



VICTORIA UNIVERSITY
MELBOURNE AUSTRALIA

Thank you for donating: a survey of Australian donors' and nondonors' orientations toward noncash incentives for blood donation

This is the Accepted version of the following publication

Van Dyke, Nina, Chell, Kathleen, Masser, Barbara, Kruse, Sarah P, Gemelli, Carley N, Jensen, Kyle and Davison, Tanya E (2020) Thank you for donating: a survey of Australian donors' and nondonors' orientations toward noncash incentives for blood donation. *Transfusion*, 60 (7). pp. 1454-1462. ISSN 0041-1132

The publisher's official version can be found at
<https://onlinelibrary.wiley.com/doi/full/10.1111/trf.15806>
Note that access to this version may require subscription.

Downloaded from VU Research Repository <https://vuir.vu.edu.au/41203/>

TITLE PAGE

Thank you for donating: A survey of Australian donors' and non-donors' orientations towards non-cash incentives for blood donation

Nina Van Dyke¹, Kathleen Chell¹, Barbara Masser^{1,2}, Sarah P Kruse¹, Carley N Gemelli¹, Kyle Jensen¹, Tanya E Davison¹

Author affiliations:

¹Research and Development, The Australian Red Cross Lifeblood, Level 3, 417 St Kilda Rd, Melbourne, VIC 3004, Australia

²School of Psychology, The University of Queensland, St Lucia, QLD 4072, Australia

Author responsible for correspondence and reprint requests:

Tanya Davison, Clinical Services and Research, Australian Red Cross Lifeblood, Level 3, 417 St Kilda Road, Melbourne, VIC 3004. Phone: +61 3 9863 2887. Email: tdavison@redcrossblood.org.au.

Sources of support: Australian governments fund the Australian Red Cross Lifeblood to provide blood, blood products and services to the Australian community.

Conflicts of interest: The authors declare that they have no conflicts of interest relevant to the manuscript submitted to TRANSFUSION.

Word count: Abstract contains 225 words; Main text contains 3420 words

Short title as running head: Orientations towards non-cash incentives

ABSTRACT

BACKGROUND: The aim of this study was to understand Australian donors' and non-donors' orientations towards 13 non-cash incentives for blood and plasma donation and the associations between orientations and intention to donate (non-donors) and subsequent donation (donors).

STUDY DESIGN AND METHODS: A survey of 1,028 donors and 1,201 non-donors was conducted online and by telephone. Donors were randomly selected from the Australian Red Cross Lifeblood donor panel; non-donors were selected from randomly generated fixed line and mobile telephone numbers across Australia. Incentives were chosen to reflect a wide array of possible non-cash incentives that might be introduced by blood donor organisations (BDOs). Differences between donors and non-donors, as well as other sub-groups, were investigated.

RESULTS: Orientations towards most types of incentives were positive or neutral. No statistically significant differences were observed between incentive orientations for whole blood versus plasma donations. Many sub-group differences were small but statistically significant. There were mostly small, positive, statistically significant associations between non-donors' intention to donate and orientations towards non-cash incentives; there were mostly no statistically significant associations between donors' orientations and subsequent donation behaviours.

CONCLUSION: The findings from this study suggest that BDOs that wish to trial non-cash incentives in voluntary non-remunerative systems can be confident that neither donors nor potential donors will react negatively. They also indicate that BDOs have some flexibility in deciding which incentives to trial.

Keywords: Blood Donation, Plasma Donation, Donors, Non-Donors, Survey, Non-cash incentives

INTRODUCTION

Maintaining an adequate panel of whole blood and plasma donors is an ongoing issue for many blood donation organisations (BDOs). Offering incentives for donation is one potential way of recruiting new donors, reactivating lapsed donors, and increasing the donation frequency of current donors.¹ Cash incentives are unacceptable within voluntary, nonremunerative (VNR) systems² and can be counterproductive through both “crowding out” altruistic donations^{3,4} and heightening the risk of contaminated blood.^{5,6} Non-cash incentives, including those with an explicit monetary value (e.g., movie tickets; travel cost reimbursement), appear promising, but the evidence regarding their appeal and efficacy is limited.⁷ Australian Red Cross Blood Service Lifeblood (Lifeblood) currently offers limited incentives to donors, comprising only refreshments, donor certificates of appreciation, and celebration events for reaching milestone donations, but otherwise does not provide any incentives for blood donation.

