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Examining Attitudes on Organ Donation for Transplant: Amenability to Financial Incentives and Donor Benefits

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Abstract

The Uniform Anatomical Gift Act (UAGA) currently outlaws the sale of organs for transplant purposes, despite the technological advances since its inception in 1968 and the current disparity between the need for and availability of organs. Increasingly, research has been done to determine interest in and feasibility of financial incentives and donor benefits. The author of the current study developed a self-report survey gauging attitudes towards live and post-mortem donation in general, and towards potential alternatives to the organ donation system involving financial incentives and donor benefits. Students at a large Midwestern university were asked about their likelihood of use of alternative programs, as well as demographic questions, including gender, race/ethnicity, and prior experience with organ donation, in hopes of determining which populations are most amenable to alternatives. In bivariate analyses, the study found that gender had no bearing on likelihood of use for the current system or for alternative systems. Moreover, white non-Hispanics were more likely than other racial ethnic groups to donate in various incentive programs. Also, those without previous experience with organ or tissue donation were more likely than those with experience to donate if paid by the recipient for live organs. Finally, being registered as an organ donor was shown to increase likelihood of organ donation in various programs. Gender, previous experience, and registration status were used in three-way factorial designs and demonstrated interactions, indicating that the variables may require a higher-order effect to demonstrate demographic differences.

Organ donation had its first success in 1869 with the first skin graft, and technological advances recently have allowed for the suturing of blood micro-vessels and bile ducts, transplants from live donors, and variously successful xenotransplantations (the transplantation of animal organs to a human's body) (California Transplant Donor Network). In 1968, the United States Congress passed the Uniform Anatomical Gift Act (UAGA), making it legal to donate a family member's organs after death. The Act also prohibits the sale of organs or the acceptance of gifts in exchange for organs as a form of procurement, which reflects current moral thinking regarding the altruistic "gift of life" associated with organ donation. One implicit fear suggests that incentives programs will prey upon the financial needs of the poor while opening them up to potentially dangerous and unnecessary medical procedures. According to the anthropologist Nancy Scheper-Hughes (2003), current black markets for kidneys operate by "harvesting" organs from the poor of Third-World countries and giving the organs to wealthy recipients in the wealthiest nations. Scheper-Hughes fears a legal "commodification" of organs in the United States will lead to organ traffic going from poor to rich, minorities to whites, female to male, and South to North. There is also a concern among criminal justice officials and academics, in that legalization of the sale of organs could result in an increase in homicides, considering that homicide would have an economic benefit.

According to the Organ Procurement and Transplantation Network (OPTN), 116,068 persons were registered on the organ waiting list during 2009. During that year, 28,463 transplants were carried out, receiving organs from 14,631 donors. 21,854 of the transplants used organs that were procured from 8,022 deceased donors, and 6,609 used organs from 6,609 living donors (OPTN, 2010). There exists a ten-fold disparity between those who need organs and those who can provide them, and the gap has been increasing. Furthermore, according to the United Network of Organ Sharing, 109,305 candidates were on the organ waiting list as of October 29, 2010, suggesting this gap will not disappear in the near future.

Continuing research, as well as an examination of current public policy, needs to be done to explore alternatives to the current altruistically-based organ donation system, in order to encourage legislative policy change to create a system that can meet the demand for desperately needed organs. This would be especially timely, considering that medical advances since the inception of the UAGA have made it much less dangerous for one to donate an organ. The alternatives, however, must be met with public approval. This study aims to determine student attitudes towards possible alternatives and willingness to engage in such

systems, while looking at potential differences among different demographic populations.

Research on the Current Donation System

The current altruistic organ donation system has been researched with regards to gender, religion, ethnicity, and knowledge of organ donation. Though men and women have been shown to possess organ donor cards with similar frequency, a study in Germany found that men generally refuse to donate as post-mortem donors and indicate a passive willingness, which is defined as donating without possession of an organ donor card, more often than do women (Decker, Winter, Brähler, & Beutel, 2008). A study based in large cities in the U.S., Japan, and Korea found that women are more hopeful that their spirit would "live on" in the recipient, whereas men were shown to be concerned with maintaining their bodies' integrity in order to maintain personal dignity and good fortune for their familial line, which stems from the belief that body desecration will bring bad luck (Bresnahan, Lee, Smith, Shearman, & Yoo, 2007).

