

ORGAN DONATION DECISION MAKING AMONG NON-CATHOLIC CHRISTIANS:  
AN EXPANSION OF THE THEORY OF PLANNED BEHAVIOR

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by  
ERIN DOBBINS

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APPROVED BY:

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Denise M. Martz  
Chairperson, Thesis Committee

---

Courtney Rocheleau  
Member, Thesis Committee

---

Lisa Curtin  
Member, Thesis Committee

---

James Denniston  
Chairperson, Department of Psychology

---

Edelma D. Huntley  
Dean, Cratis Williams Graduate School

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## **Abstract**

### **ORGAN DONATION DECISION MAKING AMONG NON-CATHOLIC CHRISTIANS: AN EXPANSION OF THE THEORY OF PLANNED BEHAVIOR**

Erin Dobbins

B.S., Appalachian State University  
B.F.A., Appalachian State University  
M.A., Appalachian State University

Chairperson: Dr. Denise M. Martz

According to the United Network for Organ Sharing (2012), 112,264 people are on the waiting list for an organ transplant in the United States. As the number of patients in need continues to grow, the gap between patients and donors continues to expand; there is a great need for research and intervention aimed at closing this gap. Religion is both a barrier to and facilitator of organ donation; this paradoxical relationship was investigated in a sample non-Catholic Christian university students ( $N = 176$ ). The Theory of Planned Behavior was used to predict intentions to donate. An expanded model included moral norm, religious attitudes toward organ donation, and affective attitudes was proposed to address domain and population specific predictors of donation intentions. Overall, the sample reported very positive donation intentions ( $M = 6.06$  on a 7-point scale). Controlling for past behaviors, the TPB significantly predicted intentions ( $R^2 = .30$ ,  $F(3, 144) = 5.56$ ,  $p < .001$ ). The three additional components provided a marginally significant increase in predictive power

( $R^2=.47$ ,  $F(4, 140)=2.35$ ,  $p=.06$ ). Moral norm accounted for unique variance ( $p=.03$ ) but other additional measures did not ( $ps>.35$ ), suggesting its importance in donation behaviors and supporting its inclusion in future research on donation intentions. The final model included attitudes, subjective norms, and moral norms accounting for 47% of the variance in participant's intentions, approaching a large ( $R^2 = .05$ ) effect size.

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## **Dedication**

This thesis is dedicated to my mother Norma and father Dennis for their fierce support of my education; to my partner Luke Taylor for his understanding and support, and to my dear friend Ashley Robinson.

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Organ Donation Decision Making Among Non-Catholic Christians:

An Expansion of the Theory of Planned Behavior

Erin Dobbins

Appalachian State University

### Abstract

According to the United Network for Organ Sharing (2012), 112,264 people are on the waiting list for an organ transplant in the United States. As the number of patients in need continues to grow, the gap between patients and donors continues to expand; there is a great need for research and intervention aimed at closing this gap. Religion is both a barrier to and facilitator of organ donation; this paradoxical relationship was investigated in a sample of Non-Catholic Christian university students ( $N = 176$ ). The Theory of Planned Behavior was used to predict intentions to donate. To address behavior and population specific predictors of donation intentions an expanded model including the original TPB constructs, moral norm, religious attitudes toward organ donation, and affective attitudes proposed. Overall, the sample reported very positive donation intentions ( $M = 6.06$  on a 7-point scale). Controlling for past behaviors, the TPB significantly predicted intentions ( $R^2 = .30$ ,  $F(3, 144) = 5.56$ ,  $p < .001$ ). The three additional components provided a marginally significant increase in predictive power ( $R^2 = .47$ ,  $F(4, 140) = 2.35$ ,  $p = .06$ ). Moral norm accounted for unique variance ( $p = .03$ ) but other additional measures did not ( $ps > .35$ ), suggesting its importance in donation behaviors and supporting its inclusion in future research on donation intentions. The final model included attitudes, subjective norms, and moral norms accounting for 47% of the variance in participants' intentions, approaching a large ( $R^2 = .50$ ) effect size.

*Keywords:* Theory of Planned Behavior, Organ Donation, Religion, Moral Norms, Affect

Organ Donation Decision Making Among Non-Catholic Christians:  
An Expansion of the Theory of Planned Behavior

The number of people awaiting a life-saving organ transplant continues to grow along with the need for organ donors. Unfortunately, the number of donors and transplant procedures has not increased with the same rapidity as the number of patients awaiting a transplant. In 1999, there were 65,260 patients waiting for transplant (US Department of Health and Human Services [USDHHS], 2012a). Over the past ten years, the number of patients in need of an organ or tissue transplant has increased by approximately 40,000 while the number of donors has increased by approximately 3,700. The number of transplants performed has also grown slowly, only increasing by about 6,500 over the same time span. Despite attempts by lawmakers, medical professionals, educators, researchers, and others to close this gap, it continues to grow. As of March 2013, there were more than 117,500 patients on the waiting list for an organ or tissue transplant in the United States, with one new name added every ten minutes (Donate Life America, 2012a, Organ Procurment & Transplant Network, 2013).

There are two types of potential organ donors described by Donate Life America (2012b): living donors and deceased donors. Encouraging and studying both types of donation is vital to increasing the number of transplants and ultimately saving the lives of those in need. Yet, the study of posthumous donation presents many advantages over the study of live donation. One posthumous donor can save the lives of eight people and improve the lives of 50 through organ and tissue donations (Donate Life America, 2012b; Nijkamp,

Hollestelle, Zeegers, van den Borne, & Reubsaet, 2008; USDHHS, 2009). In addition to the extensive benefit that one posthumous donor can provide, posthumous donors already account for the majority of all donations, making up 79.5% of donors between January 2012 and January 2013. Unlike live donation, posthumous donation poses no risk to the health of the donor. Studying factors related to donor registration can yield a considerable benefit by informing interventions targeting potential donors.

### **Legal Concerns and Donation Behaviors**

At this time, there is no national registry or standardized process for donor registration in the United States. Historically, next-of-kin make posthumous donation decisions for their deceased loved ones (Rocheleau, 2001). This practice has continued despite many attempts to legally transfer the donation decision from the next-of-kin to the donor. The National Conference of Commissioners on Uniform State Laws enacted the Uniform Gift Act (UGA) in 1968. The 1968 UGA was adopted by all fifty states, establishing essential transplant standards (USDHHS, 2012a). While the UGA emphasizes autonomy in consent to donation, these guidelines were not implemented by all states and have not been consistently upheld.

In 1987, the UGA was revised to make a donor's registered decision the legal standard for donation decision-making, in an attempt to prevent next-of-kin from rescinding a donor's intended gift. Even with the clear language of the UGA, lawsuits have been filed by next-of-kin in at least four states following procurement of their family members' organs guided by a registered donation consent and not family consent (Farber & Abrahams, 2009). These lawsuits inspired a further emphasis on the dominion of the donor's registered decision in the 2006 revision of the UGA (USDHHS, 2012a). Despite ongoing changes, fear of

lawsuits among medical professionals has upheld next-of-kin approval as the standard of consent for posthumous donation.

This controversial history reveals both the legal importance of donor registration and the practical importance of next-of-kin consent. To better address the growing need for organ donors, it is imperative to understand behaviors related both to legally registering as a donor and discussing the registered donation decision with next-of-kin (Rocheleau, 2001). One way to better understand these donation behaviors is to identify factors related to the decision to engage in such behaviors. This can be achieved by examining donation behaviors using a decision-making model such as the Theory of Planned Behavior.

