Posthumous organ donation attitudes, intentions to donate, and organ donor status: Examining the role of the big five personality dimensions and altruism

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ABSTRACT

The present study examined the role of the big five personality dimensions and altruism in organ donation attitudes (ODA), intentions to register, and organ donor status using a sample of 336 college undergraduates. Participants completed questionnaires that assessed the big five personality dimensions, altruism, ODA, and non-donors completed a question that assessed their intentions to register as an organ donor in the next 3–6 months. In collecting information on organ donor status, participants showed a state-issued ID to a research assistant upon completion of the questionnaire. In terms of the influence of personality, results indicated that agreeableness was significant in predicting ODA and intentions to register. However, the relationship between agreeableness and the organ donation behaviors was explained by the indirect effect of altruism. No other personality variables were significant in the models. Results are discussed with reference to the role of altruism in organ donation and the need to further understand the null findings of conscientiousness in the models. Further research is needed on the interaction between personality and perceptions of organ donation among college students and the general public.

1. Introduction

The current number of individuals on the organ recipient list far outweighs the number of available organs. Posthumous organ donation rates in America remain surprisingly low despite approval of the general public (Healthcare Systems Bureau, 2013). It is clear that broad systemic factors, such as registration methods (e.g., opt-in or opt-out system) largely influence organ donation registration behaviors (Falomir-Pichastor, Berent & Pereira, 2013). However, in the United States, an opt-in rather than opt-out organ donation system exists, and as such, it is pertinent for psychology researchers to examine and understand the individual level factors influencing organ donation attitudes (ODA) and behaviors.

One of the major factors that can influence ODA and behaviors is education and knowledge of organ donation. Knowledge about the organ procurement system and organ donation is predictive of positive attitudes toward organ donation (Wakefield, Watts, Homewood, Meiser & Siminoff, 2010) and organ donor status (Feeley, 2007; Morgan & Miller, 2002b). Furthermore, providing information about organ donation can lead to increased positive perceptions about the process and increased donor behavior (Macy et al., 2014).

There are also various social factors that influence ODA and behaviors. For example, social norms play a significant role in the development of ODA and in the decision to become an organ donor (Feeley,

2007). The theory of planned behavior, a health behavior model that posits that behaviors are determined by intentions, which, in turn, are influenced by attitudes, perceived behavioral control, and subjective norms, has been used as a model for studying ODA and behaviors (e.g., Stephenson et al., 2008). Indeed, an individual's subjective norm – the behaviors and attitudes of their immediate social group and important others – is predictive of organ donation intentions (Rocheleau, 2013; Stephenson et al., 2008) and behaviors (Hyde & White, 2009). Similarly, other research indicates that family members' perceptions can be influential in ODA and registration behaviors (Morgan & Miller, 2002a).

Despite the broad psychosocial factors that have been linked to positive ODA and behaviors, many individuals report significant barriers, which, in turn, inhibit organ donation behaviors. Although some research indicates mixed findings (Falomir-Pichastor et al., 2013), religiosity has been identified as a significant barrier to organ donation for many individuals (Rumsey, Hurford & Cole, 2003; Wakefield, Watts, Homewood, Meiser, & Siminoff, 2010). Additionally, concerns about posthumous bodily integrity and death anxiety have been identified as factors that discourage positive ODA and registration behaviors (Wakefield et al., 2010). Mistrust of the procurement system is a related barrier (Morgan, Harrison, Afifi, Long & Stephenson, 2008); some individuals are skeptical that their body will be treated ethically near the end of life if they are registered as an organ donor (Newton, 2011).

In their reviews of the literature, Falomir-Pichastor et al. (2013) and Feeley (2007) emphasize the complexity of ODA and the various factors

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that impact the decision to become an organ donor. Given that personality has been established as an important predictor of various social and health behaviors (Paunonen & Ashton, 2001), it is important to examine it in the context of organ donation. The big five personality dimensions have been studied in relation to various health behaviors (e.g., Booth-Kewley & Vickers, 1994), however, there has been relatively limited attention given to their role in ODA and behaviors (Bekkers, 2006; Demir & Kumkale, 2013). Demir and Kumkale (2013) recently examined various individual factors, including the big five personality dimensions, in ODA, intentions to register, and registration behaviors. While this study found that some of the big five dimensions, including openness, introversion, and conscientiousness, were linked to organ donation intentions, other research in this area has produced mixed results (Bekkers, 2006).

The aim of the present study was to further examine the role of the big five personality dimensions in the context of organ donation, with specific focus on ODA, intentions to register, and organ donor status. In addition to focusing on the big five personality dimensions, altruism was included in the study as it is a personality variable associated with positive ODA and registration behaviors (Wakefield et al., 2010). While organ donation is a socially responsible behavior, it is also widely regarded as an altruistic act (Falomir-Pichastor et al., 2013). Furthermore, given the link between agreeableness and altruism (Zettler & Hillbrig, 2010), the influence of altruism must be considered in the link between the big five personality dimensions and organ donation.

