

Spring 4-9-2019

# The Influence of Personality on Organ Donation Attitudes and Behaviours.

Shianne Brackenbury

*Brescia University College, sbracke4@uwo.ca*

Follow this and additional works at: [https://ir.lib.uwo.ca/brescia\\_psych\\_uht](https://ir.lib.uwo.ca/brescia_psych_uht)

Part of the [Personality and Social Contexts Commons](#), and the [Social Psychology Commons](#)

---

## Recommended Citation

Brackenbury, Shianne, "The Influence of Personality on Organ Donation Attitudes and Behaviours." (2019). *Brescia Psychology Undergraduate Honours Theses*. 22.

[https://ir.lib.uwo.ca/brescia\\_psych\\_uht/22](https://ir.lib.uwo.ca/brescia_psych_uht/22)

This Dissertation/Thesis is brought to you for free and open access by the School of Behavioural & Social Sciences at Scholarship@Western. It has been accepted for inclusion in Brescia Psychology Undergraduate Honours Theses by an authorized administrator of Scholarship@Western. For more information, please contact [wlsadmin@uwo.ca](mailto:wlsadmin@uwo.ca).

The Influence of Personality on Organ Donation Attitudes and Behaviors.

Shianne Brackenbury

Honours Psychology Thesis  
Department of Psychology  
Brescia University College  
London, Ontario, Canada  
April 2019

Thesis Advisor: Professor Richard Shugar

### Abstract

This study investigated the influence of personality, specifically conscientiousness, on organ donation attitudes (ODA), organ donor status and future registration intentions in an exclusively female sample. Forty-four female undergraduate students completed five questionnaires which measured the following variables: The Big Five personality dimensions, religiousness, organ donation knowledge, organ donation attitudes, altruism, social desirability, self-reported donor status, and intent to register as an organ donor. The results found no significant effect of personality on donor status or intent. However, ODA and religiousness significantly influence donor status and intent in female university students. Results offer valuable insight for how health professionals and organ donor campaigns should target prospective donors. Future research is needed to address the gap between positive attitudes towards organ donation and the act of registration

### The Influence of Personality on Organ Donation Attitudes and Behaviors.

Cross-cultural surveys reveal a shortage of organs available for transplantation worldwide despite the general public's appreciation of the need for organ donors (Demir & Kumkale, 2013). Currently, 1,527 Ontarians await a life-saving organ transplant (Trillium Gift of Life Network, 2018). Emergency action is needed to create more organ donors to meet the growing demand for organ and tissue transplantation. Ontario manages organ and tissue donations through an expressed consent system, also known as an 'opt-in' system. An expressed consent system relies on individuals voluntarily registering to become organ donors. However, In Ontario and worldwide, there is a large imbalance between the number of people who say they support organ donation and the number of registered donors (Demir & Kumkale, 2013). All individuals have the organs necessary to save a life through organ donation, yet, a mere 33% of Ontarians are registered donors. That is 4.1 million out of a possible 12.4 million Ontarians are registered donors (Trillium Gift of Life Network, 2018). Despite educational campaigns and advances in organ donation transplant technology, there is a mismatch between donor supporters and organ supply. Therefore, it is essential for psychology researchers to dig deeper into understanding the decision-making process and motivation involved in the choice to donate one's organs. Further research on the influential role of personality in organ donation attitudes (ODA) and behaviours would offer valuable insight for how health professionals and education campaigns promote awareness of organ donation and ultimately increase donor rates and organ supply.

The *theory of planned behaviour* has been used as a model for studying ODA and subsequent behaviour (Hill,2016). This theory rests on the idea that behaviors are determined by intentions. Our intentions are affected by our attitudes, perceived behavioural control and subjective norms (Hill, 2016, p.182). Organ donation is a complex process involving many

individuals at various stages of decision making. There are many individual, environmental, medical, cultural, and religious factors to consider when the possibility of an organ donation transplant arises. The organ recipient and their families and friends, the organ donor and their families and friends, and the medical and healthcare professionals all are influential in the donation process. It is the next-of-kin who have the final say when it comes to organ donation decisions, often in emotional distress. Studies found that families who are aware of their loved one's organ donor intentions are more likely to approve a transplant when approached by health care professionals than those who do not (Besser, Amir, & Barkan, 2004). Therefore, registering and discussing one's wishes in advance regarding organ donation is an important part of the organ donation process.

According to researchers, the foremost predictive factors of future donor behaviour are one's knowledge base and understanding of the organ donation procurement and registration process (Hill, 2016; Horton & Horton, 1990). Hill (2016) found that individuals' knowledge about organ donation was predictive of positive attitudes towards organ donation and organ donor status. The more accurate information presented to a potential organ donor, the more positive perceptions about the process and increased willingness to become a donor resulted (Hill, 2016).

Another powerful piece in shaping our views is personal experiences. Studies have shown that knowing someone who is a donor or has received an organ transplant or is awaiting a transplant can increase one's willingness to donate organs (Rumsey, 2003). A survey of 595 Toronto residents found that personal knowledge accounted for 22% of the variance in willingness to donate (Rumsey, 2003, p.2846). Contact with organ donors and recipients who have had a life changing experience owing to the organ donation system could improve attitudes

towards organ donation and dispel any misconceptions or fears (Rumsey, 2003, p.2849).

Therefore, personal experience with organ donation is an important deciding factor in the decision to donate and communication is a simple yet effective tool for creating awareness and more donors.

Society has come a long way in accepting organ donation as a lifesaving operation, nevertheless, there are still barriers that deter some individuals from supporting organ donation. Horton and Horton (1990) developed a questionnaire targeting factual knowledge about organ donation. The goal was to understand and overcome potential barriers that are the foundation for the discrepancy between supply and demand. The survey included 21 true/false questions related to facts about organ donation or the process of becoming a donor. Results suggest significant misconceptions about organ donation amongst the general public. The questions that reveal potential barriers to organ donation involved the topics of religious support for organ donation, the concept of brain death, ethical practices of health care professionals and confusion regarding the registration process to become an organ donor (Horton & Horton, 1990). Lack of knowledge creates fear in individuals, especially with a topic involving death. In a nationwide survey, the main reasons for not becoming an organ donor were fear of unethical medical actions that would result in the premature death of a potential donor to harvest organs for transplantation (Horton & Horton, 1990). One myth is that if you are a registered donor you will receive lower quality of care by medical professionals. These findings reveal the barriers that organ donation campaigns must overcome in order to increase the donor pool and public support for organ donation.

