to voice their opinions or reactions to a decision even when that decision cannot be changed increases ‘extra-role’ behaviours (i.e., discretionary, pro-social behaviours) [26]. This finding suggests that allowing, or perhaps even encouraging, deferred donors to express their feelings at the point of deferral may increase their subsequent pro-social behaviour – i.e., return once eligible. However, these types of interventions have implications for staff and resourcing. In our analysis, front-line staff reported donors becoming angry when deferred and, as such, staff may understandably be reticent to elicit these emotions. Additional training and support would be needed for staff to help them have these potentially difficult conversations, and the potential benefit (vs cost) of introducing such strategies requires careful evaluation.

Although this study provides a critical first insight into the emotional response of donors to being deferred, and examined how these reactions relate to donors’ intention to return, there were several limitations to our research that should be considered. Donors self-selected to participate in our research, and as such our data may represent only the responses of those strongly motivated or very interested in our research topic or the majority surveyed did not report a strong negative affective reaction to being deferred (2.3% reported an extreme negative response). In addition, donors with lower health literacy levels may have opted out of participating in the survey, which may have resulted in higher scores on the knowledgeability items. Further, the final model explained only 14% of the variance in intention to re-donate following deferral, and a replication assessing a broader range of constructs such as those in an augmented Theory of Planned Behaviour framework [15, 27] may provide a more complete account of deferred donors’ intentions. Ideally, and given the noted gap between people’s stated

intentions and their subsequent behaviour [28], such a replication would be sufficiently powered and lengthy in duration to also allow for the assessment of return behaviour. Such an analysis would provide additional insights into how donors perceive temporary deferrals, and how they feel following the application of a temporary deferral, allowing for the eventual design and evaluation of interventions to improve the retention of these donors.

Overall, our results suggest that emotional reactions at the time of receiving a deferral have an impact on donors' intention to re-donate. With positive emotional responses having a beneficial impact on donors' intention to re-donate, staff members can play a key role in helping to acknowledge and manage the emotions that donors experience when deferred. Consistent with the important role that collection agency staff members play in helping donors manage their emotional experience of donating [23-25], staff potentially have a critical role to play in intervening with those donors who are deferred to improve those donors' experiences and improve their retention.

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**Table 1** Emotion themes discussed by staff\*

<b>Emotions</b>	<b>Blood collection staff (n=29)</b>	<b>Call centre agents (n=10)</b>	<b>Medical officers (n=8)</b>
Anger	+	+	+
Anxiety	+	+	-
Confusion	+	+	+
Happy	+	-	+
Rejection	+	+	+
Sadness	+	+	+

<sup>+</sup> = mentioned at least in one interview with a staff member from that particular group; - = not mentioned in staff interviews

**Table 2** Sample characteristics (n=397)\*

Age (years)	46.4 ( $\pm$ 16.1)
Sex	
Male	137 (34.5)
Female	260 (65.5)
Donation count	14.5 ( $\pm$ 15.4)
Self-reported eligibility to donate status	
Eligible	55 (13.9)
Not eligible	250 (63.0)
Unsure	35 (8.8)
Deferral location	
On the phone	329 (82.9)
At the donor centre	68 (17.1)
Deferral duration (days)	163.0 ( $\pm$ 290.6)
Deferral type	
Medical	372 (93.7)
Lifestyle	25 (6.3)

\* Data are reported as mean ( $\pm$ SD) or frequency (%).

**Table 3** Standardised factor loadings

	<b>Anger Factor</b>	<b>Anxiety Factor</b>	<b>Calm Factor</b>	<b>Sadness Factor</b>	<b>Happiness Factor</b>	<b>Disgust Factor</b>
Anger	0.87					
Mad	0.84					
Rage	0.81					
Pissed off	0.70					
Unfair	0.68					
Dread	0.56					
Undervalued	0.53					
Rejected	0.48					
Panic		0.78				
Nervous		0.77				
Scared		0.77				
Worry		0.70				
Fear		0.66				
Anxiety		0.65				
Easy-going			0.86			
Chilled out			0.85			
Calm			0.79			
Disappointed				0.73		
Guilty				0.72		
Sad				0.65		
Relieved					-0.81	
Enjoyment					-0.78	
Satisfaction					-0.55	
Happy					-0.47	
Empty						-0.75
Sickened						-0.72
Revulsion						-0.59
Cronbach alpha	0.91	0.81	0.82	0.70	0.71	0.61