Extant literature on attitudes towards the use of incentives for blood donation mostly finds mild to moderate support for the use of incentives^{7,10} but with some variation by donor or non-donor status¹¹⁻¹⁴, age¹⁵⁻¹⁸, gender^{11,15,18,19}, education level^{16,17,20} and donor experience (number of prior donations)^{17,18}. Some types of incentives have received more attention than others. Those that have been mostly positively evaluated include health checks^{6,10,14-17,20-21}; paid leave/time off work to donate^{6,10,14}; travel reimbursement^{11,21-22}; tickets to concerts, movies, or other events^{6,18-19}; frequent donor/loyalty programs,¹⁷ donations to charity,⁶ and discounts on merchandise⁶. Attitudes towards donor recognition (e.g. certificates for milestone donations) are mixed.^{6,13-14} Less supported incentives include small gift items,^{6,14,18-19,23; cf 20,24} and lottery or raffle tickets.^{15,18}

One limitation of the existing literature on attitudes is that most analyses have considered only a limited number of different incentives. Therefore, it is unclear whether and how attitudes vary between different types of incentives. Relevant theories suggest that different kinds of incentives will be viewed most positively. For example, standard economic theory²⁵, along with the ‘crowding out’ perspective^{3,4}, suggest a linear relationship between the monetary value of the incentive or the potential of a cash reward (e.g., tickets to enter a lottery or prize draw) and evaluations of that incentive. In contrast, signalling theory²⁶ suggests that low value incentives that effectively signal the altruistic behaviour of the individual will be viewed more positively than non-cash incentives that do not signal the donor’s altruism. From the perspective of Chmielewski and colleagues’ (2012) ‘congruency’ theory of support for incentives, incentives such as paid time off work and travel reimbursement should be viewed most positively as these incentives are congruent with the effort expended in donating blood.¹⁴ Finally, incentives viewed as a ‘thank you’ for donating and induce “warm glow” (e.g., small non-costly gifts; reward programs; vouchers/gift cards; discounts/coupons) may be more positively evaluated than incentives that do not provoke warm glow.²⁷ From this perspective, charity donations, whereby the BDO makes a monetary donation to a charity for every blood donation, should be particularly positively reacted to as this incentive should produce a “double warm glow” whereby the donor feels good not only about donating blood, but also about helping even more people with a donation to charity.

While attitudes towards incentives have received some attention in the literature, studies have not examined the potential impact of the introduction of an incentives scheme on the reputation of the BDO. BDOs rely on their reputation to attract and maintain donors. Even if donors and non-donors believe non-cash incentives are effective in encouraging people to donate, any short-term increase in donations gained from non-cash incentives would be pointless if reputational damage led to fewer donations in the longer term. In this paper, we

define “orientation” towards incentives as comprising both perceived effectiveness of incentives in increasing blood donation and perceived impact of incentives on the reputation of the BDO.

Understanding associations between donors’ and non-donors’ orientation towards incentives, and intention to donate and donation behaviour, is important to ensure that those people most likely to donate are not opposed to the provision of incentives. Limited prior research examining future intention to donate has found either a small positive¹² or no³⁶ association between attitudes towards incentives and intention to donate once other variables were controlled for. No research to date has explored the relationship between donors’ orientation towards incentives and actual subsequent donation behaviour.

The aim of this study was to examine donors’ and non-donors’ orientations to 13 non-cash incentives. Specifically, our objectives were to examine both the perceived effectiveness and perceived reputational impact of the incentives. We examine orientations separately for whole blood donors and plasma donors (as defined by their most recent donation) and separately in relation to whole blood donations and plasma donations. Given the recent emphasis by Lifeblood in their marketing campaigns on the need for plasma, we anticipated greater support for incentives by plasma donors and for plasma donation. We also sought to explore whether orientations to incentives varied by donor status (donor/non-donor), age, sex, education, and donation experience. Finally, we sought to examine the association of orientations towards non-cash incentives with donors’ subsequent donation behaviour as well as non-donors’ intention to donate.

MATERIALS AND METHODS

Participants and procedure

The survey was conducted by an external research company to minimise response bias. Following approval by Lifeblood's Ethics Committee and pilot testing of the survey instrument, eligible donors were randomly selected from Lifeblood's donor panel to participate. The donor panel is maintained by Lifeblood and includes contact, demographic, and donation details on donors within Australia. Selected donors (n=9,899) were sent a letter that included a link to the online survey. Follow up telephone interviews were conducted with under-represented donor groups (e.g. lapsed donors -- no donation past 12+ months). Non-donor participants (n=37,531) were selected from randomly generated fixed-line telephone numbers (20%) and mobile numbers (80%) across Australia.³⁷ The number of donors and non-donors asked to participate was determined based on anticipated participation rate and planned analyses (e.g. sub-group comparisons). Selected non-donors were verbally offered the option of completing the survey via phone or online. Participants were recruited from 31 October – 12 December 2017. A total of 93.2% of donors and 15.1% of non-donors completed the survey online; 7.7% of donors and 84.9% of non-donors completed the survey by telephone.