Religious beliefs also play a role in establishing one's view of organ donation. Historically, many religions (Judaism, Catholic, and Protestant) have been in opposition to organ donation (Horton & Horton, 1990; Rumsey, 2003). However, these views have shifted toward

approval in modern times. Despite different beliefs and practices among the major religions, altruistic gestures are of utmost value across religious communities. For example, orthodox Jews who normally object to autopsies support organ donation (Horton & Horton, 1990; Rumsey, 2003). Judaism strongly supports pro-life actions, therefore when beliefs or practices within the faith stand in the way of someone receiving a lifesaving transplant, organ donation would be welcomed into the faith (Horton & Horton, 1990, p.798). Furthermore, there is also evidence of strong support for organ donation within Christianity. An article titled “Acting out Faith through Organ Donation” compares the opportunity to become an organ donor as an opportunity to “act as people of the resurrection by giving the gift of life” through organ donation (Horton & Horton, 1990, p.798). Organ donation is now recognized as a charitable act rather than a mutilation of the body created in the image of God (Horton & Horton, 1990). However, there are some religions that have yet to accept organ donation and forbid organ transplants, including Jehovah’s Witnesses (Rumsey, 2003). Nevertheless, most religions embrace organ donation as a medical miracle used to help those in need. Researchers have found mixed results when examining religion and ODA and behaviors. Rumsey (2003) found a negative link between how religious an individual reports themselves and their attitude towards organ donation. Additionally, Skowronski (1997) found that individuals expressed greater willingness to donate organs if they expected their decision would be supported by their religious leader and community. Thus, religious leaders are vital agents in future education awareness about organ donation and religious acceptance (Besser, Amir, & Barkan, 2004; Rumsey, 2003).

The burning question researchers have been trying to answer is who is more likely to be an organ donor, what motivated them to be a donor and how can we target them? Cleveland and Johnson in 1970 were among the first researchers to examine ODA (Gonzalez, 2003). They

studied personality characteristics and organ donation using the Rorschach Ink Blot Test, the Rotter Locus of Control Scale, the Thematic Apperception Test (TAT) and the Minnesota Multiphasic Personality Inventory scale. The results concluded that donors and non-donors differ significantly in personality styles (Gonzalez, 2003). Donors were characterized as “independent, possessing an integrated body image and a “self-steering” lifestyle” (Gonzalez, 2003, p.76). On the Rotter Locus of Control scale, donors attributed event outcomes to internal factors and their own initiative, compared to non-donors who believe events are out of their control. Additionally, The TAT revealed more humanitarian themes, for example, helping those in need or suffering among donors compared to non-donors (Gonzalez, 2003). There is evidence to show that donors and non-donors differ, but more research is needed to understand the motivation for becoming a donor and how to target them through donor campaigns.

Uncovering who is more or less likely to be an organ donor has previously been centered around demographic attributes, such as gender, age, and education (Demir & Kumkale, 2013). Researchers have characterized the typical donor as highly educated, less conservative, less religious and gravitate more towards science (Besser et al., 2004, p.1711). Donors are also more likely to be female. Additionally, donors tend to be “younger (under 40) and from higher socioeconomic status” (Besser et al., 2004, p.1711). Most research on the subject of organ donation has been examined within a student population sample. Studying university and college students is suitable since the ideal and typical donor is a healthy young adult who has been pronounced brain dead following a trauma (Horton & Horton, 1991).

The role of gender as a moderator has received attention in understanding the relationship between ODA and behaviors. There are known sex differences in helping-type behaviours. Women are more nurturing and caring when they help, and comfortable helping in low-risk



situations, whereas men prefer to “help in high-risk situations involving physical strength” (Mohs & Hübner, 2013, p.64). With organ donation perceived as an altruistic act that saves lives, it is more compatible with the female gender role stereotypes and helping-type behaviours. Registering as an organ donor is a low-risk altruistic helping behaviour, therefore women should feel more drawn to register as an organ donor compared to men (Mohs & Hübner, 2013, p.65). Mohs and Hübner (2013) found females to report more positive attitudes towards organ donation, significantly higher personal norm to donate and express greater empathy towards those awaiting an organ transplant compared to men (p.65). Women, in comparison to men, have also been found to communicate more with family and friends about organ donation (Mohs & Hübner, 2013).

Other research has recognized personality as a key predictor of various social and health behavior (Hill, 2016). Despite this finding, the important role of personality has received limited investigation in the study of ODA and behaviors. Although little is known about the relationship between personality and ODA and behaviors, researchers have found some personality variables such as altruism, empathy, openness, and conscientiousness to be potentially linked to ODA and behaviours (Hill, 2016). Organ donation has widely been considered an altruistic gesture. Morgan and Miller (2002) argue that “organ donors have little if anything to gain by donating their organs after death; it is a purely altruistic act, based on empathy with those who are sick and in need of a transplant” (p.165). Most studies and organ donor campaigns to date endorse the altruism motivation for the willingness to donate. However, the primary focus of altruism in campaigns to increase donation frequency has failed to solve the shortage of donors and organs, thus a different approach is needed. Hill (2016) suggests a possible link between conscientiousness and positive ODA and behaviors within a socially responsible frame rather

than the current altruistic framework.

The relationship between conscientiousness and health-related behaviors has been “overshadowed” due to a greater extent of research attention on other personality dimensions and their association with health-related behaviors (Bogg & Roberts, 2004, p.887).