### **The Theory of Planned Behavior**

Ajzen and Madden's (1986) Theory of Planned Behavior (TPB) can be used to identify modifiable cognitions that relate to organ donation behaviors. In a meta-analytic review of 185 studies concerning a variety of behaviors, Armitage and Conner (2001) found that the TPB accounted for between 27% and 39% of the variance in intentions and behavior, respectively. The TPB has been used by researchers to study many health-related behaviors including walking for exercise (Darker, French, Eves, & Sniehotta, 2010), breast self-examination (Mason & White, 2008), blood donation (e.g., France, France, & Himawan, 2007; Robinson, Masser, White, Hyde, & Terry, 2008) and organ donation (Bresnahan et al., 2007; Browne & Desmond, 2008; Hyde & White, 2009a, 2009b, 2010; Nijkamp et al., 2008; Rocheleau, 2013; Yun & Park, 2010).

The Theory of Planned Behavior proposes the most immediate predictor of behavior is an individual's intentions to engage in that behavior (Ajzen & Madden, 1986).

Furthermore, according to the TPB, intentions are influenced by three determinants: attitude,

subjective norm, and perceived behavioral control (PBC). Attitudes are defined as an individual's ideas or beliefs about the behavior and its outcomes (i.e., outcome expectancies). The summation of relevant attitudes about any given behavior will result in either a positive or negative overall attitude concerning the behavior.

Subjective norms address social pressures an individual may feel to perform (or not to perform) a given behavior from pertinent social contacts (Ajzen & Madden, 1986).

Subjective norms and attitudes are similar in that they both represent beliefs concerning the target behavior (Conner & Sparks, 2005). However, subjective norms differ from attitudes because only values attributed to social influence are measured by this construct. Two different types of subjective norms influence behavior. Observing other peoples' behaviors and using those observations to determine which behaviors are normative develop the first type of norm, descriptive norms. Injunctive norms are based upon perceptions of others' attitudes towards a behavior. Injunctive norms are considered when an individual determines if a behavior is socially acceptable. Park and Smith (2007) addressed the function of the TPB in predicting organ donation decisions with special attention to the role of social norms in the TPB predictive model. Their findings suggest that distinguishing between types of subjective norms is theoretically valuable as they perform different roles with in the TPB model. Measuring both descriptive and injunctive norms when studying organ donation behaviors is, therefore, theoretically important.

Together, according to the TPB, attitudes and subjective norms account for behavioral intention when the behavior is entirely within volitional control of the individual (Ajzen & Madden, 1986). In the case of most health behaviors, multiple complex factors influence behavioral outcomes, limiting volitional control. Perceived behavioral control



(PBC) indicates the extent to which individuals believe that they are in direct control of their behavior, meaning they have both the skills and resources necessary to execute the intended behavior. PBC, like attitudes and subjective norms, influences intentions to engage in the behavior. To the extent that an individual's PBC is a true reflection of behavioral control, PBC may also directly influence behavior if behavioral control is low (Ajzen & Madden, 1986).

### **Extending the Theory of Planned Behavior**

While the TPB can account for a significant amount of variance in intentions and behaviors across a wide range of domains, there is generally a large amount of variance left unexplained when only the constructs from the original model are used. Expanding the TPB through the inclusion of factors that are either behavior-specific or population-specific can increase predictive power. Specifically, subjective norms often provide the weakest contribution to the overall TPB model (Rivis, Sheeran, & Armitage, 2009). This may be especially true in the case of behaviors, such as organ donation and other health behaviors, which are difficult to observe. Limited opportunities for the direct observation of donation behaviors could impair the formation of descriptive norms.

Hyde and White (2010) provided support for the utility of an expanded TPB model in predicting organ donation decisions. They tested both behavior-specific and population-specific constructs along with the traditional TPB model, including respondent type, moral norm, self-identity, donor similarity, donor favorability, recipient similarity and favorability, past behaviors, intentions, and willingness. A revised expanded TPB model outperformed the traditional TPB in predicting donation registration behavior ( $R^2 = .67$  and  $.72$  respectively). The expanded TPB model also adequately explained decisions to discuss donation intentions

with next-of-kin. Both discussing the intent donated with kin and registering as an organ donor were measured using a two-question self-report measure completed one month after initial data collection.

Previous studies have also endeavored to describe the demographic, psychological, and social characteristics most common among organ donors. A meta-analysis of such research concluded that registered organ donors differ from non-donors (Nijkamp et al., 2008). Some of these differences are a reflection of the TPB constructs. For example, registered donors are more likely than their non-registered counterparts to have a positive attitude regarding organ donation (attitudes) and experience more positive social influences relating to organ donation (subjective norms). Registered organ donors are frequently more highly educated than those who are not registered to donate, overall and with regards to organ donation. Registered organ donors are also more likely to identify as religious than their non-registered counterparts. Religion plays a paradoxical role in donation due to its complex relationship to donation behaviors and attitudes.

**Religion and anticipatory affect.** Though identifying as religious is positively correlated with donation registration (Nijkamp et al., 2008), religion is also frequently cited as a major source of concern about, and even a barrier to, donation (Rocheleau, 2001, 2013). Specifically, concerns that donation might not fall within religious guidelines, and concerns about the body's successful resurrection after death are cited as reasons to refuse donation. Interestingly, religion remains a barrier to donation despite the endorsement of organ donation by all major religions (Organ Procurment & Transplant Network, 2012).

In a recent study by Rocheleau (2013), donation decision making among participants who self-identified as Catholic, Jewish, or Muslim was examined. This study evaluated

religious affiliation along with religion-specific attitudes towards donation. Findings from this study suggest the addition of a religion-specific attitudes measure to the more common outcome expectancy attitudes can significantly improve the predictive ability of an extended TPB model when sampling a religious population. Pro-donation religious attitudes were significantly related to intentions to engage in donation behaviors, after controlling for the standard TPB constructs.

Rocheleau (2013) also investigated the influence of affect in combination with the standard TPB constructs using the religious population described above. Decisions about how one's body should be handled after death could be a highly emotional experience. To the extent that the emotionality of this experience influences donation decisions, affect can provide an appropriate behavior-specific addition to the TPB. Rocheleau (2013) differentiated between anticipatory affect and anticipated affect. Anticipatory donation affect addresses the emotional experience that the participant experiences while thinking about donation decisions at the time of the study. Anticipated affect, by contrast, captures the feelings that participants imagine that they would have if they were to engage in a donation behavior. Both types of affect have been shown to improve the predictability of decision-making in areas other than donation (Loewenstein, Webber, Hesse, & Welch, 2001).

While positive and negative anticipatory and anticipated affects were incorporated in Rocheleau's (2013) extended TPB model of intentions to engage in donation, only positive anticipatory affect made a significant ( $p = .09$ ) incremental contribution to the function of the model. Anticipatory affect was only marginally significant in its independent explanation of the variance in donation decisions. Despite the small contribution of affect constructs, the role of affect deserves further attention. Because Rocheleau controlled for past donation

behaviors, a decrease in the significance of affect's present contribution, effectively masking its description of a unique portion of the variance in donation decisions, could have occurred. It is also possible that between-variable correlations resulted in multicollinearity, effectively inflating the apparent contribution of positive anticipatory affect to the expanded TPB model.

The study described above improved on previous studies by including past behaviors in the model, yet it has shortcomings. The sample in this study addressed only three segments of the religious community by limiting the sample to participants who identified as Jewish, Catholic, or Muslim. As of 2007 it was estimated that 78.4% of adults in the United States identified as Christian. Of that 78.4% just over half (51.3%) identified themselves as Protestant Non-Catholic Christians and another 2.7% to 3.3% identified as Non-Protestant, Non-Catholic Christian (e.g. Mormon, or Orthodox faiths). Rocheleau's (2013) study also provided further evidence for the incorporation of additional population-specific (religious donation attitudes) and behavior-specific (anticipatory and anticipated affect) constructs to the standard TPB. However, future research should test the effects of including other behavior-specific measures because anticipated affect was not a functional predictor of donation intentions and only one direction of anticipatory affect was even marginally significant in its contribution. Results regarding the affective measures in this study indicate that exploring other behavior-specific predictors used to extend the TPB model may be ideal.