Survey instrument

In order to reduce potential negative connotations, the word 'incentive' was not used in the survey. Instead, participants were asked about 'ways to encourage people to donate' and 'things the Blood Service might offer to try to encourage people to donate'. Lifeblood was the Blood Service at the time the research was conducted.

Incentives: A total of 13 non-cash incentives were chosen following consultation with internal stakeholders at Lifeblood, a literature review of incentives for blood donation, and consideration of those incentives mostly likely to be adopted by BDOs.⁷ The non-cash incentives selected are listed in Table 2.

Orientation towards incentives: Orientation was measured by first asking participants the degree to which they believed each incentive would encourage or discourage someone to donate blood (1= strongly discourage to 7=strongly encourage). Second, participants were asked the extent to which they would perceive Lifeblood more negatively or more positively if each of the incentives were implemented (1= much more negative to 7= much more positive). The order in which the incentives were presented to each participant was randomised.

Intention to donate and donation behaviour: Intention to donate in the next four months was measured with three questions from France et al. (2014) ($\alpha = 0.98$).³⁸ Data on previous and subsequent donation behaviour was extracted from Lifeblood's routinely collected data.

Statistical analysis

Post-hoc weights were created using a raking method³⁹ with the following variables: age, sex, location (metropolitan/ non-metropolitan and state) and education for non-donors, plus donation experience and last donation type for donors (without education). Based on an acceptable ratio of largest to smallest weight, the variability of weights was not reduced (e.g. truncation).⁴⁰ Data were weighted where the donors and non-donors were analysed separately; other analyses used unweighted data. Missing data for single item constructs were treated as missing; for these variables, pairwise deletion was used in analyses.

Independent t-tests were used to explore whether orientations to incentives varied by donor status (donor/non-donor), sex, or education (≤ 12 years or >12 years [high school completion]). Pearson's correlation coefficients were calculated between orientation to incentives and age and donation experience. Given the number of comparisons and large sample size, Bonferroni adjustments were consistently applied ($p < 0.05/39 = 0.001$). This

meant that for these comparisons, p values greater than 0.001 were *not* considered significantly different.

To assess the association between donors' subsequent donation and orientation towards incentives, between sample t-tests were conducted comparing donors who did and did not return to donate at four months after completing the survey. Pearson's correlations were run to compare non-donors' intention to donate within four months after completing the survey and orientations towards incentives. Significance was determined at $p < 0.05$.

RESULTS

A total of 1,028 donors (ever donated blood) (minimum response rate (RR1¹) = 10.3%) and 1,201 non-donors (never donated blood) (RR1 = 3.2%) completed the survey (see Table 1).⁴¹ Survey participants were broadly representative of their respective populations. However, donors who completed the survey were somewhat older and more experienced than the donor panel. The characteristics of donors who participated in the survey were similar to those who did not participate with the exception of age – participants were somewhat older ($t(df)=9.402(1225.594)$, $sig=.000$). Non-donors who completed the survey were more likely female, and more highly educated, compared with the general Australian population. We had no information on the characteristics of non-donors who did not participate in the survey. To account for these minor differences, the donor and non-donor samples were post-weighted in the analyses where these two samples were analysed separately.

[TABLE 1 HERE]

No statistically significant differences were found for either perceived effectiveness or impact on organisational reputation between whole blood donors and plasma donors, or between

¹ "Response Rate 1 (RR1), or the minimum response rate, is the number of complete interviews divided by the number of interviews (complete plus partial) plus the number of non-interviews (refusal and break-off plus non-contacts plus others) plus all cases of unknown eligibility" (AAPOR, 2015)

incentives for whole blood and plasma. Therefore, responses from whole blood and plasma donors, and for whole blood and plasma donations, were combined for all analyses.

Donors' and non-donors' orientations towards incentives

Perceived effectiveness of incentives

A majority of donors and non-donors reported that most types of incentives would encourage donation, with health checks, concert or movie tickets, and paid time off work or school seen as most effective (see Table 2). Media recognition (both donors and non-donors) was the only incentives a majority of participants thought would discourage donation. For most types of incentives, approximately 15-25% of survey participants thought the incentive would neither encourage nor discourage donation.