Conscientiousness has only recently been acknowledged as an independent domain following the development of the Goldberg Big Five Taxonomy of traits in 1993 (Bogg & Roberts, 2004, p.887). The big five classifies personality traits into five broad domains: Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness (Bogg & Roberts, 2004). Bogg & Roberts (2004) conducted a meta-analysis of conscientiousness-related traits (industriousness, order, responsibility, self-control, traditionalism, and virtue) and health-related behaviors (tobacco use, diet and activity patterns, alcohol consumption, violence, sexual behavior, risky driving, suicide, and drug use). The results indicate that conscientiousness-related traits correspond negatively with all risky health-related behaviors and positively with all beneficial health-related behaviors. Conscientiousness-related traits have also been linked to higher socioeconomic status, greater marital satisfaction and stability, and strong religiosity (Bogg & Roberts, 2004, p.888). For these reasons, conscientious individuals could be the ideal organ donors that are untargeted in donor campaigns. These studies open the future to researching conscientiousness and possible undiscovered connections with health-related behaviors, including organ donation willingness.

Previous studies point to conscientiousness as a moderator in the engagement in health beneficial behaviour (Ferguson, 2004). McAdams (2001) describe individuals high in conscientiousness as “hard-working, self-disciplined, responsible, reliable, dutiful, well organized and persevering individuals” (Bolt, Eisinga, Venbrux, Kuks, & Gerrits, 2011, p.113).

Conscientious individuals are task and goal-directed and like to follow norms and rules. Bolt et al. (2011) investigated the relationship between motivation for total body donation to science and personality characteristics using a body donor survey. 93% of body donors state the desire to be useful after death/have a meaningful death as the main motive for becoming body donors. Nearly half of the body donors view body donation as an “expression of gratitude for medical science and healthcare” (Bolt et al., 2011, p.112). Conscientiousness can be linked to gratitude, through the characteristic traits of competence, dutifulness and strive for achievement (Bolt et al., 2011, p.113) Conscientious individuals are known to carefully plan their lives in harmony with their values and goals (McAdams, 2001). In accordance with their hypotheses, Bolt et al. (2011) found a positive effect between conscientiousness and motivation to be useful after death and express gratitude for science in body donation (p.115). Thus, body donation has the ability to allow people to express their personality and self-identity posthumously (Bolt et al., 2011, p.113). For that reason, Organ donation could provide the same opportunity to express their personality while living by registering themselves as a donor and posthumously by donating their organs. Furthermore, the same psychological mechanisms that underline motivation for body donation may underline organ donation motivation (Bolt et al.,2011). Psychologists argue that motivation behind prosocial behaviors have a “pluralistic” rather than single explanation (Bolt et al.,2011, p.113). Also, researchers believe donor motivation stems from a combination of one’s desire to be helpful and a sense of personal achievement, rather than solely altruistic inspiration (Ferguson et al., 2007). Consequently, donation studies need to widen the scope of investigation by studying motives other than altruism to fully understand motivational behaviour (Bolt et al.,2011; Ferguson et al., 2007). A further understanding of donor motivation and underlying personality traits could create more effective campaign messages and reach more potential

donors.

The present study examined the influence of a potential donor's personality, specifically conscientiousness, and ODA and willingness to donate in an exclusively female population. Undergraduate students enrolled in Psychology 1000 at Brescia University College were asked to complete five questionnaires: The Big Five Personality Inventory (BFI; John & Srivastava, 1999). An Organ Donation Attitude Scale (ODAS; Rumsey, Hurford, & Cole, 2003), The Self-Report Altruism Scale (Rushton, Chrisjohn & Fekken, 1981), Social Desirability Scale (Crowne & Marlowe, 1960), and Organ donation status and intentions. This study hypothesized five findings. It was predicted that subjects who scored high in conscientiousness would be more willing to register for donation than those with low conscientiousness. Second, it was predicted that subjects who scored high in altruism would be more willing to register for donation than those with low altruism. Third, it was predicted that subjects who scored high in conscientiousness would more strongly agreed that organ donation is a socially responsible act rather than an altruistic act. Fourth, it was predicted that altruism and conscientiousness would be independent of one another in organ donation willingness and only minimally correlate. Finally, it was predicted that subjects' scores on conscientiousness would have low correlation with their scores on social desirability.

## **Method**

### **Participants**

Forty-five (44 female) Undergraduate students enrolled in the Psychology 1000 course at Brescia University College were recruited to participate in this study through the SONA website. The lone male participant was excluded to make this an all-female sample. Participants in the study ranged from age 18-32 ( $M = 19.32$ ,  $SD = 2.49$ ). The study was conducted at Brescia

University College and lasted approximately 30 minutes for each subject. Students were granted one credit for their participation.

## **Materials**

### ***Personality***

Participants' personality was measured using Goldberg's The Big Five Inventory (BFI; John & Srivastava, 1999). The BFI is a 44- item scale that measures the big five personality dimensions: extraversion, conscientiousness, openness to experience, agreeableness, and neuroticism. For each item, participants responded on a Likert scale ranging from 1 (*disagree strongly*) to 5 (*agree strongly*). For example, *I see myself as someone who does things efficiently*.

### ***Organ Donation Attitudes***

Participants' organ donation attitudes were assessed with a slightly modified Organ Donation Attitudes Scale (Appendix A) (ODAS; Rumsey, Hurford, & Cole, 2003). The ODAS is a 20-item questionnaire that includes a series of questions regarding demographics, religious views and perceptions, previous organ donation knowledge and experience, and attitudinal questions. This scale was modified by the experimenter to include five additional questions related to organ donation framework (socially responsible versus altruistic). For example, *I believe It is my civic duty to register as an organ donor* was included to examine attitudes towards organ donation as a socially responsible behavior rather than an altruistic behavior. Participants responded to each item on a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). The possible range of scores was 20-80, with higher scores expressing more positive organ donation attitudes. Rumsey et al. (2003) reported adequate validity and reliability for the original ODAS.

### ***Demographics***

The ODAS (Appendix A) also included demographic questions. Participants were asked to indicate their gender, age, ethnic group, and religious affiliation. Participants also indicated how often they attended religious services per month and rated their sense of religiousness on a scale from 1 -10.

### ***Altruism***

Participants completed the self-report altruism (SRA) scale (Rushton, Chrisjohn & Fekken, 1981) to collect information on their level of altruism. The SRA scale includes 20 items describing hypothetical altruistic situations (e.g., *I have helped push a stranger's car out of the snow*). Participants were instructed to select the category that best describes the frequency they have performed the behaviors included in the questionnaire using a Likert scale ranging from 1 (*never*) to 5 (*very often*). Higher levels of altruism were associated with higher levels of frequency in altruistic behaviors. Rushton, Chrisjohn, and Fekken (1981) reported adequate reliability and validity of the scale.