**Moral norm.** Moral norm examines an individual's understanding of behavior as intrinsically right or wrong (Manstead, 2000). Adding moral norm to the TPB model has been shown to increase the model's predictive abilities by between 1% and 10% when predicting a variety of behaviors (Hubner & Kaiser, 2006). Moral norm has also been effectively used in the prediction of health behaviors, including intentions to donate blood

and engage in safe sex practices (France et al., 2007; Myklestad & Rise, 2011; Robinson et al., 2008).

The theoretical role of moral norm has been conceptualized from multiple viewpoints. Rivas et al. (2009) argue that moral norms are most relevant when examining behaviors that have an impact on others. Organ donation could certainly be an example of such a behavior. It has also been suggested that moral norms are more relevant in the case of complex decisions. In such scenarios a conflict between subjective norms and attitudes may arise. When such a conflict occurs, a moral norm could be more heavily relied upon for behavioral direction (Manstead, 2000). Hubner and Kaiser (2006) propose that such a conflict prompts the individual to search for more information as a means of resolving the discrepancy and that one's perceptions of moral norms can serve as the source for this additional information. Indeed, in a study of two moral behaviors, Hubner and Kaiser (2006) found that, for conflicted participants, moral norm increased predictive ability by 15% while moral norm increased predictive power by only 1% for participants who experienced no conflict.

From either theoretical stance, moral norm should provide a useful addition to the standard TPB constructs when predicting organ donation. To the extent the decision to register as an organ donor is fundamentally related to moral concerns, adding a measure of moral norm seems a domain-appropriate expansion of the TPB model and should increase the model's explanatory power. Furthermore, the decision of whether to donate one's organs may exemplify the difficult decision scenario proposed by Hubner and Kaiser (2006). According to Donate Life America (2012b), 90% of Americans report they support organ donation, yet only 40% of adults are registered as donors. Social support for organ donation may contrast with individuals' reactive feelings about organ donation. The emotional stress

of imagining one's own death, fear the organ donation procedure will result in disfigurement, and a belief that medical care may be inappropriately withheld have all been documented as concerns faced by potential donors (O'Carroll, Foster, McGeechan, Sanford, & Ferguson, 2011; Rocheleau, 2001).

Previous research supports the role of moral norm in the context of organ donation decision-making. Moral norm, when added to the TPB, has proved informative in previous research concerning organ donation (Godin, Belanger-Gravel, Gagne, & Blondeau, 2008; Hyde & White, 2009a, 2009b, 2010). Hyde and White (2010) found that moral norm was strongly correlated with all three of the classic TPB constructs and moderately correlated directly with behavior. While considering moral norms in organ donation has proven useful, previous research examining the role of norms has been conducted with Australian (Hyde & White, 2009a, 2009b, 2010) and Canadian (Godin et al., 2008) samples. The previous research also fails to examine the relationship between religion and moral norms, and has not involved other, potentially important, population or behavior specific predictors.

### **The Present Study**

Following the contributions of previous research, this study aims to utilize an expanded TPB model to explain the variation in donation intentions among Non-Catholic Christians through a replication and extension of Rocheleau's (2013) expanded TPB model which demonstrated the utility of religious specific attitudes and anticipatory affect. The standard TPB measures (i.e., attitudes, measured as outcome expectancies, injunctive and descriptive social norms, and perceived behavioral control) will be incorporated in the basic model, which will be built upon to create a larger predictive model incorporating moral norm (cf. Hyde & White, 2010), anticipatory affect (cf. Rocheleau, 2013), and religious donation

attitudes (cf. Rocheleau, 2013). Through the incorporation of moral norm, the present study expands on Rocheleau's extended TPB model. This study will also further describe the role of religion in donation decision making by examining a new religious population.

The present study was designed to address the following hypotheses (see figure 1). When controlling for past behaviors in block 1 the original TPB model including attitudes, perceived behavioral control, and subjective norms (represented in block 2) was expected to be significantly associated with intentions to engage in donation behaviors and account for unique variance above and beyond past behaviors ( $A_1$ ). Each of the three traditional TPB components was expected to account for unique variance in donation intentions, independently of each of the other components. Attitudes are expected to explain unique variance in the prediction of intentions ( $A_2$ ), as are subjective norms ( $A_3$ ), and PBC ( $A_4$ ). Next, moral norm, religion-specific donation attitudes, and anticipatory affect, represented in block 3, were expected to meaningfully contribute to the expanded TPB model of intentions to donate, by accounting for unique variance over and above past behavior and the traditional TPB (blocks 1 and 2;  $B_1$ ). Religion-specific donation attitudes ( $B_2$ ) were expected to account for unique variance within this expanded model above all predictors (attitudes, subjective norms, PBC, past behavior, and moral norms). It was also expected that moral norm would contribute to the model by accounting for unique variance independently of all other predictors (attitudes, subjective norms, PBC, past behavior, and religion-specific donation attitudes;  $B_3$ ). Anticipatory affect was hypothesized to meaningfully correlate with intentions to engage in donation behaviors ( $B_4$ ). However, anticipatory affect's relationship in the context of the model was unclear. When controlling for the other components of the model, positive anticipatory affect could account for a significant amount of the variance in the

expanded TPB model (B<sub>5</sub>) (as in Rocheleau, 2013). Negative anticipatory affect was included in the model to further explore its relationship to the TPB.

## **Methods**

### **Participants**

The research sample was comprised of student volunteers at Appalachian State University participating in the psychology research pool. Partial course credit was offered as compensation for their time. The focus of this study was to identify predictors of donation behavior in a Non-Catholic Christian population. This intention was expressed in the online description of the survey, and participants who do not identify as Non-Catholic Christians were asked to refrain from participating. The sample was mostly female (80.1%), Caucasian (92.0%) and young (mean age = 19.34, range = 18-36). Two participants in the sample were past recipients of an organ or tissue transplant. The Institutional Review Board at Appalachian State University approved all procedures for this study on March 22, 2011 (see Appendix A). Data collection was closed March 7, 2012.

### **Procedure**

Before participants completed the online questionnaire, informed consent was obtained (see Appendix B). Informed consent materials contained information about the costs and benefits of the study in accordance with Institutional Review Board policy. Participants were asked to complete the survey in a quiet space of their choosing, in order to promote honest, focused responding. Because the survey contained questions about death, after-life wishes, and personal religious beliefs, it was determined that participants may experience discomfort, during or after completion of the survey. To help participants appropriately address any discomfort, contact information for the ASU Counseling Center was provided at



the end of the informed consent information. After informed consent was obtained, participants completed demographic questions, followed by a series of Likert-type questions related to the study hypotheses assessing the standard and expanded TPB constructs.

### **Measures**

Demographic information including gender, age, religious affiliation, and income (including parents' income if the student participant received financial support from his or her parents) was collected at the beginning of the survey.

**Attitudes.** Three different measures of attitudes were used. Organ donation outcome expectancies, reflecting the traditional TPB construct of attitudes, were assessed using a six-item scale (Rocheleau, 2013). A sample item from this scale is: "Transplant recipients gain added years to their life." Items on this scale were rated from 1 (*strongly disagree*) to 7 (*strongly agree*). The scale exhibited good internal consistency in the current sample ( $\alpha = .85$ ). Scores were calculated so that higher scores indicate more pro-donation attitudes. Final scale scores range from 1 to 7.