[TABLE 2 HERE]

Sub-group differences: Perceived effectiveness

Some sub-group differences in perceived effectiveness were statistically significant, but substantively very small. Donors believed milestone awards, health checks, national rewards programs, and small gifts to be slightly more effective than did non-donors (mean differences ranged from 0.41-0.78 on the 7-point scale). Women believed paid time off work, concert or movie tickets, travel reimbursement, charity donation, store voucher or gift card, and both local and national rewards programs to be more effective than men did (mean differences: 0.31-0.40). There were no statistically significant differences by education (high school completion or less versus higher than high school completion). Older donors and more experienced donors reported slightly lower levels of incentive effectiveness than did younger donors and less experienced donors, respectively ($|r| \leq 0.223$; $|r| \leq 0.126$); when age was controlled for, there were no statistically significant differences by donation experience.

Perceived impact of incentives on reputation of Lifeblood (organisational reputation)

A majority of donors and non-donors reported that their view of Lifeblood would be more positive if most of the incentives were implemented (see Table 3), with more than two-thirds of both groups saying their views would be more positive if either health checks or charity donations were implemented. More than half of both donors and non-donors, however, said their views would be more negative if media recognition were offered. Non-donors tended to report more negative views, whereas larger percentages of donors held neutral views.

[TABLE 3 HERE]

Sub-group differences: Organisational reputation

As with perceived effectiveness, impact on the view of Lifeblood varied somewhat by sub-groups (i.e. differences were statistically significant), although again the differences were small. Donors expressed more positive views (i.e. introduction of the incentive would result in their having a more positive view of Lifeblood) than did non-donors for health checks, milestone plaques, and small branded gifts (mean differences: 0.33-0.65 on the 7-point scale). Women expressed more positive views than did men for charity donation and concert or movie tickets (mean differences: 0.32-0.38). There were no statistically significant differences by education. Older donors and more experienced donors reported somewhat less positive impact of incentives on view of Lifeblood than did younger donors and less experienced donors, respectively ($|r| \leq 0.223$; $|r| \leq 0.126$); when age was controlled for, there were no statistically significant differences by donation experience.

Orientation towards incentives and intention to donate (non-donors)

For several of the incentives, there were statistically significant but very small relationships between non-donors' intention to donate blood within the subsequent four months and

positive orientations toward the incentive ($r \leq 0.147$ for perceived effectiveness; $r \leq 0.133$ for organisational reputation).

Orientation towards incentives and subsequent donation behavior (donors)

Donors who returned to donate within four months after completing the survey held similar orientations towards incentives as donors who did not return to donate. The only statistically significant difference was for perceived effectiveness of store vouchers or gift cards – donors who did not return to donate perceived this incentive to be slightly more effective ($X=4.96$; $SD=1.77$) as compared with donors who returned to donate ($X=4.46$; $SD=1.92$).

DISCUSSION

Consistent with most prior research examining attitudes to incentives for blood donation, most Australian donors and non-donors hold either neutral or positive orientations towards most non-cash incentives for whole blood and plasma donation. This result, coupled with the finding that those donors and non-donors most likely to donate in the future (measured by intention to donate for non-donors and actual subsequent donation for donors) hold similar orientations towards non-cash incentives compared with those less likely to donate, is encouraging for BDOs considering the introduction of non-cash incentives. That significant percentages of both donors and non-donors report that their views of Lifeblood would improve if particular incentives were introduced is an important addition to the evidence base on non-cash incentives. This finding may reflect people's desire to help Lifeblood achieve its aims. It may also indicate less societal stigma associated with incentives for altruistic giving. Trust in organizations is key to ensuring donations,²⁸⁻²⁹ and reputation matters to BDOs.³⁰ Bednall and Bove (2011), in their meta-analysis of blood donation motivators and deterrents, found that nearly 60% of the participants in the nine studies that assessed organisational reputation reported the reputation of the collection agency as a reason for their donation.³¹

This percentage was even higher for first-time donors, with more than three-quarters (76.8%) reporting organisational reputation as a reason for donating. According to information integration theory, a donor's attitude towards a BDO changes if new information about the organisation becomes available and is integrated with prior attitudes.³² Attitudes related to the BDO's behaviour will eventually lead to changes in donor behaviour.^{33,34} Consistent with this, Mews and Boenigk (2013) found that potential donors exposed to negative news about a BDO indicated more negative views of the organization and a lower willingness to donate blood compared to a control group exposed to neutral news.³⁵ Therefore, it is important that the introduction of an incentives program does not negatively impact on the reputation of the BDO.