### ***Social Desirability***

Participants will complete the Marlowe- Crowne Social Desirability Scale (1960) to account for possible social desirability bias in the self-report questionnaires. The Marlow-Crowne Social Desirability Scale is a 33 true/false item format questionnaire. Participants are asked to read each item while thinking of themselves personally and choose whether the statement is true or false. For example, *I have never intensely disliked anyone*. If the participant rates this statement as true, they are answering in a socially desirable way. Social desirability bias occurs when participants attempt to portray themselves in a good light to the researcher and others.

### ***Organ Donation Status***

Participants were asked to indicate to the best of their ability their known organ donation status. They will also indicate if they intend to register as a donor in the future with the option to explain the reasoning behind their decision (Appendix B). Majority (77%) of participants gave a statement regarding their donor status and/or donor intentions.

### **Procedure**

The study took place at Brescia University. Undergraduate students enrolled in the Psychology 1000 course at Brescia University College signed up through the SONA website. Upon arrival, the students were presented with a letter of information to read over, followed by an informed consent document. Once consent was obtained, participants were asked to complete five questionnaires. Questionnaire titles were disguised to conceal the true nature of the study. Participants filled out five questionnaires in the following order: The Big Five Personality Inventory presented as a Personality Test, Organ Donation Attitude Scale (Appendix A) presented as a Health-Related Knowledge and Attitude Scale, The Altruistic Personality and the Self- Report Altruism Scale presented as a Self-Report Personality Test and a Social Desirability Scale presented as a Self-Awareness Test. Finally, in the last questionnaire participants wrote down their organ donation status and intentions (Appendix B) presented as a Personal Health Status Information Sheet. Participants completed all questionnaires in 15-20 minutes under the supervision of the researcher. Occasionally multiple participants completed the questionnaires in the same room as one another. After completing all the questionnaires participants were debriefed individually regarding the nature of the study and its focus on organ donation attitudes and behaviours. Participants were given a debriefing form outlining the researcher's hypotheses and contact information.

## Results

### Statistical Approach

In terms of donor status, 16 (36%) self-identified as registered donors, 22 (50%) self-identified as non-donors and 6 (14%) were uncertain of donor status. In terms of intent to register, including those who already self-identified as registered organ donors, 31 participants (71%) reported they intend to register in the future, 8 (18%) were uncertain and 5 (11%) had no intentions to register in the future. Subjects who were “uncertain” of organ donor status or registration intentions were later eliminated from study due to small sample sizes and low significance to organ donation willingness.

Two separate multivariate analysis of variance (MANOVA) were used to examine the influence of self-reported organ donation status (ODS) (“no” coded as 1, “uncertain coded as 2, “yes” coded as 3) and self-reported intention to register (“no” coded as 1, “uncertain coded as 2, “yes” coded as 3) on several dependent variables. The dependent variables studied were the big five personality dimensions, religiousness, organ donation knowledge, altruism, social desirability, organ donation attitudes (ODA), ODA altruism, and ODA socially responsible.

### Organ Donation Status

The first MANOVA investigated the effect of ODS on the big five personality dimensions, religiousness, organ donation knowledge, altruism, social desirability and ODA. Using Pillai’s Trace, there was a significant effect of donor status on the big five personality variables, religiousness, organ donation knowledge, altruism, social desirability and ODA,  $V = .587$ ,  $F(12, 25) = 2.96$ ,  $p = .01$ ). There were no significant differences between donors ( $M = 4.44$ ,  $SD = 2.53$ ) and non-donors ( $M = 4.73$ ,  $SD = 2.91$ ) in levels of religiousness ( $F(1, 36) = .10$ ,  $p = .75$ ). There were no significant differences between donors ( $M = 2.06$ ,  $SD = 1.06$ ) and



non-donors ( $M = 1.73$ ,  $SD = 1.16$ ) in levels of organ donation knowledge ( $F(1, 36) = .83$ ,  $p = .37$ ). There were no significant differences between donors ( $M = 51.56$ ,  $SD = 10.28$ ) and non-donors ( $M = 54.86$ ,  $SD = 12.56$ ) in levels of altruism ( $F(1, 36) = .71$ ,  $p = .41$ ). There were no significant differences between donors ( $M = 15.31$ ,  $SD = 5.61$ ) and non-donors ( $M = 16.82$ ,  $SD = 4.56$ ) in levels of social desirability ( $F(1, 36) = .83$ ,  $p = .37$ ).

### **Personality and Organ Donation Status**

Descriptive statistics for donors and non-donors and the big Five personality dimensions are presented in Table 1. There were no significant differences found between donors and non-donors in levels of extraversion ( $F(1, 36) = 1.67$ ,  $p = .20$ ), agreeableness ( $F(1, 36) = .00$ ,  $p = 1.00$ ), conscientiousness ( $F(1, 36) = 0.1$ ,  $p = .76$ ), neuroticism ( $F(1, 36) = .021$ ,  $p = .89$ ) or openness ( $F(1, 36) = .253$ ,  $p = .62$ ).