The second scale was composed of 11 items and assessed religion-specific donation attitudes (Rocheleau, 2013). An example from this scale is "The body should be buried whole." Responses were made on a seven-point scale (1 - *strongly disagree* to 7- *strongly agree*). The internal consistency of the scale was adequate ( $\alpha = .68$ ). Religion-specific attitudes were calculated so that scale scores ranged from 1 to 7 and higher scores indicate more pro-donation attitudes.

Anticipatory affect was measured using 13 semantic differential items used to assess the connotation of each of the following terms: distressed, nervous, anxious, afraid, worried, scared, uneasy, glad, satisfied, peaceful, content, pleased, and joyful (Rocheleau, 2013).

Participants were asked to indicate the extent to which each of the adjectives listed described how they felt while completing the survey and thinking about the topic of organ donation on a one to seven scale (e.g., 1 – *happy* to 7 – *not happy*). The items were then separated into negative affect ( $\alpha = .92$  in the present study) and positive affect ( $\alpha = .93$  in the present study) following the procedure adopted by Rocheleau. Scores on the negative and positive anticipatory affect scales were calculated independently. Negative items were reverse-coded so that higher scores indicated more positive (less negative) affective reactions to intentions. Scale scores ranged from 1 (more negative) to 7 (more positive).

**Subjective Norms.** Subjective norms were measured using a five-item scale (Rocheleau, 2013). This measure assesses both injunctive (e.g., “My next-of-kin thinks I should be an organ/tissue donor”) and descriptive norms surrounding organ donation. Responses were made on a 7-point Likert-type scale. The injunctive and descriptive norms items were combined to form a single measure of subjective norms ( $\alpha = .88$ ). Scale scores were calculated so that higher scores represented more pro-donation norms. Calculated scores ranged from 1 to 7.

**Moral Norm.** The extent to which the participant viewed organ donation as innately right or wrong was assessed on a four-item scale (Hyde & White, 2010). An example item is “I believe I have a moral obligation to donate my organs and tissues after my death”. Responses on this scale range from 1 (*strongly disagree*) to 7 (*strongly agree*). The scale exhibited good internal consistency in the current sample ( $\alpha = .88$ ). Higher calculated scale scores indicated assessment of donation behaviors as more morally good. Final scale scores ranged from 1 to 7.

**Perceived Behavioral Control.** A six-item scale was used to assess PBC (Rocheleau, 2013). “How certain are you that you could talk to your next-of-kin about donation” is an example of an item from this scale. Responses to this scale were made on a 10-point scale progressing in increments of ten. This scale ranges from 0 (*highly uncertain*) to 100 (*completely certain*) and exhibited good internal consistency in the current sample ( $\alpha = .94$ ). Scores on the final computed scale ranged from 1 to 11. As is true for the individual items, higher computed scales scores represent greater PBC.

**Intentions.** The intentions of participants to engage in organ donation behaviors within two months were measured. This five-item scale consists of items rated from 1 (*not at all likely*) to 7 (*very likely*). A sample item from this measure is “How likely are you to have a discussion with your family members about your wishes regarding donation in the next two months?” This scale exhibited adequate internal consistency ( $\alpha = .77$ ). Scale scores were computed so that higher scores indicate greater intention to execute donation behaviors. Scale scores ranged from 1 to 7.

**Past Behavior.** Past behaviors were measured using three fixed-response items (“Are you identified as a donor on your driver’s license?” “Have you ever discussed your wishes regarding organ/tissue donation with your family?” and “Have you or your family ever donated a loved one’s tissues or organs?”).

## Results

To ensure that the study sample reflected the target population of Non-Catholic Christians, a demographic question concerning religious affiliation was used to isolate and remove participants who completed the survey in error (Non-Catholic Christian sample,  $N = 176$ ). Before exploring the main hypotheses, scores on all scales were calculated so that

higher scores indicated more pro-donation perspectives. Means and standard deviations can be found in Table 1. Bivariate correlations were performed prior to the hierarchical regression to determine the extent to which each element of the expanded model was correlated with intentions. Results of the bivariate correlations can be found in Table 2. Participants with missing data were excluded pairwise from bivariate correlations and listwise from the hierarchical regression; therefore the final number of participants differs slightly across analyses (see Tables 2 and 3).

All of the traditional TPB measures correlated with intentions (all  $p$ 's < .001). Three of the four proposed expanded TPB measures (religious attitudes, positive affect, negative affect, and moral norm) also correlated with intentions. Religious attitudes, positive affect and moral norm were positively correlated with intentions as predicted (all  $p$ 's  $\leq$  .001). Negative affect was not correlated with intentions ( $p = .14$ ). These results support the inclusion of the standard TPB measures (attitudes, subjective norms, PBC) and three of the proposed measures (religious attitudes, moral norm, and positive affect) in the final model.

Hypothesis B<sub>4</sub> predicted that both affective measures would be correlated with intentions. Results of the bivariate correlations partially support this hypothesis. Though positive affect was significantly positively correlated with intentions, an insignificant negative correlation between negative affect and intentions was observed. Due to the limited knowledge about the role affect plays in donation decision making, both positive and negative affect were included in the final model in accordance with the original analysis plan.

Next, the basic TPB model (attitudes, PBC, subjective norms; block 2) and the expanded TPB model (TPB, positive and negative affect, religion specific attitudes, moral norms; block 3) were tested through hierarchical regression; results can be found in Table 3.

Past behaviors were entered into the first block and basic TPB constructs (i.e., attitudes, norms, and PBC) were added in block 2. Supporting hypothesis A<sub>1</sub>, the standard TPB model was a significant predictor of intentions over and above past behaviors,  $F(3,144)$ ,  $R^2 = .43$ ,  $p < .001$ . This expanded model (block 3) provided a marginally significant and small,  $F(4, 140) = 2.35$ ,  $R^2_{\Delta} = .04$ ,  $p = .06$ , improvement above the traditional TPB model, supporting hypothesis B<sub>1</sub>.

To test hypotheses A<sub>2</sub>-A<sub>4</sub> single-degree-of-freedom tests for the traditional TPB constructs were examined. Within the extended model, attitudes (A<sub>2</sub>) and subjective norms (A<sub>3</sub>) accounted for unique variance in intentions, supporting hypotheses A<sub>2</sub> and A<sub>3</sub>. In contrast, perceived behavioral control (A<sub>4</sub>) was no longer a meaningful addition to the full model.

The single-degree-of-freedom tests of religion-specific donation attitudes and moral norms were used to test hypotheses B<sub>2</sub>, and B<sub>3</sub>. Of the proposed additional measures, only moral norm (B<sub>3</sub>) improved the predictive ability of the model above and beyond the other measures. No other proposed additions to the TPB model contributed to the predictive ability of the model (all  $p$ 's  $> .35$ ). Hypothesis B<sub>2</sub> predicting the individual contribution of religion-specific donation attitudes was not supported. The expanded model included attitudes, subjective norms, and moral norms accounting for 47% of the variance in participants' intentions, approaching a large ( $R^2 = .50$ ) effect size (Cohen, 1988).