The finding that donors are somewhat more supportive of non-cash incentives than are non-donors accords with some prior findings,^{11,12} but not others.^{13,14} Donors likely feel a greater connection with Lifeblood and thus possess a stronger desire to assist the organisation in its mission.⁴² This greater support may also reflect positive experiences with the efforts currently made by Lifeblood to encourage donor loyalty such as milestone awards. In contrast to prior studies¹⁵⁻¹⁸, older people and more experienced donors were not less positively oriented towards most non-cash incentives as compared with younger people and less experienced donors. Although the associations were statistically significant, they were substantively meaningless. Additional research may be needed to clarify this issue.

The most positive orientations were seen for health checks and paid time off school or work. These results suggest some preference for congruency when comparing between different types of non-cash incentives. Chmielewski and colleagues suggested that paid time off school or work would be seen as congruent with the effort expended to donate blood.¹⁴ Although not categorised in this way by Chmielewski and colleagues, Leipnitz and colleagues (2018) suggested in a recent analysis that health checks may also be seen as

congruent with being a blood donor as donors are more health conscious than the average person.⁴² However, it is worth noting that both donors and non-donors were positively oriented to most of the non-cash incentives presented. The exception was media recognition, which was viewed as impacting negatively on both donations and the BDO.

Although this study finds that most Australians are either positively oriented or neutral towards most non-cash incentives for blood donation, a small-to-medium percentages of all people surveyed held mildly negative orientations towards many incentives. Although most of these negative views were expressed towards particularly unpopular incentives (i.e. media recognition; prize draw tickets), a few survey participants reported strong negative orientations towards incentives more broadly. Specifically, 1.9% of people surveyed had a mean response ≤ 2 on a 1 (strongly discourage/much more negative) to 7 (strongly encourage/much more positive) Likert scale across all incentives, with 2 representing discourage/more negative. The impact of this small sub-group of “strong dissenters” is worth considering for any BDO contemplating introducing a non-cash incentives program.

While this study provides valuable insights into how donors and non-donors in a VNR donation system view the potential effectiveness and reputational impact of introducing non-cash incentives for blood donation, there are limitations inherent in the data. First, our definition of ‘donor’ was broad, comprising anyone who had ever donated blood. It is possible that those who are temporally closer to the critical behaviour may have different perspectives on the use of non-cash incentives than those who are more distant to the behaviour. Second, we did not include cash among the incentives investigated but instead focused on a wide variety of non-cash incentives⁴³, consistent with Lifeblood’s commitment to voluntary non-remunerated donation. Third, our response rates were low – 10.3% for donors and 3.2% for non-donors. However, given the lack of polarisation in responses, there is nothing to suggest that survey respondents held different opinions on incentives for blood

donation as compared with non-respondents. Fourth, within the survey questions, we could provide no explanation of how each incentive might be administered -- for example, frequency of rewards, or whether the reward would be given for an attempted but unsuccessful donation. Therefore, how participants imagined each incentive operating may have varied substantially between participants. Finally, this study focused only on perceived effectiveness and reputational impact of the non-cash incentives. While the results indicate a generally favourable orientation, several experimental studies demonstrate the disconnect between attitudes to incentives and subsequent behavior.^{42,45,46} These studies highlight the importance of conducting trials of non-cash incentives prior to business-as-usual implementation.

The results from this study suggest that BDOs that wish to trial non-cash incentives in VNR systems have some flexibility in deciding which incentives to trial, thus allowing them to balance (the potential ongoing) monetary and logistical costs against the potential benefits of increased donations, both in the short- and long-term. However, how to build an effective non-cash incentive scheme remains relatively unexplored and it will be important for BDOs to conduct further research to determine the parameters of a scheme that both encourages donors and is acceptable to non-donors and donors alike (e.g., the magnitude of the incentive, the behaviour for which it is given, and the frequency at which it is dispensed). Regardless of the form it takes, how such an incentives program is marketed will be crucial. Cognisant of the potential negative effects of incentives being seen as cash or payment for donation, it is critical that any incentives scheme is positioned only as a low cost “thank you” or acknowledgement to donors for their important contribution in helping the BDO provide a safe and sufficient supply of blood and blood products.

ACKNOWLEDGEMENTS

We would like to acknowledge the financial support of Australian Red Cross Lifeblood to conduct this research. We would like to thank Glen Shuttleworth and Perfecto Diaz for their assistance with the Lifeblood donor panel data. We would like to thank Wallis Market and Social Research company for conducting the donor and non-donor surveys. Finally, we would like to thank the donors and non-donors who gave their time to participate in this study.