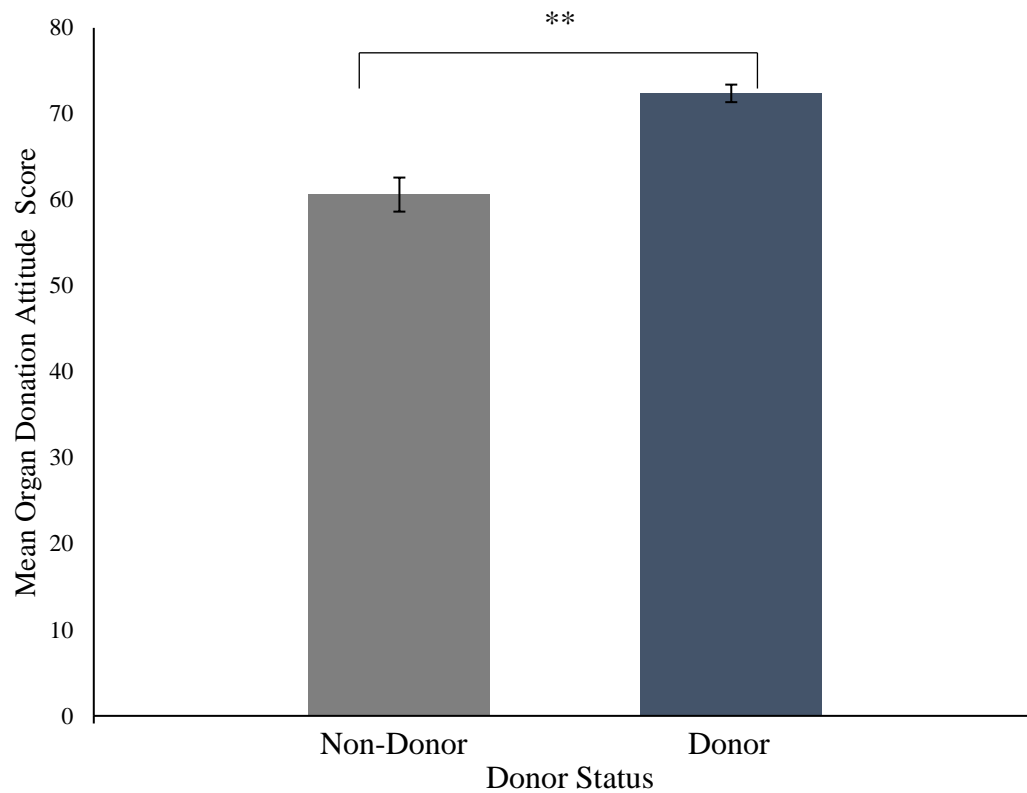
### **Organ Donor Status and Organ Donation Attitudes**

As shown in Figure 1, significant differences were found between donors ( $M = 72.38$ ,  $SD = 4.08$ ) and non-donors ( $M = 60.61$ ,  $SD = 9.32$ ) in ODA ( $F(1, 36) = 22.26$ ,  $p = .00$ ). A Pearson correlation analyses revealed organ donation status was associated with positive ODA,  $r(42) = .618$ ,  $p = .01$ . Moreover, significant differences were found between donors ( $M = 7.19$ ,  $SD = .83$ ) and non-donors ( $M = 6.23$ ,  $SD = 1.11$ ) and altruistically framed ODA ( $F(1, 36) = 8.47$ ,  $p = .006$ ). Likewise, significant differences were found between donors ( $M = 9.69$ ,  $SD = 1.82$ ) and non-donors ( $M = 6.82$ ,  $SD = 1.82$ ) and social responsibility framed ODA ( $F(1, 36) = 23.13$ ,  $p = .000$ ). Correlational analyses revealed that organ donation status was associated with positive altruistically framed ODA,  $r(36) = .44$ ,  $p = 0.06$ . and social responsibility framed ODA,  $r(36) = .63$ ,  $p = 0.00$ .

Table 1

*Descriptive Statistics of Donors and Non-Donors and The Big Five Personality Variables*

| Big Five Personality Dimensions | Donors |      | Non-donors |      |
|---------------------------------|--------|------|------------|------|
|                                 | M      | SD   | M          | SD   |
| 1. Extraversion                 | 28.63  | 6.77 | 26.00      | 5.72 |
| 2. Agreeableness                | 36.13  | 4.99 | 36.14      | 5.02 |
| 3. Conscientiousness            | 31.50  | 4.53 | 32.05      | 5.85 |
| 4. Neuroticism                  | 25.75  | 7.00 | 25.41      | 6.76 |
| 5. Openness                     | 35.88  | 6.28 | 34.91      | 5.51 |



*Figure 1.* High organ donation attitude scores indicate positive organ donation attitudes. The bars represent the mean organ donation attitude scores in self-reported registered organ donors and non-donors.

\*\* $p < .01$ .

### **Organ Donor Registration Intentions**

The second MANOVA investigated the effects of organ donor registration intentions on the big five personality dimensions, religiousness, organ donation knowledge, altruism, social desirability and ODA. Using Pillai's Trace, there was a significant effect of registration intentions on the big Five personality variables, religiousness, organ donation knowledge, altruism, social desirability and ODA,  $V = .749$ ,  $F(12, 23) = 5.72$ ,  $p = .00$ . There was a significant difference between intent ( $M = 3.65$ ,  $SD = 2.47$ ) and no intent ( $M = 6.20$ ,  $SD = 2.39$ ) in levels of religiousness ( $F(1, 34) = 4.64$ ,  $p = .038$ ). However, there were no significant differences in intent ( $M = 1.81$ ,  $SD = 1.22$ ) and no intent ( $M = 2.20$ ,  $SD = 1.64$ ) in levels of organ donation knowledge ( $F(1, 34) = .41$ ,  $p = .53$ ). There was a trend towards significant differences between intent ( $M = 50.16$ ,  $SD = 10.77$ ) and no intent ( $M = 59.60$ ,  $SD = 14.26$ ) in levels of altruism ( $F(1, 34) = 3.04$ ,  $p = .09$ ). There were no significant differences between intent ( $M = 16.87$ ,  $SD = 6.10$ ) and no intent ( $M = 15.40$ ,  $SD = 4.04$ ) in levels of social desirability ( $F(1, 34) = .27$ ,  $p = .61$ ).

### **Personality and Registration Intentions**

Descriptive statistics for organ donor registration intentions and the big five personality dimensions are presented in Table 2. There were no significant differences found between intent and no intent in levels of extraversion ( $F(1,34) = 1.75$ ,  $p = .68$ ), agreeableness ( $F(1, 34) = .00$ ,  $p = 1.00$ ), conscientiousness ( $F(1, 34) = .556$ ,  $p = .46$ ), neuroticism ( $F(1,34) = .942$ ,  $p = .34$ ) or openness ( $F(1, 34) = 1.28$ ,  $p = .27$ ).