In a series of exploratory analyses Non-Catholic Christian denominations were compared (see Appendix C). Baptist ( $n = 57$ ), Non-Denominational ( $n = 46$ ), Methodist ( $n = 24$ ) and Presbyterian ( $n = 20$ ) were the most frequently cited denominations. These denominations did not differ from the overall sample on means for past behaviors, attitudes

( $p = .44$ ), PBC ( $p = .49$ ), negative affect ( $p = .99$ ), positive affect ( $p = .62$ ), moral norms ( $p = .34$ ), or intentions ( $p = .86$ ). Subjective norms described by Non-Denominational Christians ( $M = 5.55$ ,  $SD = 1.16$ ) were significantly more pro-donation ( $p = .02$ ) than subjective norms reported by Baptists ( $M = 4.84$ ,  $SD = 1.16$ ). No other differences in subjective norms were observed (all  $p$ 's  $> .21$ ) The overall pattern of hierarchical regression results did not differ from the general findings for Non-Denominational Christians. For Baptists and Methodists, past behaviors and the traditional TPB model predicted intentions but the proposed measures did not. For Presbyterians, past behaviors and the proposed measures did not prove functional predictors of intentions over the other measures.

### **Discussion**

The need for organ donors continues to increase. Religion can provide a reason to donate and a reason not to donate (Rocheleau, 2013). Non-Catholic Christians are a diverse and large subgroup in the United States. Better understanding how Non-Catholic Christians make the decision to become organ donors could improve interventions and increase donation in this specific religious population. This is the first study to use a sample composed of a Non-Catholic Christian sub-group to explore the motivations for organ donation decisions. Results further established the ability of the TPB to predict intentions to engage in organ donation behaviors, and expanded upon previous findings by selecting a unique sample and proposing a new approach to expanding the TPB model.

Analysis confirmed that the TPB is a good predictor of intentions, explaining more of participants' intentions than was explained by past behaviors alone. Each of the original TPB constructs improved the model's ability to predict intentions. Using outcome expectancies related to religious beliefs (religion-specific attitudes), emotional experience while thinking

about organ donation (anticipatory affect), and beliefs regarding whether organ donation is right or wrong (moral norm) in conjunction with the TPB only slightly increased prediction of intentions to donate. Religion-specific attitudes and anticipatory affect did not individually improve the prediction of intentions, but moral norms did. General outcome expectancies regarding organ donation (attitudes) and the donation-related beliefs and behaviors of important others (subjective norms) continued to forecast intentions after the new constructs were added. Once religious attitudes, moral norms, and anticipatory affect were used to predict intentions, participants' assessment of their ability to execute the preparatory behaviors (PBC) did not predict intentions.

According to Ajzen and Madden (1986), PBC are less likely to predict intentions when the target behavior is within the individual's volitional control. Perceived behavioral control may not contribute to the predictive ability of the TPB model in the present study because participants were confident that they could perform organ donation behaviors, supported by a high mean PBC ( $M_{PBC} = 8.59$ , Range 1 - 11). Rocheleau (2013) observed similar results when investigating intentions to engage in organ donation behaviors in a religious population (including Jewish, Muslim and Catholic participants). In the present study and that of Rocheleau (2013), domain-specific or population-specific constructs were more salient predictors of intentions than PBC.

Subjective norms have been included in multiple studies of organ donation but findings about their utility when predicting donation behaviors have been contradictory. Bresnahan et al. (2007) found subjective norms predictive of intentions in an American sample but did not replicate this finding in Japanese or Korean samples. Using the theory of reasoned action, Radecki Breitkopf (2006) showed subjective norms did not predict

intentions to sign a letter of intent to become an organ donor. Rocheleau's (2013) study yielded a significant relationship between subjective norms and intentions to engage in donation behaviors.

One explanation for these mixed findings between studies is differing approaches to the measurement and conceptualization of injunctive norms. Different aspects of social norms may vary in their relation to intentions. For example, personal descriptive norms were found to relate to intent to sign a donor registration form while subjective norms were related to intention to discuss donation wishes (Park & Smith, 2007). In the present study, both perceptions about others' beliefs (injunctive norms) and observations of others' behaviors (descriptive norms) were measured. This approach is theoretically supported by the findings of Park and Smith (2007), whose findings suggest that measuring different types of norms is important because different norm types may act differently within the TPB model. The two norm types were combined, replicating the procedure of Rocheleau (2013) and produced an internally consistent measure ( $\alpha = .88$ ) significantly related to intentions. This outcome, replicating the findings of Rocheleau (2013), provides further evidence for the measurement of both descriptive and injunctive norms, and the inclusion of subjective norms when using the TPB model to predict intentions to engage in organ donation behaviors.

Moral norms were related to intentions in a bivariate manner and made a restricted contribution to the prediction of intentions in the context of the expanded TPB model above and beyond past behaviors, the original TPB measures, affective measures, and religion-specific attitudes. These results build upon previous findings, strengthening support for the use of moral norm as a predictor of intentions to engage in organ donation behaviors (Hubner & Kaiser, 2006; Hyde & White, 2009a, 2009b, 2010). The repeated observation of a



relationship between moral norms and intentions may be representative of the moral aspect of organ donation behavior (e.g. “I have a moral obligation to save a life if I can, even after I am dead. It is wasteful and morally wrong to prevent someone else from living a longer life by not agreeing to donate my organs”). Ravis et al. (2009) concluded that moral norm explained more of the variance in intentions when the target behavior would affect the welfare of others. Moral norms are both a theoretically founded and frequently observed contribution to the TPB. Despite the small contribution of moral norms in the present study, in the context of the literature moral norm remains a relevant behavior-specific predictor of donation intentions.

In line with previous research, attitudes accounted for a significant portion of variance in donation behavior intentions. However, religion-specific attitudes were not found to contribute to prediction of intentions in a meaningful way. Literature supports a relationship between religious beliefs and issues surrounding organ donation (Nijkamp et al., 2008; Rocheleau, 2001, 2013). The lack of relationship between intentions and religious attitudes in this study could be explained by measurement error. Religion-specific attitudes were evaluated using a measure developed for a Jewish, Muslim, and Catholic sample (Rocheleau, 2013). For this reason, some of the items may fail to capture the influence of Non-Catholic Christian beliefs on intentions. For example, the item “It is okay to derive benefit from a deceased body” directly references a contradiction of traditional Jewish beliefs which strictly prohibits deriving benefit from the body of the deceased, delaying burial, and the mutilation of the corpse, yet also places the highest value on saving life (Pearl, 1990). This item may also relate to Christians’ concerns about burial. Elliot (1999) describes organ donation supported by Christian beliefs but also notes that belief in the resurrection of the

body has lead some to believe the body should be buried whole, ensuring resurrection. While this item may capture the concerns of Jewish and Non-Catholic Christian donors, the source of ambiguous instruction differs. More distinct items addressing the conflicts faced by Non-Catholic Christians may be more informative. Considering the findings of Rocheleau (2013), there is reason to believe that outcome expectancies specific to religious beliefs may partially explain Non-Catholic Christians' donation intentions. Further research is needed to determine how religious beliefs in this population influence donation intentions.

Both positive and negative affect failed to inform the prediction of organ donation intentions. Though theory supports affect as a relevant aspect of organ donation decision-making (e.g. Godin et al., 2008; van den Berg, Manstead, van der Pligt, & Wigboldus, 2005), its contribution is not reflected in these data. Though the positive relationship between positive affect and intentions predicted by the Rochelau's (2013) study was found, positive affect did not contribute to the prediction of intentions. Furthermore, no relationship was found between negative affect and intentions. This pattern of results is not surprising considering that previous research showed a weak connection between intentions and positive anticipated affect and no connection to negative affect (Rocheleau, 2013).

Mean scores in Rocheleau's (2013) study were higher for both positive ( $M = 4.18$ ,  $SD = 1.44$ ) and negative ( $M = 5.32$ ,  $SD = 1.48$ ) affect (compared to  $M = 3.66$ ,  $SD = 1.49$  and  $M = 1.99$ ,  $SD = 1.15$ , respectively). Differences between the findings of this study and Rocheleau's (2013) findings are likely, in part, a reflection of differences in sample type. The present study sampled undergraduate students, while Rocheleau used a community sample. Though findings of this study provide only meager support for the use of anticipatory affect measures in the extended TPB model, both the positive and negative affect scales were

reasonably reliable. Considering the theoretical evidence supporting use of affect to predict organ donation decision-making and the lack of organ donation literature including measures or affect, the influence of affect should not be dismissed. Instead, future research could attempt to identify aspects of affect relevant to organ donation decision-making and attempt to measure affect using a different method.