Therefore, desire to maintain posthumous bodily integrity generally was found to create negative effects on desire to donate, as opposed to religiosity, which produced no significant effect on desire to donate (Stephenson et al., 2008). In a qualitative study, religiosity was cited frequently by participants as either a motivating or a deterring reason to donate (Morgan, Harrison, Afifi, Long, & Stephenson, 2008). In another study, lack of knowledge about the stances of religious institutions towards organ donation was associated with a low approval rating of post-mortem donation (Cantarovich et al. 2007). The study qualified that religious leaders of Roman Catholicism, Protestantism, Islam, Buddhism, and Judaism held mostly positive views of organ donation, with the exception of various Muslim leaders in India.

Furthermore, studies gauging ethnic or racial disparities in opinions about organ donation have found among Chinese-Americans a reluctance to donate (Lam & McCullough, 2000) and lesser desire to sign an organ donor card among Koreans than among Americans or Japanese (Bresnahan et al., 2007). Furthermore, Michelle Goodwin (2006) also suggested, using qualitative studies, that African Americans fear abuse and manipulation from the medical system and will avoid unnecessary procedures, including organ donation, when possible.

Another factor affecting desire to donate involves general knowledge about organ donation. Those who do not know about the possibility of designating organs to particular people look upon donation less favor-

ably (Siegel, Alvaro, Lac, & Crano, 2008) because people primarily desire to donate live organs to immediate family members (Decker et al., 2008). Detailed knowledge about the organ donation system has varying effects: the “foot-in-the-door” phenomenon resulted in higher amounts of desire to donate upon learning about organ donation (Carducci & Deuser, 1984). Medical mistrust, medical malpractice, and organ sale, however, have been cited as reasons not to donate (Morgan et al., 2008).

Research on Demographics and Alternative Programs

In examining gender differences in attitudes towards alternative incentives, men and women have been shown to support health insurance compensation for living donation and generally not to support financial compensation from the organ recipient; however, men were more amenable to the latter than women (Decker et al., 2008). In contrast, the United Network for Organ Sharing Ad Hoc Donations Committee (1991) reported that men and women did not differ in attitudes towards financial incentives in their national survey.

In looking at race/ethnicity, non-Caucasians have been shown to be more in favor of financial incentives and donor benefits in both live and post-mortem donation situations than Caucasians, and Caucasians of low-income brackets were also shown to be more amenable than those of high-income brackets to incentives and benefits (Boulware, Troll, Wang, & Powe, 2006; Bryce, et al., 2005). Both studies also found that non-Caucasians currently registered as organ donors were more amenable than their registered Caucasian counterparts to incentives programs, but prior registration generally designated a lower interest in incentives programs.

Other demographics have been researched with regards to amenability to alternative programs. Youths and those with a higher educational status have also been positively correlated with higher rates of acceptance of incentives programs (United Network for Organ Sharing Ad Hoc Donations Committee, 1991; Mayrhofer-Reinhartshuber, Fitzgerald, Benetka, & Fitzgerald, 2006). Desire to maintain the body’s integrity after death has also been correlated with an aversion to assigning monetary value to organs (Schweda & Schicktanz, 2009).

Research on General Attitudes towards Alternative Programs

Studies have found varying support for incentives programs. Benefits for a deceased donor’s loved ones, such as funeral expenses paid, charitable contributions, travel expenses paid, and medical expenses paid,

have been more favored than direct payment to the family (Bryce et al., 2005). The Network for Organ Sharing Ad Hoc Donations Committee's national survey (1991) found similar tendencies towards favoring preferred waiting list status, charitable contributions, and funeral expenses paid over direct payment. Each study, however, generated low approval ratings in general: 16% of women and 27.2% of men would accept financial compensation in the study by Decker et al. (2008). Fifty-nine percent of respondents in the study by Bryce et al. (2005) and 52% of respondents in the survey by the Network for Organ Sharing Ad Hoc Donations Committee (1991) felt the government should change policy to allow for financial incentives or donor benefits. A higher approval rating would be more effective at addressing and changing current organ donation policy.

Concerns with Incentives

Those against legal organ markets or donor benefits have suggested that organ markets may decrease the desire to donate altruistically. In a study by Mayrhofer-Reinhartshuber et al. (2006), desire to donate decreased with scenarios involving financial incentives. In a study by Bryce et al. (2005), however, respondents reported that financial and benefits programs would not affect their desires to donate to family or to register as an organ donor.

Another concern is the exploitation of those who are poor or underrepresented. In Nancy Scheper-Hughes' work, the underground network of organ selling and buying was revealed to be less than democratic and rather exploitative; rich buyers receive organs from poor sellers who then receive mediocre post-operative care and are left with infections and feelings of shame (Scheper-Hughes, 2003). She challenges the theoretical purview of current regulations in place by the United Network of Organ Sharing, which monitors organ matches to keep them in line with legal policy, and other organizations in that they are irrelevant within the context of the black market and, thus, would have to compete with established market prices and underhandedness if a legal market was to be created. In short, they would not be able to regulate a practice that has already evaded the law. The ability of Scheper-Hughes, however, to extrapolate this consequence to a hypothetical legal organ market in the United States is difficult, considering her research focuses on black market industries in foreign countries. Regardless, her research serves as a warning to be cautious and knowledgeable about public opinion and potential problems before seeking policy changes.