*Table 2**Descriptive Statistics of Registration Intentions and The Big Five Personality Variables*

| Big Five Personality Dimensions | Intend to Register |      | No intent to Register |      |
|---------------------------------|--------------------|------|-----------------------|------|
|                                 | M                  | SD   | M                     | SD   |
| 1. Extraversion                 | 26.26              | 6.97 | 27.60                 | 3.51 |
| 2. Agreeableness                | 35.81              | 5.32 | 35.80                 | 3.35 |
| 3. Conscientiousness            | 31.68              | 5.24 | 29.80                 | 5.07 |
| 4. Neuroticism                  | 26.32              | 6.95 | 23.00                 | 8.12 |
| 5. Openness                     | 33.90              | 6.08 | 37.20                 | 5.89 |

### **Registration Intentions and Organ Donation Attitudes**

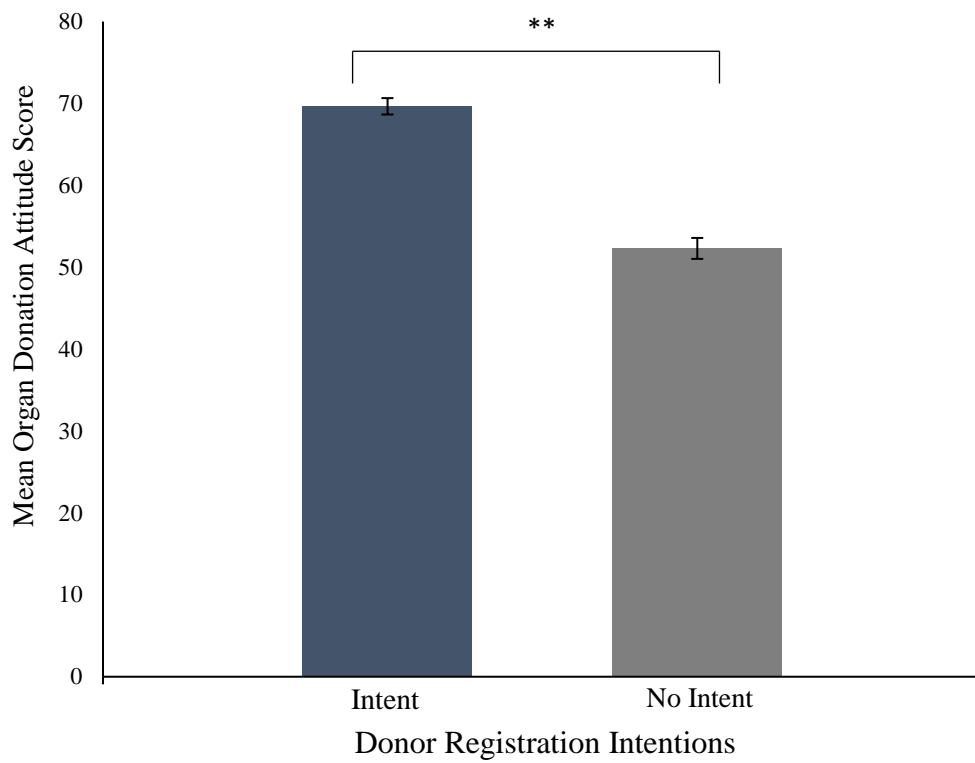
However, significant differences were found between intent ( $M = 69.65$ ,  $SD = 5.55$ ) and no intent ( $M = 52.30$ ,  $SD = 2.86$ ) in ODA ( $F(1, 34) = 45.98$ ,  $p = .00$ ) (see Figure 2). A Pearson correlation analyses revealed that self-reported intentions to register were associated with positive ODA,  $r(34) = .76$ ,  $p = 0.01$ . Moreover, significant differences were found between intent ( $M = 7.19$ ,  $SD = .83$ ) and no intent ( $M = 6.23$ ,  $SD = 1.11$ ) and altruistically framed ODA ( $F(1, 34) = 5.44$ ,  $p = .02$ ). Likewise, significant differences were found between intent ( $M = 6.94$ ,  $SD = 1.06$ ) and no intent ( $M = 5.80$ ,  $SD = .45$ ) and social responsibility framed ODA ( $F(1, 34) = 19.94$ ,  $p = .00$ ). Correlational analyses revealed that self-reported intentions to register were associated with positive altruistically framed ODA,  $r(34) = .37$ ,  $p = 0.26$ . and social responsibility framed ODA,  $r(34) = .61$ ,  $p = 0.00$ .

### **Conscientiousness**

A Pearson correlation analyses was conducted to further investigate the differences found in MANOVA. Correlational analysis revealed a positive relationship between conscientiousness and social desirability,  $r(44) = .44$ ,  $p = .00$ . Conscientiousness revealed no correlation with altruism,  $r(44) = .41$ ,  $p = .00$ .

### **Extraversion**

Correlational analysis revealed a positive relationship between extraversion and organ donation knowledge,  $r(44) = .30$ ,  $p = .05$ . Furthermore, there was a significant correlation between extraversion and ODA,  $r(44) = .31$ ,  $p = .04$ . These correlations suggest that extroverts are knowledgeable about organ donation and have positive attitudes towards organ donation. Additionally, extraversion scores correlated with altruism score,  $r(44) = .31$ ,  $p = .04$ . Individuals with high scores in extraversion also had high altruism scores.



*Figure 1.* High organ donation attitude scores indicate future organ donation registration intentions. The bars represent the mean organ donation attitude scores in self-reported future organ donation registration intentions

\*\* $p < .01$ .

### **Religiousness**

Correlational analysis revealed a positive relationship between religiousness and conscientiousness,  $r(44) = .31, p = .05$ . Moreover, there was a positive relationship between religiousness and altruism,  $r(44) = .47, p = .00$ . However, there was a negative relationship between religiousness and registration intentions,  $r(44) = -.35, p = .00$ . Thus, indicating higher levels of religiousness correlated with no intentions to register as an organ donor.

### **Discussion**

The purpose of this study was to examine the role of the big five personality dimensions, specifically conscientiousness, and altruism in ODA and willingness to donate in an exclusively female population. Results did not find significant evidence for a link between personality or altruism and organ donor status or intentions. Consequently, the results did not provide support for four of the five hypotheses due to null findings for personality influence on organ donor status or registration intentions.