### **Implications for Intervention**

Many of the interventions intended to increase donation behaviors use an education paradigm and target large and varied groups of people. To some extent literature supports this approach. People with more knowledge about organ donation are more likely to be registered as organ donors (Nijkamp et al., 2008). Unfortunately, the number of donors garnered by such interventions is modest, especially within the context of the rapidly growing need for donation (Rocheleau, 2001). Applying knowledge about intentions of specific populations in the design of targeted interventions is one possible way to improve intervention outcomes. The established ability of intentions to predict donation behaviors makes trends in these data reasonable sources of implications for intervention.

Within the traditional model TPB attitudes, subjective norms, and PBC were each important in the prediction of intentions. Addressing attitudes, subjective norms, and PBC via interventions designed to target Non-Catholic Christians should result in increased intentions to engage in donation behaviors and, by extension, behavior itself. Because the link between donation intentions and behavior has been established by previous literature, this study did not measure donation behaviors directly (e.g. Bresnahan et al. 2007; Rocheleau, 2013). When the TPB model was extended, PBC was no longer significantly related to donation intentions. Though volitional control was not as important in the

formation of intentions, it is possible that including TPB in future interventions is still warranted.

When actual behavioral control is low, a direct effect of PBC on behavior can be observed (Ajzen & Madden, 1986). It is possible that participants in this study perceived their ability to engage in the target behaviors as high because they are unaware of potential barriers to executing the target behaviors. One example of such a barrier is state law regarding consent to donation. If potential donors believe that registering as an organ donor would legally protect their intended gift, and are unaware that their next-of-kin is responsible for making the final decision (in many states), behavioral control over donation behavior could be distorted. The hypothesized relationship between PBC and behavior could not be observed in the current study because measures of behavior were not included. Behavior has been measured previously by collecting completed donation registration materials, asking participants to compose letters to their next-of-kin, and collecting self-report data about donation behaviors in a follow-up study (Hyde & White, 2010; Radecki & Jaccard, 1999; Rocheleau, 2013).

Religious attitudes, positive affect, and negative affect lacked influence in the full model, implying that they should not be the focus of interventions to increase Non-Catholic Christians' donation behaviors. However, religious attitudes may be more influential than the results of this study imply and should not be wholly discounted (see discussion of religion-specific donation attitudes above). Negative affect's failure to contribute to the prediction of intentions is encouraging. Previous research suggests that negative emotions surrounding donation could contribute to low donation registration (Rocheleau, 2005). Findings from this study suggest that negative affect is less influential than other factors (e.g. the original TPB)

in donation decision making among Non-Catholic Christian young-adults. Coupled with Rocheleau's (2013) similar findings in a community sample, the findings from this study do not support a need for interventions to address negative affect.

Moral norms were somewhat useful in the prediction of donation intentions and are a possible unique target for intervention with Non-Catholic Christians. Moral obligation, personal principles, values, and responsibility were all accounted for in the moral norm measure. Moral norms are more influential when the behavior under consideration involves a moral aspect (good or bad) and when results of that behavior affect others (Sparks & Shepherd, 2002). Indeed, a survey found that the largest factor impacting donation is a desire to help other people (Morgan, Harrison, Afifi, Long, & Stephenson, 2008). Large-scale interventions either describing organ donation behaviors as morally good or emphasizing the positive influence organ donation registration has on others may be effective in changing moral perspectives.

Because religious leaders provide moral guidance for their congregation, collaborating with Christian leaders might influence parishioners' moral perspective on organ donation. In a qualitative study conducted among African American clergy ( $N = 26$ ), a perceived need for further education on the topic of organ donation was expressed (Arriola, Perryman, Doldren, Warren, & Robinson, 2007). Though none of the clergy in the study were familiar with their denomination's position of record on organ donation, they felt that they could make a difference in their parishioners' donation decisions. Parishioners' confusion about how teachings of Non-Catholic Christian faiths apply to organ donation might lead to fewer donation behaviors despite the fact that all major religions support organ donation (Organ Procurement & Transplant Network, 2012). Arriola et al. (2007) concluded

that through education and advocacy, African American clergy could be instrumental in informing parishioners' organ donation decisions.

Interventions with young-adult Non-Catholic Christians targeting attitudes, subjective norms, perceived behavioral control, and, to a lesser extent, moral norms are supported by this study. Negative affect appears to be less influential in the formation of donation intentions. Conclusions about the utility of targeting positive affect and religion-specific donation attitudes can not be confidently drawn, though these constructs did not help to explain donation intentions.

### **Limitations**

As previously discussed, the measure of religious attitudes about donation was originally designed for a sample including Catholic, Jewish, and Muslim participants (Rocheleau, 2013). This means some of the items target concerns specific to those religious communities. The religious attitudes measure was selected because it had previously shown empirical and functional success. However, specificity may be responsible for the failure of religion-specific donation attitudes to predict donation intentions in the present study. This can be addressed in future research with the development of a new scale composed of items specific to religious beliefs of Non-Catholic Christians, or through the removal of items that are apparently inappropriate for the study of Non-Catholic Christians.

Positive attitudes were, on average, very high. This is not surprising, as college students tend to have a favorable view of organ donation. In a meta-analysis of 27 studies using college student samples, twenty measures of attitudes were reviewed (Feeley, 2007). Fifteen (15) of the 20 indicated that students had positive attitudes towards organ donation. Community samples, such as the one studied by Rocheleau (2013), are likely to report more

variable attitudes. Relevant demographic differences (e.g. education, Nijkamp et al. 2008) between college and community samples could impact attitudes, along with other TPB variables. It is also possible that social desirability influenced responses to this and other study measures. High positive attitudes could reflect a perception that supporting organ donation is the right thing to do. Indeed attitudes were significantly correlated with moral norms ( $r = .53, p < .05$ ). Because attitudes towards organ donation in this sample are, so high, as to indicate a ceiling effect, they are not likely to improve with intervention. Interventions with Non-Catholic Christian college students may wish to target other TPB constructs, subjective norms, PBC, or even moral norm, as positive attitudes towards donation are frequently observed in college samples.

Self-selection could also have impacted this study. Observation of past behavior was quite high. In a sample of 176 participants, 123 reported that they had already discussed their organ donation decision with next-of-kin, and 11 reported that their family had been approached to donate a loved one's organs and consented. One possible explanation for such high past behavior rates is that data were collected using an on-line survey platform. Since the title of this study referenced organ donation, this may have indirectly encouraged students who had a personal experience with organ donation or donation behaviors to participate. Future research should address this bias to obtain a more diverse sample.

Similarly, intentions to engage in the target behaviors associated with organ donation were quite high ( $M = 6.06, SD = 1.10, \text{Range } 1 - 7$ ) indicating a ceiling effect that was possibly a function of selection bias. Interestingly, despite the ceiling effect present in the dependent variable of intentions, the final model accounted for 47% of the variance in intentions. The ability of this study to observe the relationship between PBC, affect, and

religion-specific donation attitudes on intentions was possibly limited due to a lack of variability. Future research, and possible interventions, with college students may wish to measure outcomes in terms of behaviors and intentions to avoid limiting findings due to a ceiling effect in the dependent measure.