REFERENCES

1. Lacetera, N., Macis, M., & Slonim, R. (2013). Economic rewards to motivate blood donations. *Science*, 340(6135), 927-928.
2. Flanagan, P. (2015). The code of ethics of the International society of blood transfusion. *Blood Transfusion*, 13(4), 537.
3. Titmuss, R. M. (1970). The gift relationship: from human blood to social. *Policy, London*.
4. Mellström, C., & Johannesson, M. (2008). Crowding out in blood donation: was Titmuss right? *Journal of the European Economic Association*, 6(4), 845-863.
5. Eastlund, T. (1998). Monetary blood donation incentives and the risk of transfusion-transmitted infection. *Transfusion*, 38(9), 874-882.
6. Glynn, S. A., Smith, J. W., Schreiber, G. B., et al. (2001). Repeat whole-blood and plateletpheresis donors: unreported deferrable risks, reactive screening tests, and response to incentive programs. *Transfusion*, 41(6), 736-743.
7. Chell, K., Davison, T. E., Masser, B., et al. (2018). A systematic review of incentives in blood donation. *Transfusion*, 58(1), 242
8. Ajzen, I. (2005). Attitudes, personality, and behavior. McGraw-Hill Education (UK).
9. Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Harcourt Brace Jovanovich College Publishers.
10. Sadler, A., Shi, L., Bethge, S., et al. (2018). Incentives for Blood Donation: A Discrete Choice Experiment to Analyze Extrinsic Motivation. *Transfusion Medicine and Hemotherapy*, 45(2), 116-124.
11. Costa-Font, J., Jofre-Bonet, M., & Yen, S. T. (2013). Not all incentives wash out the warm glow: the case of blood donation revisited. *Kyklos*, 66(4), 529-551.

12. Martín-Santana, J. D., & Beerli-Palacio, A. (2013). Intention of future donations: a study of donors versus non-donors. *Transfusion Medicine*, 23(2), 77-86.
13. Tscheulin, D. K., & Lindenmeier, J. (2005). The willingness to donate blood: an empirical analysis of socio-demographic and motivation-related determinants. *Health Services Management Research*, 18(3), 165-174.
14. Chmielewski, D., Bove, L. L., Lei, J., et al. (2012). A new perspective on the incentive–blood donation relationship: Partnership, congruency, and affirmation of competence. *Transfusion*, 52(9), 1889-1900.
15. Sanchez, A. M., Ameti, D. I., Schreiber, G. B., et al. (2001). The potential impact of incentives on future blood donation behavior. *Transfusion*, 41(2), 172-178.
16. Kasraian, L., & Maghsudlu, M. (2012). Blood donors' attitudes towards incentives: influence on motivation to donate. *Blood Transfusion*, 10(2), 186.
17. Nguyen, D. D., DeVita, D. A., Hirschler, N. V., et al. (2008). Blood donor satisfaction and intention of future donation. *Transfusion*, 48(4), 742-748.
18. Yuan, S., Hoffman, M., Lu, Q., et al. (2011). Motivating factors and deterrents for blood donation among donors at a university campus–based collection center. *Transfusion*, 51(11), 2438-2444.
19. Finck, R., Ziman, A., Hoffman, et al. (2016). Motivating factors and potential deterrents to Blood donation in high school aged Blood donors. *Journal of blood transfusion*, 2016.
- Fisher, R. J. (1993). Social desirability bias and the validity of indirect questioning. *Journal of consumer research*, 20(2), 303-315.
20. Glynn, S. A., Williams, A. E., Nass, C. C., et al. (2003). Attitudes toward blood donation incentives in the United States: implications for donor recruitment. *Transfusion*, 43(1), 7-16.

21. European Commission. (2015). Blood and cell and tissue donation. (Special Eurobarometer 426). European Union.
22. Ou-Yang, J., Bei, C. H., He, B., et al. (2017). Factors influencing blood donation: a cross-sectional survey in Guangzhou, China. *Transfusion Medicine*, 27(4), 256-267.
23. Raghuwanshi, B., Pehlajani, N. K., & Sinha, M. K. (2016). Voluntary blood donation among students-a cross-sectional study on knowledge and practice vs. attitude. *Journal of clinical and diagnostic research: JCDR*, 10(10), EC18.
24. Muthivhi, T. N., Olmsted, M. G., Park, H., et al. (2015). Motivators and deterrents to blood donation among Black South Africans: a qualitative analysis of focus group data. *Transfusion Medicine*, 25(4), 249-258.
25. Lacetera, N., & Macis, M. (2018). *Moral NIMBY-ism? Understanding societal support for monetary compensation to plasma donors in Canada* (No. w24572). National Bureau of Economic Research.
26. Bénabou, R., & Tirole, J. (2006). Incentives and prosocial behavior. *American economic review*, 96(5), 1652-1678.
27. Ferguson, E., Taylor, M., Keatley, D., et al. (2012). Blood donors' helping behavior is driven by warm glow: more evidence for the blood donor benevolence hypothesis. *Transfusion*, 52(10), 2189-2200.
28. Furneaux, C., & Wymer, W. (2015). Public trust in Australian charities: Accounting for cause and effect. *Third Sector Review*, 21(2), 99.
29. Shehu, E., Becker, J. U., Langmaack, et al. (2016). The brand personality of nonprofit organizations and the influence of monetary incentives. *Journal of Business Ethics*, 138(3), 589-600.
30. Meijer, M. M. (2009). The effects of charity reputation on charitable giving. *Corporate Reputation Review*, 12(1), 33-42.