First, it was hypothesized that subjects who score high in conscientiousness will be more willing to register for donation than those with low conscientiousness. The study found no significant differences found between donors and non-donors or intent and no intent in levels of conscientiousness. Thus, levels of conscientiousness showed no effect on donation status or intentions. Second, it was hypothesized that subjects who scored high in altruism were more willing to register for donation than those with low altruism. Additionally, the present study found no significant differences found between donors and non-donors or intent and no intent in levels of altruism. Thus, levels of altruism showed no effect on donation status or intentions. Third, it was hypothesized that subjects who scored high in conscientiousness more strongly agreed that organ donation is a socially responsible act rather than an altruistic act. The present



study found no association between conscientiousness and organ donation attitudes for either an altruistic or social responsible framework. Forth, it was hypothesized that altruism and conscientiousness were independent of one another in organ donation willingness and only minimally correlated. The present study supported this hypothesis as altruism and conscientiousness showed no correlation with one another. Finally, it was hypothesized that subjects' scores on conscientiousness had low correlation with their scores on social desirability. However, subjects' conscientiousness scores showed a strong correlation with their social desirability score.

A difference in ODA was noteworthy between donors and non-donors. Overall, participants who self-identified as a registered organ donor held more positive ODA than non-donors. Additionally, positive ODA was associated with greater intent to register as an organ donor in the future. This was true for both socially responsible and altruistic organ donation framework.

Several additional novel correlates present extraversion as a potential target for organ donation campaigns. Research has identified individuals' organ donation knowledge level a predictive factor of positive ODA and donor status (Hill, 2016). In the present study, Extraversion was the only personality trait to positively relate to organ donation knowledge and ODA. This suggests a link between high extraversion scores and a higher degree of knowledge about organ donation. Moreover, high extraversion scores reflect positive attitudes towards organ donation. Extroverts are sociable individuals, therefore more likely to know someone who is a donor or have a positive experience with organ donation. Studies have shown that contact and communication with organ donors, recipients, or family/friends can increase organ donation attitudes and willingness (Rumsey, 2003). Extraversion also significantly correlated with

altruism. Organ donation is historically an altruistic behaviour (Hill, 2016). Thus, altruism could explain the relationship between high extraversion, increased knowledge, and positive ODA.

However, the link between extraversion and donor status or intention is still unclear.

Consistent with previous findings, the present study found a negative link between religiousness and organ donation willingness (Horton & Horton, 1990; Rumsey, 2003). Despite efforts to accept the practice of organ donation in many religions, strong religious beliefs or affiliation reflected no future intentions to register as an organ donor. Moreover, in this present study, higher rates of religiousness correlated with high conscientious scores. This could offer an explanation for why conscientious individuals did not show an increased willingness for organ donation. Therefore, religious leaders are key advocates for organ donation in future education and awareness campaigns.

There was a noticeable variation in self-report donor status and future registration intentions. In the donor status group, 16 subjects registered as an organ donor. In the intent group, 31 subjects indicated they intend to register as an organ donor in the future. The 44% increase reaffirms the gap between attitudes and behaviors towards organ donation found in other studies.

Subjects were given the opportunity to briefly explain the reasoning behind their decision to register or intent to register as an organ donor. Horton & Horton (1990) identified potential barriers to organ donation in the areas of religious support, brain death declaration, ethical practice of health care professionals and uncertainty of how to become an organ donor.

Statements agree with previous findings. Some examples of subjects' answers as to why they do not intend to be a donor include "it is against my religion", "I fear the doctors will not try to save me because someone is in line to receive my organs", "I am uncertain about the process". Some

examples of subjects' answer as to why they are not a registered donor include "I have always wanted to be a donor, I am just not sure how", "My parents and friends are not donors". These personal statements signify the need for more education and awareness about the organ donation process and donor registration. This will create conversation between donors and non-donors and dispel any misconceptions potential donors may have about organ donation. General acceptance and willingness to be an organ donor stem from subjects' desire to help others in need. For instance, one subject said, "I feel it is my duty as a healthy individual to help those in need". This statement suggests that a socially responsible framework could appeal to potential donors in future campaigns. Other reasons for registering as an organ donor include knowing someone whose life was saved through organ donation, the desire to be useful after death and positive perceptions of organ donation. Therefore, personal experience with donors and organ donation seems to motivate organ donation registration.

There are limitations in the present study that could account for the lack of influence of personality, specifically conscientiousness, on ODA and behaviour. First, this study relied on self-report questionnaires. Although a social desirability scale was used to control bias in subjects' responses no objective assessment was used to verify organ donor status. Additionally, there was no follow up study to investigate whether or not those with intentions to register for organ donation became registered donors in the near future. Second, the use of an all-female university students limits the sample and generalizability of the results. The motivation for organ donation in females is important to understand but they only represent one sex of the potential organ donation pool. Furthermore, a women's university culture is typically altruistic and conscientious. In addition, women hold more positive organ donation attitudes. Thus, it was not surprising there was a small sample for comparison between personality, ODA, and registration

intent. Future studies composed of a large diverse sample of males and females could allow for greater comparison and present significant personality differences between donors and non-donors.

In conclusion, female university students' organ donation attitudes and religiousness powerfully influence their donor status and intentions to register. This study proposes that organ donation campaigns work with religious leaders to encourage organ donation registration. Despite a strong correlation between conscientiousness and prosocial health behaviors, the link between conscientiousness and organ donation is still unclear. In the present study, none of the big five personality dimensions significantly influenced donor status or registration intentions. However, extraversion was associated with ODA, knowledge, and altruism. Future research should focus on the relationship between personality, specifically extraversion and conscientiousness, and organ donation campaign framework to clarify the findings presented in this study.