Research Hypotheses

H1: Gender

The study aims to use previous research on gender differences in opinions towards incentives programs to determine if these gender disparities can be discovered in a Midwestern setting. Gender disparities will be assessed for the perceived likelihood of personal organ donation across three program types (i.e., current altruistic system, financial incentives, and non-financial incentives) and two donation types (i.e., live and post-mortem donation). This will first be analyzed with independent samples t-tests. If statistical significance is found, multiple regression will be used, with organ donor status, race/ethnicity, tissue donor status, age, and previous experience as other independent variables. This effect will also be examined using the main effects and three-way interactions of the factorial designs between gender, registration status, and previous experience.

1A. Men will be more likely than women to donate live and post-mortem organs in the donation systems that provide financial incentives to the donor or the donor's family.

1B. Women will be more likely than men to donate live and post-mortem organs in the current altruistic donation system or if given non-financial incentives.

H2: Race/ethnicity

This study believes there will be variant responses between Caucasians and minorities regarding organ donation systems, based upon research findings of racial disparities in amenability to incentives programs. Race/ethnicity (i.e. white non-Hispanic versus other racial/ethnic groups) disparities will be assessed for the likelihood of organ donation. These hypotheses will first be analyzed with independent samples t-tests. If statistical significance is found, multiple regression will be used, along with gender, organ donor status, tissue donor status, age, and previous experience..

2A. White non-Hispanics will be less likely than other racial/ethnic to donate live and post-mortem organs if given financial incentives or non-financial incentives.

2B. White non-Hispanics will be more likely than other racial/ethnic groups to desire to donate live and post-mortem organs in the current altruistic donation system.

H3: Previous experience

On the basis of research involving the foot-in-the-door phenomenon and organ donation (Carducci & Deuser, 1984), this study included questions asking if the participant has had experience with organ donation in the hope that Carducci's and Deuser's research can be applied to a study on alternative incentives. It is expected that persons with organ donation experience (hereafter referred to as experienced persons) will be reminded of their experience by the questions and will be more likely to participate in live and post-mortem organ donation across the three program types than persons without organ donation experience (hereafter referred to as inexperienced persons).

Independent samples t-tests will be used, looking at experience level disparities for the likelihood of donation under each system. If statistical significance is found, it will be analyzed by a multiple regression, along with gender, race/ethnicity, tissue donor status, age, and registration status. This effect will be assessed using the main effects and three-way interactions of factorial designs between previous experience, gender, and registration status.

H4: Post-Mortem Donor Registration Status

Due to the lack of research on registration status and alternatives, findings similar to that of previous experience are expected. Due to the fact that registered donors are likely to have more knowledge of the organ donation system than those who are not registered, they may be more likely to donate across program type than non-registered donors (assuming Carducci's and Deuser's research is still used as a basis).

Independent samples t-tests will be used, looking at registration status disparities for the likelihood of donation under each system. If statistical significance is found, it will be analyzed by a multiple regression, along with gender, race/ethnicity, tissue donor status, age, and previous experience. This effect will also be analyzed in the main effects and three-way interactions of factorial designs between registration status, gender, and previous experience.

H5: Expected Interactions

Based upon the literature found regarding gender, previous experience, and registration status, we expect the three variables to interact in a three-way factorial design in such a way that experienced, registered males will be most likely to donate in financial programs, followed by

males of other combinations of experience and registration status. Experienced and registered females will follow, with inexperienced, non-registered females being the least likely.

We also expect that experienced, registered females will be most likely to donate in non-financial and current altruistic programs, followed by females of all other combinations of experience and registration status. Experienced and registered males will follow, with inexperienced and non-registered males being the least likely.

Methods

Participants

A total of 165 students from the University of Nebraska-Lincoln participated in the study. Both undergraduates (150 [94.9%]) and graduate students (8 [5.1%]) participated. Seven did not indicate their academic status. Forty-nine (29.1%) of these participants were male, and 110 (70.9%) were female. Six did not indicate their gender. In examining race/ethnicity, we found that 105 (66.5%) of participants were Caucasian. The remaining participants were made up of 9 (5.7%) Blacks/African Americans, 23 (14.6%) Hispanics, 6 (3.8%) Native Americans/Alaska Natives, 5 (3.2%) Asian Americans/Pacific Islanders, and 10 (6.3%) Other/Multi-racial persons. Seven participants did not indicate their race/ethnicity. They had a mean age of 22.14 years with a range from 19 to 55 years.