2. Method

2.1. Participants

Participants were 336 students (114 males, 222 females) from a university in the northeastern United States who took part in the study in completing their research requirement for their Introduction to Psychology course. The data presented in this manuscript are part of a larger study examining individual differences in altruism and well-being. The study took place in classrooms on campus; participants completed the consent form and questionnaire while supervised by a research assistant. After completing the questionnaire, participants showed the supervising research assistant a state-issued ID (e.g., driver's license), which would indicate their organ donor status. At the end of the study, participants were debriefed about the nature of the study and its focus on organ donation. The study was approved by the university's institutional review board.

2.2. Measures

2.2.1. Personality

The Big Five Inventory (BFI; John, Donahue & Kentle, 1991) is a 44-item scale that measures the big five personality dimensions: extraversion, conscientiousness, openness to experience, agreeableness, and neuroticism. For each item, participants respond on a Likert scale ranging from (1) "disagree strongly" to (5) "agree strongly". Mean scores for each of the personality dimensions are computed in calculating the scores. In the present study, each of the dimension scales had adequate reliability: extraversion ($\alpha = .858$), openness to experience ($\alpha = .770$), agreeableness ($\alpha = .747$), neuroticism ($\alpha = .811$) and conscientiousness ($\alpha = .740$).

2.2.2. Altruism

The self-report altruism (SRA) scale (Rushton, Chrisjohn & Fekken, 1981) was used to collect information on trait altruism in the present study. The SRA scale includes 14 items describing hypothetical altruistic situations (e.g., I would give directions to someone I don't know). Participants are instructed to indicate how often they would exhibit the behaviors included on the questionnaire using a Likert scale ranging from 0 "never" to 4 "very often". To calculate an overall altruism score,

item scores are summed with a higher score indicating higher levels of altruism. Rushton, Chrisjohn, and Fekken (1981) reported adequate reliability and validity of the scale. In the present study, the scale had excellent internal consistency ($\alpha = .869$).

2.2.3. Organ donation attitudes

Organ donation attitudes were assessed with the Organ Donation Attitudes Scale (ODAS; Rumsey, Hurford, & Cole, 2003). The ODAS is a 20-item questionnaire that includes a series of questions pertaining to demographics, religious views and perceptions, previous organ donation knowledge and experience (loved one donated or having received an organ), as well as attitudinal questions. For the 18 items used to calculate the attitudes score, participants responded to each item on a 4-point Likert scale ranging from (1) "strongly disagree" to (4) "strongly agree". In calculating the final score, the 18 questions are summed. Rumsey et al. (2003) reported adequate validity and reliability for the ODAS, and in the present study, the scale had good internal consistency ($\alpha = .838$).

2.2.4. Intentions to register as an organ donor

In assessing intentions to register, non-donors were asked, "Do you intend to become an organ donor over the next 3–6 months?" with "yes" and "no" as response options.

2.2.5. Organ donor status

In assessing organ donor status, participants were required to show a state ID (e.g., driver's license) upon completion of the questionnaire portion of the study. Based on the organ donor status on their state ID, participants were classified as a current donor or not a donor.

2.2.6. Demographics

In completing the questionnaire, participants indicated their date of birth, ethnicity, and gender.

2.2.7. Statistical approach

Hierarchical regression analyses were used to examine the influence of the big five personality dimensions and altruism in ODA (linear regression), intentions to register (logistic regression; "no" coded as 1, "yes" coded as 2), and organ donor status (logistic regression; non-donor coded as 1, donor coded as 2). The covariates (age and gender) and personality were entered in block one, and altruism in block two. Follow-up mediation analyses were conducted using Preacher and Hayes (2008) bootstrapping estimates of indirect effects. In the results presented, 5000 resamples were conducted with bias corrected and accelerated confidence intervals (BCa CI) reported.

A total of 368 students initially participated in the study. For the ODAS, missing data was not random (Little's MCAR test: $\chi^2 (194) = 317.81$, $p < .001$), and thus, imputation methods were deemed inappropriate (and 20 cases were excluded due to missing ODAS data). Cases with missing data for the organ donor status variable ($n = 12$) were also excluded. Analyses were therefore conducted on a sample of 336 participants, and listwise deletion was applied to the models. Data were examined for regression assumptions, and outliers were identified for altruism and agreeableness. Analyses were conducted with outliers included as well as excluded; because the results did not differ, the results with all data are presented.

3. Results

3.1. Descriptives and correlations

Participants in the study ranged from age 18 to 43 ($M = 19.39$, $SD = 1.93$). The majority of the sample was female ($n = 222$, 66.1%) and identified as White American ($n = 260$, 77.4%). Descriptive statistics for the continuous variables are presented in Table 1 and bivariate correlations in Table 2. Of note, ODA had a weak positive correlation with