Appendix A

Health-Related Knowledge and Attitude Scale

Gender: M \_\_\_\_\_ F \_\_\_\_\_ other \_\_\_\_\_

Age \_\_\_\_\_

Ethnic group: Hispanic \_\_\_\_\_ African American \_\_\_\_\_ Caucasian \_\_\_\_\_

Asian \_\_\_\_\_ Other \_\_\_\_\_

Religious affiliation: \_\_\_\_\_

Participation in religious services: \_\_\_\_\_ times per month

I view myself as .....1 2 3 4 5 6 7 8 9 10

Not religious      Very Religious

I know someone who donated an organ while living ..... Yes No

I know someone who donated an organ after death ..... Yes No

I know someone who has received an organ transplant ..... Yes No

I have received education about organ donation in general ..... Yes No

Please answer the following questions using this system:

SD-Strongly Disagree    D-Disagree    A-Agree    SA-Strongly Agree

(Please circle one)

1. I believe in an afterlife ..... SD D A SA

2. I have religious objections to organ donation ..... SD D A SA

3. I am knowledgeable about organ procurement and the organ procurement system  
..... SD D A SA

4. I support organ donation ..... SD D A SA

5. I would agree to an organ transplant, if my life were in danger without one  
..... SD D A SA

6. I am willing to have organs donated after my death ..... SD D A SA

7. I am registered as an organ donor..... SD D A SA

8. I know someone who has registered as an organ donor. .... SD D A SA
9. It is important to discuss my wishes for after my death with my family..... SD D A SA
10. I have discussed my wishes for after my death with my family ..... SD D A SA
11. If needed, I would receive an organ from a person of a different race than myself ..... SD D A SA
12. I would be willing to donate my organs to a person of a different race than myself ..... SD D A SA
13. I believe that organ donation is against my religion ..... SD D A SA
14. I have been taught that organ donation is against my religion ..... SD D A SA
15. I think that organ donation is a safe, effective practice ..... SD D A SA
16. I think that organ donation is mutilation to the body ..... SD D A SA
17. I trust that doctors and hospitals use donated organs as they are Intended to be used ..... SD D A SA
18. I think that doctors would try just as hard to save my life whether or not I plan to be an organ donor. .... SD D A SA
19. In general, I think that organ donation is a good thing ..... SD D A SA
20. Organ donation is consistent with my moral values and beliefs ..... SD D A SA
21. If I am a registered donor, I am improving the lives of others in society. .... SD D A SA
22. I feel It is my civic duty to register as an organ donor ..... SD D A SA
23. I believe that organ donation is a compassionate act..... SD D A SA
24. I think that It is my moral responsibility to society to register as an organ donor ..... SD D A SA
25. I believe organ donation is the social norm and generally accepted in society. .... SD D A SA

Appendix B

Personal Health Status Information

Please circle one

Are you a registered organ donor?

Yes                      No                      Uncertain

Do you intend to register as a donor in the future?

Yes                      No                      Uncertain

Optional: Please briefly state why or why not for the questions above?

---

---

---

### References

- Besser, A., Amir, M., & Barkan, S. (2004). Who signs an organ transplant donor card? A study of personality and individual differences in a sample of Israeli university students. *Personality and Individual Differences, 36*(7), 1709-1723.  
doi:10.1016/j.paid.2003.07.012
- Bogg, T., & Roberts, B. W. (2004). Conscientiousness and health-related behaviors: A meta-analysis of the leading behavioral contributors to mortality. *Psychological Bulletin, 130*, 887–919.
- Bolt, S., Eisinga, R., Venbrux, E., Kuks, J. B. M., & Gerrits, P. O. (2011). Personality and motivation for body donation. *Annals of Anatomy, 193*(2), 112-117.  
doi:10.1016/j.aanat.2011.01.005
- Crowne, D. P., & Marlowe D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology, Vol 24*(4), 349-354. doi: 10.1037/h0047358
- Demir, B., & Kumkale, G. T. (2013). Individual differences in willingness to become an organ donor: A decision tree approach to reasoned action. *Personality and Individual Differences, 55*(1), 63-69. doi: 10.1016/j.paid.2013.02.002
- Ferguson, E. (2004). Conscientiousness, emotional stability, perceived control and the frequency, recency, rate and years of blood donor behaviour. *British Journal of Health Psychology, 9*(3), 293-314. doi: 10.1348/1359107041557011
- Gonzalez, S. (2003). *Attitudes, knowledge, and personality differences that influence willingness toward organ donation* (Order No. 3099707). Available from ProQuest Dissertations & Theses Global: Health & Medicine; ProQuest Dissertations & Theses Global: Social



- Sciences. (305316757). Retrieved from <https://www-lib-uwo-ca.proxy1.lib.uwo.ca/cgi-bin/ezpauthn.cgi?url=http://search.proquest.com.proxy1.lib.uwo.ca/docview/305316757accountid=15115>
- Hill, E. M. (2016). Posthumous organ donation attitudes, intentions to donate, and organ donor status: Examining the role of the big five personality dimensions and altruism. *Personality and Individual Differences*, 88, 182-186. doi:10.1016/j.paid.2015.09.021
- Horton, R. L., & Horton, P. J. (1990). Knowledge regarding organ donation: Identifying and overcoming barriers to organ donation. *Social Science & Medicine*, 31(7), 791-800. doi:10.1016/0277-9536(90)90174-Q
- Horton, R. L., & Horton, P. J. (1991). A model of willingness to become a potential organ donor. *Social Science & Medicine*, 33(9), 1037-1051. doi:10.1016/02779536(91)90009-2  
lib.uwo.ca/docview/620605731?accountid=15115
- McAdams, D. P. (2001). *The person: An integrated introduction to personality psychology* (3rd ed. ed.) Harcourt College Publishers, Fort Worth, TX.
- Mohs, A., & Hübner, G. (2013). Organ donation: The role of gender in the attitude behavior relationship. *Journal of Applied Social Psychology*, 43, E64-E70. doi: 10.1111/jasp.12042
- Morgan, S. E., & Miller, J. K. (2002). Communicating about gifts of life: The effect of knowledge, attitudes, and altruism on behavior and behavioral intentions regarding organ donation. *Journal of Applied Communication Research*, 30(2), 163-178. doi: 10.1080/00909880216580

Skowronski, J. J. (1997). On the psychology of organ donation: Attitudinal and situational factors related to the willingness to be an organ donor. *Basic and Applied Social Psychology*, 19(4), 427-456. doi:10.1207/15324839751036904

Trillium Gift of Life Network (2018). *Registration Stats*. Retrieved from <https://www.beadonor.ca/scoreboard>