**Table 4** Correlations among predictor variables

	Disgust Factor	Happiness Factor	Sadness Factor	Calm Factor	Anxiety Factor	Anger Factor	Knowledgeable	Quantity of Information	Quality of Information	Deferral location	Prior donation count	Sex	Intention
Sex													-0.09
Prior Donation count												0.27*	0.15*
Deferral location											-0.14*	0.03	-0.24*
Quality of Information										-0.09*	-0.02	-0.14*	0.15*
Quantity of Information									0.43*	-0.71*	0.10*	-0.05	0.20*
Knowledgeable								0.40*	0.70*	-0.15*	-0.07	-0.17*	0.15*
Anger Factor							-0.50*	-0.33*	-0.48*	0.29*	-0.08	0.06	-0.25*
Anxiety Factor						0.25*	-0.21*	-0.33*	-0.16*	0.28*	-0.09	0.03	-0.14*
Calm Factor					-0.26*	-0.33*	0.31*	0.28*	0.33*	-0.14*	-0.04	-0.06	0.19*
Sadness factor				-0.23*	0.31*	0.49*	-0.24*	-0.28*	-0.18*	0.19*	-0.10*	-0.09	-0.07
Happiness Factor			-0.33*	0.51*	-0.17*	-0.25*	0.24*	0.28*	0.31*	-0.16*	-0.00	0.06	0.08
Disgust factor		-0.19*	0.43*	-0.23*	0.26*	0.59*	-0.21*	-0.21*	-0.27*	0.17*	-0.04	0.12*	-0.14*
Mean	1.13	1.92	2.35	4.03	1.17	1.28	6.46	4.89	6.28	N/A	14.59	N/A	6.56
SD	0.45	1.08	1.29	1.72	0.44	0.73	1.23	2.62	1.37	N/A	15.69	N/A	0.99

\*p≤0.05

**Table 5: Mean differences between where the deferral was applied**

	<u>Deferred via a pre-donation phone call</u>	<u>Deferred at the donor centre</u>	<u>p</u>
<u>Anger Factor</u>	<u>1.2 ±0.5</u>	<u>1.7 ±1.2</u>	<u>0.001</u>
<u>Anxiety Factor</u>	<u>1.1 ±0.3</u>	<u>1.4 ±0.7</u>	<u>0.002</u>
<u>Calm Factor</u>	<u>4.1 ±1.7</u>	<u>3.5 ±1.6</u>	<u>0.007</u>
<u>Sadness Factor</u>	<u>2.2 ±1.2</u>	<u>2.8 ±1.4</u>	<u>0.001</u>
<u>Happiness Factor</u>	<u>2.0 ±1.1</u>	<u>1.6 ±0.8</u>	<u>&lt;0.0001</u>
<u>Disgust Factor</u>	<u>1.1 ±0.3</u>	<u>1.3 ±0.8</u>	<u>0.05</u>
<u>Quality of Information</u>	<u>6.3 ±1.3</u>	<u>6.0 ±1.6</u>	<u>n/s</u>
<u>Quantity of Information</u>	<u>5.8 ±2.0</u>	<u>1.1 ±0.6</u>	<u>&lt;0.0001</u>
<u>Knowledgeable</u>	<u>6.6 ±1.1</u>	<u>6.1 ±1.5</u>	<u>0.02</u>

**Table 6** Multiple regression predicting intention

Predictor	R	R <sup>2</sup>	Standardized β	95% CI	
				Lower	Upper
<b>Step 1</b>	0.297	0.088			
Sex ( <u>Ref: Male</u> )			-0.096	-0.433	0.032
<b>Donation count</b>			<b>0.155*</b>	<b>0.003</b>	<b>0.017</b>
<b>Deferral location (<u>Ref: Deferred via the pre-donation phone call</u>)</b>			<b>-0.184*</b>	<b>-0.864</b>	<b>-0.054</b>
<b>Step 2</b>	0.373	0.139			
Quality of Information			0.042	-0.085	0.146
Quantity of Information			-0.036	-0.081	0.053
Knowledgeable			-0.008	-0.129	0.117
<b>Anger factor</b>			<b>-0.180*</b>	<b>-0.457</b>	<b>-0.028</b>
Anxiety factor			-0.034	-0.334	0.183
<b>Calm factor</b>			<b>0.129*</b>	<b>0.002</b>	<b>0.150</b>
Sadness factor			0.083	-0.036	0.162
Happiness factor			-0.029	-0.145	0.090
Disgust factor			0.013	-0.266	0.324

\*p≤0.05