Participants were Non-Catholic Christian college undergraduates from a southeastern university. Young adults are more likely to be viable posthumous organ donors than older adults because of their comparative good health and high-risk behavior, making them a functional demographic to research and target with intervention. However, the roles played by constructs in this model could differ in other age groups. Similarly, the large concentration of Non-Catholic Christians in the southeastern United States makes this geographic area a reasonable location to study how Non-Catholic Christians make donation decisions. However, given the diversity of Non-Catholic Christians nationwide, a different pattern of results might be found elsewhere in the country.

This study was not designed to explore differences in religious denomination, though data on religious affiliation were collected. While it is possible that distinct differences between denominations exist, it should be noted that the size of this sample limits further exploration of donation intentions for specific denominations. Findings from the exploratory analysis of denomination suggest that more specific treatment of Non-Catholic Christian denominations may be necessary to best address the needs of this large and diverse group.

Another study utilizing the same data set as the present research examined the relationship between literal interpretations of scripture and donation intentions (Sale, 2013). In this study a newly proposed continuous measure of literal to figurative interpretations of scripture, termed Christian Absolutism, did not directly predict donation intentions.



However, once Allport and Ross's (1967) intrinsic religious orientation (defined as worshipping because religious teachings have been internalized as truth) and the interaction between Christian Absolutism and intrinsic orientation were controlled for, Christian Absolutism negatively related to intentions. These findings imply that there is some relationship between Christian Absolutism and donation intentions that also warrants further exploration.

The present study also sampled a large number of female participants (141 females and 35 males). Future research concerning Non-Catholic Christians should seek more diverse samples in regards to age, gender, and geographic location and should consider the impact that denomination may have on donation intentions.

### **Conclusion**

Results of this study established a successful predictive model of Non-Catholic Christian college students' intentions to engage in donation behaviors. The specificity of this sample provided new information about a population that could reasonably be targeted through tailored intervention to increase donation intentions and, by extension, behaviors. These findings contribute to the knowledge about donation decision making which can assist professionals in the transplant community in increasing the number of transplant donors in hopes of ultimately closing the gap between the number of needed transplants and number of donation

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Table 1

*Descriptive Statistics*

	Observed Number	Possible Range	Observed Range	Mean	Standard Deviation
Past Behaviors	174	0-3	0-3	1.62	0.70
Attitudes	171	1-7	1-7	6.43	0.78
Norms	173	1-7	1-7	5.16	1.23
PBC	176	1-11	1-11	8.54	2.39
Religious Attitudes	164	1-7	3.18-7	5.42	0.76
Pos. Affect	173	1-7	1-6	3.66	1.49
Neg. Affect	175	1-7	1-6	1.99	1.15
Moral Norms	174	1-7	1-7	5.36	1.42
Intentions	173	1-7	1-7	6.06	1.10

*Note:* All measures are coded so that higher values represent more pro-donation responses.

Table 2

*Bivariate Correlations of Scale Scores*

	Past Behavior	Attitudes	Norms	PBC	Religious Attitudes	Pos. Affect	Neg. Affect	Moral Norms
Attitudes	.25**							
Norms	.34**	.47**						
PBC	.16*	.32**	.32**					
Religious Attitudes	.13	.28**	.16*	.35**				
Pos. Affect	.2	.28**	.30**	.36**	.14			
Neg. Affect	.01	-.06	.02	-.14	-.24**	.13		
Moral Norms	.32**	.53**	.52**	.32**	.23**	.53**	-.004	
Intentions	.38**	.54**	.47**	.37**	.24**	.33**	-.09	.52**
M	1.62	6.42	5.81	8.59	5.39	3.63	1.97	5.36
SD	0.70	0.80	1.21	2.35	0.76	1.49	1.31	1.45
<i>n</i>	174	171	173	176	171	173	175	174

*Note:* \* correlations significant at the .05 level; \*\* Correlations significant at the .01 level

Table 3

*Hierarchical Regression Analysis Results for Both Expanded and Basic TPB Model, Controlling for Past Behavior*

	<i>n</i>	<i>F</i>	<i>R</i> <sup>2</sup>	$\Delta R^2$	<i>b</i>	$\beta$	<i>t</i>	<i>VIF</i>
Block 1	151	23.28	.14***	--				
Past Behaviors					0.63	.37	22.02***	--
Block 2	150	25.1	.43***	.30				
Past Behaviors					0.37	.22	3.27***	1.11
Attitudes					0.51	.35	4.88***	1.32
Norms					0.20	.21	2.86**	1.40
PBC					0.08	.17	2.46*	1.14
Block 3	147	2.35	.47 <sup>+</sup>	.04				
Past Behaviors					0.33	.19	2.92**	1.13
Attitudes					0.40	.27	3.60***	1.52
Norms					0.14	.16	2.06*	1.53
PBC					0.05	.11	1.54	1.33
Religious Attitudes					0.97	.06	0.93	1.23
Positive Affect					0.04	.05	0.67	1.52
Negative Affect					-0.03	-.03	-0.50	1.12
Moral Norm					0.15	.19	2.17*	1.94

*Note:* All measures are coded so that higher values represent more pro-donation responses.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , <sup>+</sup> $p = .057$