31. Bednall, T. C., & Bove, L. L. (2011). Donating blood: a meta-analytic review of self-reported motivators and deterrents. *Transfusion medicine reviews*, 25(4), 317-334.
32. Lafferty, B. A., Goldsmith, R. E., & Hult, G. T. M. (2004). The impact of the alliance on the partners: A look at cause–brand alliances. *Psychology & Marketing*, 21(7), 509-531.
33. Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In *Action control* (pp. 11-39). Springer, Berlin, Heidelberg.
34. Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, 50, 179-211. De Young, 50(2), 509-526.
35. Mews, M., & Boenigk, S. (2013). Does organizational reputation influence the willingness to donate blood? *International Review on Public and Nonprofit Marketing*, 10(1), 49-64.
36. Huis in 't Veld, E. M., de Kort, W. L., et al. (2019). Determinants of blood donation willingness in the European Union: a cross-country perspective on perceived transfusion safety, concerns, and incentives. *Transfusion*.
37. Baffour, B., Haynes, M., Dinsdale, S., et al. (2016). Profiling the mobile-only population in Australia: insights from the Australian National Health Survey. *Australian and New Zealand journal of public health*, 40(5), 443-447.
38. France, J. L., Kowalsky, J. M., France, C. R., et al. (2014). Development of common metrics for donation attitude, subjective norm, perceived behavioral control, and intention for the blood donation context. *Transfusion*, 54(3pt2), 839-847.
39. Kalton, G., & Flores-Cervantes, I. (2003). Weighting methods. *Journal of official statistics*, 19(2), 81.
40. Battaglia, M. P., Izrael, D., Hoaglin, D. C., et al. (2004). Tips and tricks for raking survey data (aka sample balancing). *Abt Associates*, 4740, 4744.

41. The American Association for Public Opinion Research. 2016. Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys. 9th edition. AAPOR.
42. Leipnitz, S., de Vries, M., Clement, M., & Mazar, N. (2018). Providing health checks as incentives to retain blood donors—Evidence from two field experiments. *International Journal of Research in Marketing*, 35(4), 628-640.
43. Buyx, A. M. (2009). Blood donation, payment, and non-cash incentives: classical questions drawing renewed interest. *Transfusion Medicine and Hemotherapy*, 36(5), 329-339.
44. Boenigk, S., & Helmig, B. (2013). Why do donors donate? Examining the effects of organizational identification and identity salience on the relationships among satisfaction, loyalty, and donation behavior. *Journal of Service Research*, 16(4), 533-548.
45. Goette, L., Stutzer, A., Yavuzcan, G., et al. (2009). Free cholesterol testing as a motivation device in blood donations: evidence from field experiments. *Transfusion*, 49(3), 524-531.
46. Goette, L., & Stutzer, A. (2020). Blood donations and incentives: Evidence from a field experiment. *Journal of Economic Behavior & Organization*.

TABLES

Table 1. Survey sample characteristics

Variable	Donors - survey participants n=1,028 (%)	Donors – Non- respondents n=8958 (%)	Australian blood donor population (%)	Non-donors - survey participants n=1,201 (%)	Australian general population (%)
<i>Age</i>					
18 – 29 years	26.6	36.0	34.0	24.7	20.9
30 – 49 years	34.4	39.9	38.9	35.7	35.3
50+ years	39.0	24.0	27.1	39.6	43.8
<i>Mean</i>	43.08	38.18	38.44	N/A	47.7
<i>Standard Deviation</i>	15.97	14.37	14.58		19.0
<i>Gender</i>					
Male	44.2	46.8	45.1	42.9	48.7
Female	55.8	53.2	54.9	57.1	51.3
<i>Location</i>					
Metro	68.4	65.6	65.2	63.7	66.8
Non-metro	31.6	34.3	34.8	36.3	33.2
Australian Capital Territory	4.8	3.0	3.0	1.2	1.7
New South Wales	28.0	29.7	29.7	28.3	32.1
Northern Territory	0.5	0.7	0.7	1.2	1.0
Queensland	18.0	20.5	20.9	18.2	19.8
South Australia	9.2	8.1	8.4	9.5	7.2
Tasmania	3.6	3.0	3.2	2.4	2.2
Victoria	27.1	26.9	25.8	28.6	25.6
Western Australia	8.8	8.0	8.2	10.6	10.5
<i>Education</i>					
Completed year 12 or less	4				44.0

Completed TAFE or other certificate	26.2		Not collected	31.0	
				34.0	
Completed university or higher	53.4			26.5	25.0
				39.5	
<i>Donation type (most recent donation)</i>					
Whole blood	73.2	76.7	75.1	-	-
Plasma	26.8	23.3	24.9	-	-
<i>Donation experience*</i>					
New donor	7.5	14.4	13.1	-	-
Novice donor	14.5	18.0	17.9	-	-
Experienced donor	78.0	67.6	69.0	-	-
<i>Donor status</i>					
Current	68.4	67.0	66.6	-	-
Lapsed†	31.6	33.0	33.4	-	-
*Novice=2-3 prior donations; experienced=4+ prior donations					
†Lapsed=no donation past 12+ months					
Totals may not add to 100 due to rounding					

Table 2. Perceived effectiveness of non-cash incentives by donor and non-donor status

		% Discouraged	% Encouraged
Health checks	Donors	10.5	71.4
	Non-donors	17.2	63.8
Concert/movie tickets	Donors	17.4	67.5
	Non-donors	18.4	65.2
Paid time off work	Donors	20.1	64.8
	Non-donors	16.5	69.9
Travel reimbursement	Donors	19.2	60.0
	Non-donors	17.8	62.9
Natl rewards program	Donors	20.6	59.1
	Non-donors	27.3	52.0
Store voucher/gift card	Donors	23.7	57.9
	Non-donors	23.7	56.4
Local rewards program	Donors	21.9	56.5
	Non-donors	23.1	54.1
Charity donation	Donors	20.0	55.3
	Non-donors	22.6	58.0
Milestone plaque/certificate	Donors	22.1	53.6
	Non-donors	39.8	37.1
Store discount/coupon	Donors	25.6	50.4
	Non-donors	27.6	50.4
Prize draw ticket	Donors	30.8	44.6
	Non-donors	34.3	43.5
Small branded gift	Donors	35.5	38.6
	Non-donors	44.4	33.0
Media recognition	Donors	55.5	21.2
	Non-donors	58.7	22.6

Note: 'Discourage' ≤ 3.5 and 'Encourage' ≥ 4.5 on the 7-point scale from 1 (would strongly discourage donation) to 7 (would strongly encourage donation). As these categories omit the neutral rating (i.e. > 3.5 & < 4.5), totals do not equal 100.

Table 3. Perceived impact of non-cash incentives on organisational reputation by donor and non-donor status

		% More negative	% More positive
Health checks	Donors	6.3	79.7
	Non-donors	14.3	71.0
Concert/movie tickets	Donors	18.2	59.3
	Non-donors	23.9	57.7
Paid time off work	Donors	20.8	59.9
	Non-donors	21.8	61.5
Travel reimbursement	Donors	14.5	61.6
	Non-donors	19.1	64.4
Natl rewards program	Donors	21.6	51.8
	Non-donors	32.5	47.0
Store voucher/gift card	Donors	21.8	52.8
	Non-donors	26.2	52.6
Local rewards program	Donors	17.5	56.7
	Non-donors	26.5	52.3
Charity donation	Donors	13.7	67.4
	Non-donors	17.7	67.8
Milestone plaque/certificate	Donors	17.1	58.
	Non-donors	34.9	43.8
Store discount/coupon	Donors	23.7	46.4
	Non-donors	27.8	49.
Prize draw ticket	Donors	32.6	43.0
	Non-donors	37.4	41.7
Small branded gift	Donors	26.7	46.7
	Non-donors	37.1	39.4
Media recognition	Donors	51.7	25.6
	Non-donors	59.5	23.6

Note: 'More negative' <= 3.5 and 'More positive' >= 4.5 on the 7-point scale from 1 (much more negative view of the Blood Service) to 7 (much more positive view of the Blood Service). As these categories omit the neutral rating (i.e. > 3.5 & < 4.5), totals do not equal 100.