Figure 1

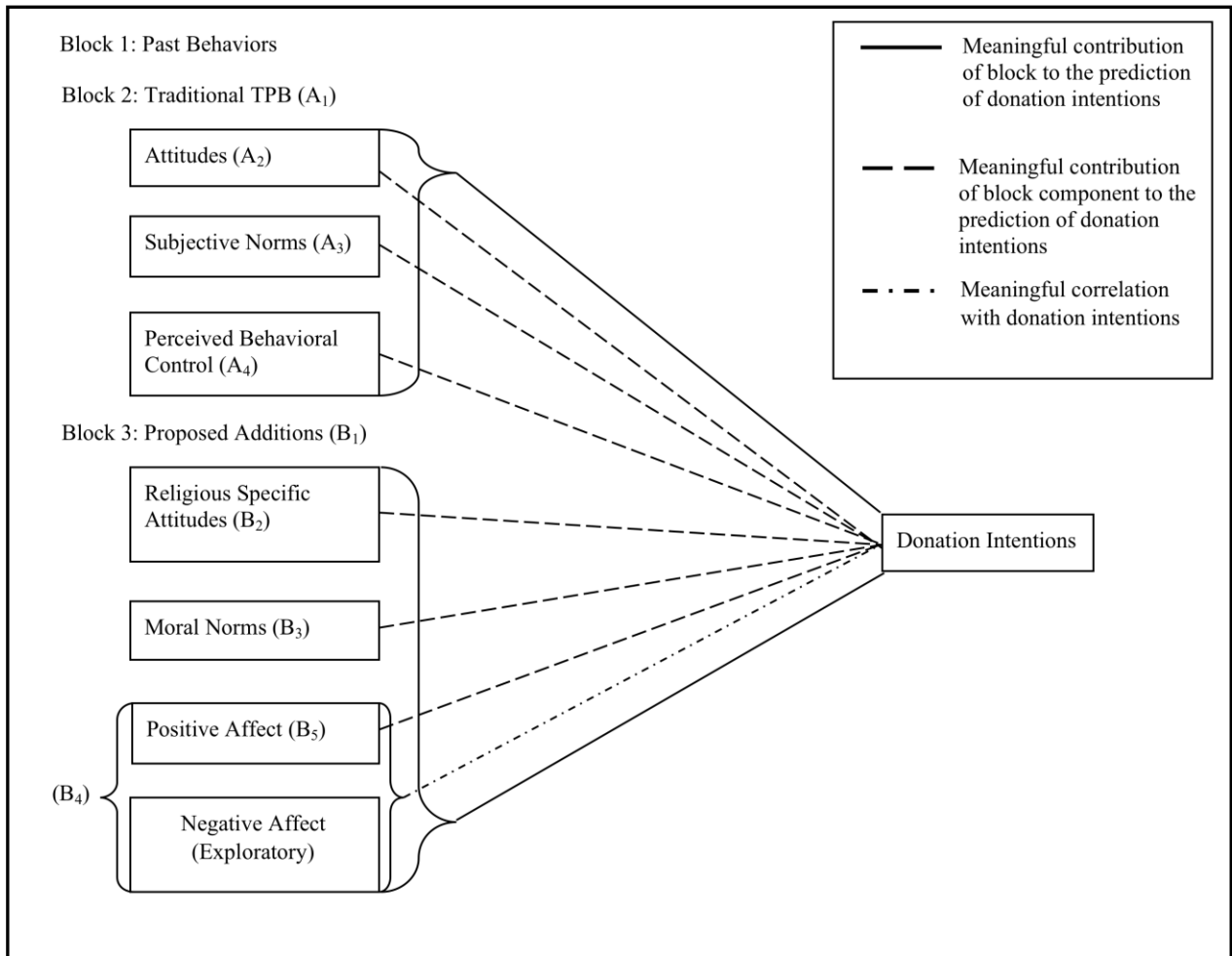


Figure 1. Hierarchical regression model with original and proposed measures. (A1 – A4) Correspond to hypotheses concerning block 2, which contains the traditional TPB model. (B1 – B5) Correspond to hypotheses concerning block 3, which contains the proposed components for the expansion of the traditional TPB model.

*Appendix A*  
**Consent to Participate in Research**

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**Religion and Organ Donation**

Principal Investigator: Rafaella Sale  
Department: Psychology

Contact Information:  
828.262.2732, Courtney Rocheleau, Ph. D., Faculty Advisor  
P.O. Box 32109  
222 Joyce Lawrence Lane  
Boone, NC 28608

**What is the purpose of this research?**

You are being invited to take part in a research study about organ donation. If you take part in this study, you will be one of about 200 people to do so. By doing this study we hope to learn the possible effects that religion has on your attitudes about organ donation.

**What will I be asked to do?**

This is an on-line survey and it is estimated to take approximately 30 minutes to complete. You will be asked to answer questions pertaining to your own religious beliefs and your beliefs about organ donation. Some questions may be difficult to answer or items that you have never thought about previously, but please just answer them as truthfully and the best you can.

**What are possible harms or discomforts that I might experience during the research?**

To the best of our knowledge, the risk of harm for participating in this research study is no more than you would experience in everyday life. You may feel some mild discomfort since these questions discuss issues related to religion and choices after death that may be uncomfortable for some. If these feelings are overwhelming, you are invited to contact the ASU Counseling Center at (828)262-3180. They are willing to assist in discussing these matters thoroughly in a secure and confidential environment.

**What are the possible benefits of this research?**

There may be no personal benefit from your participation (other than participation credit) but the information gained by doing this research may help others in the future. This study may help us discover and find new ways to help people make informed decisions about organ donation.

**Will I be paid for taking part in the research?**

If you decide to participate, you will be compensated with 1 Experiential Learning Credit (ELC). No other compensation will be provided.

**How will you keep my private information confidential?**

Your name and Banner ID will be combined with information from other people taking part in the study, and recorded in order to receive ELC credit. The researchers will not have access to your identifiable information. You will never be identified in any published or presented materials. The data will be kept indefinitely, but your name will never be connected to the provided information.

**Who can I contact if I have questions?**

The people conducting this study will be available to answer any questions concerning this research, now or in the future. You may contact the study's faculty supervisor, Dr. Rocheleau, at 828.262.2732. If you have questions about your rights as someone taking part in research, contact the Appalachian Institutional Review Board Administrator at 828-262-2130 (M-F), through email at [irb@appstate.edu](mailto:irb@appstate.edu) or at Appalachian State University, Office of Research and Sponsored Programs, IRB Administrator, Boone, NC 28608.

**Do I have to participate? What else should I know?**

Your participation in this research is completely voluntary. If you choose not to volunteer, there will be no penalty and you will not lose any benefits or rights you would normally have. If you decide to take part in the study you still have the right to decide at any time that you no longer want to continue.

This research project has been approved, as required, by the Institutional Review Board of Appalachian State University. This study was approved on 3/22/11. This approval will expire on 3/20/12, unless the IRB renews the approval of this research.

**I have decided I want to take part in this research. What should I do now?**

Please read the following and if you agree, you should indicate your agreement:

- I have read (or had read to me) all of the above information.
- I have had an opportunity to ask questions about things in this research I did not understand and have received satisfactory answers.
- I understand that I can stop taking part in this study at any time.
- I understand I am not giving up any of my rights.
- I have been offered a copy of this consent document to keep.
- I affirm that I am at least 18 years of age.
- I agree not to discuss this study with other potential participants until all data collection for the study has been entirely completed.

*Appendix B*

**To:** Raffaella Sale  
Psychology Clinic  
CAMPUS MAIL

**From:** Dr. Timothy Ludwig, Institutional Review Board

**Date:** 3/22/2011

**RE:** Notice of IRB Approval by Expedited Review (under 45 CFR 46.110)

**Study #:** 11-0220 **Study Title:** Religion and Its Effects on Organ Donation Behavior: Diversity within Non-Catholic Christians

**Submission Type:** Initial

**Expedited Category:** (7) Research on Group Characteristics or Behavior, or Surveys, Interviews, etc.

**Approval Date:** 3/22/2011

**Expiration Date of Approval:** 3/20/2012

This submission has been approved by the Institutional Review Board for the period indicated. It has been determined that the risk involved in this research is no more than minimal.

Investigator's Responsibilities:

Federal regulations require that all research be reviewed at least annually. It is the Principal Investigator's responsibility to submit for renewal and obtain approval before the expiration date. You may not continue any research activity beyond the expiration date without IRB approval. Failure to receive approval for continuation before the expiration date will result in automatic termination of the approval for this study on the expiration date.

You are required to obtain IRB approval for any changes to any aspect of this study before they can be implemented. Should any adverse event or unanticipated problem involving risks to subjects occur it must be reported immediately to the IRB. Best wishes with your research!

CC:

Courtney Rocheleau, Psychology  
Erin Dobbins, Art

*Appendix C***Exploratory Analyses of Religious Affiliation**

	<i>n</i>	<i>F</i>	<i>R</i> <sup>2</sup>	$\Delta R^2$
<b>Block 1</b>				
Non-Denominational	40	5.22*	.12	--
Baptist	51	8.08**	.14	--
Methodist	19	8.33**	.33	--
Presbyterians	16	0.72	.05	--
<b>Block 2</b>				
Non- Denominational	40	17.99***	.65	.53
Baptist	51	0.39	.29	.15
Methodist	19	5.88**	.70	.37
Presbyterians	16	11.28***	.77	.72
<b>Block 3</b>				
Non- Denominational	38	2.62*	.74	.09
Baptist	51	0.39	.32	.03
Methodist	18	0.66	.76	.06
Presbyterians	15	1.04	.85	.09

\**p* < .05, \*\**p* < .01, \*\*\**p* < .001



### **Vita**

Erin Elizabeth Dobbins was born in Charlottesville, Virginia. She graduated from Western Albemarle High School in 2006. The following autumn, she entered Appalachian State University to study Studio Art and Psychology. In 2011 she was awarded a Bachelor of Fine Arts degree and a Bachelor of Science degree. In the fall of 2011, she accepted a research assistantship in Experimental Psychology at Appalachian State University and began study toward a Master of Arts degree.

Erin is a member of Psi Chi international psychological honors society. She plans to remain active in interdisciplinary health research and eventually obtain her PhD.