Materials

A self-report survey of 44 questions was administered that first asked several questions about the participant's personal familiarity or experience with organ donation, either as donor or recipient. In the following sections, questions used a 5-point Likert-type scale to assess participants' openness to several hypothetical situations involving the donation of live and post-mortem organs under the current altruistic system (1 representing very opposed and 5 representing very open). Another set of questions asked participants to rate whether or not the proposed alternatives would encourage other people to donate live or post-mortem organs by using a 5-point Likert-type scale. 1 represented very discouraging, and 5 represented very encouraging. The next set of questions asked how likely it would be that participants would donate live or post-mortem organs under the hypothetical alternative proposed, using a 5-point Likert-type scale. 1 represented very unlikely, and 5 represented very likely. Therefore, the survey gauged an incentive's perceived effectiveness in general

situations, as well as its likelihood of use by individuals. The final section asked demographic questions, such as age, gender, race/ethnicity, religiosity, political orientation, and class standing. Religiosity and political orientation were assessed with a Likert-type scale gauging intensity.

Financial incentives programs suggested in the hypothetical situations included both live and post-mortem situations and involved direct payment (i.e., from the recipient, the recipient's insurance company, or a federal or state program), tax deductions (i.e., to the donor or donor's estate), and payment of funeral expenses (i.e., by the recipient or the recipient's insurance). Non-financial incentives included preferred waiting list status, meaning the donor or the donor's family receives higher placement on organ waiting lists in the future, and charitable donations made in the donor's honor. The latter is applicable only to post-mortem situations, whereas the former is applicable to both post-mortem and live situations.

Procedures

Participants were solicited from summer class sessions of varying departments at the University of Nebraska-Lincoln. They were also solicited from e-mails to Recognized Student Organizations at the same university. Participants were also solicited using groups and messages on social networking sites, such as Facebook.

Participants were then given the link to the survey, which was hosted on SurveyGizmo.com. They all received the same instructions as to its completion. Data were collated and then analyzed using SPSS 17.0. Multiple regression, multivariate ANOVA, and bivariate analyses of the data were used.

Results

Univariate statistics, which include the means, standard deviations, and/or percentages for age, gender, race/ethnicity, current registration as an organ donor status, current tissue donor status, and likelihood of donation under each program type, are reported in Table 1.

Gender Independent Samples t-tests (Column 1, Table 2)

Financial incentives. There was a lack of statistical significance for all programs involving financial incentives. Therefore, contrary to the hypothesis, men and women were equally likely to donate in programs involving financial incentives.

Table 1. Summary of Likelihoods of Donation, Age, Gender, Race/Ethnicity, and Donor Status

		Univariate Summary		
		<i>M</i>	<i>SD</i>	<i>N</i>
Current Altruistic Donation System				
Live donation to family/friends		4.34	0.72	163
Live donation to strangers		3.32	1.00	162
Sign-up for tissue registry		3.17	0.98	164
Sign-up for post-mortem registry		4.43	0.96	160
Financial Incentives				
Live donation if paid by recipient		3.11	1.06	159
Live donation if paid by recipient's insurance		3.61	1.07	160
Live donation if paid by federal or state program		3.59	1.04	158
Live donation if given tax deduction		3.38	1.08	159
Post-mortem (PM) donation if paid by recipient		3.48	1.24	159
PM donation if paid by recipient's insurance		3.82	1.22	159
PM donation if paid by federal or state program		3.87	1.22	157
PM donation if funeral paid for by recipient		3.48	1.31	157
PM donation if funeral paid for by recipient's insurance		3.85	1.19	158
PM donation if given tax deduction		3.70	1.15	158
Non-Financial Incentives				
Live donation if given preferred waiting list status		3.65	1.11	159
PM donation if given preferred waiting list status		3.97	1.15	158
PM donation if donation is made in donor's honor		3.78	1.16	157
Descriptive Statistics of Participants				
Age		22.14	4.78	158
Gender				
		Female		110 (69.2%)
		Male		49 (30.8%)
Race/Ethnicity				
		Caucasian		105 (66.5%)
		Hispanic		23 (14.6%)
		Black/ African American		9 (5.7%)
		Asian/Pacific Islander		5 (3.2%)
		Native American/Alaska Native		6 (3.8%)
		Other/Multi-racial		10 (6.3%)
Current Organ Donor Status				
		Registered		117 (70.9%)
		Unregistered		48 (29.1%)
Current Tissue Donor Status				
		Registered		53 (32.1%)
		Unregistered		111 (67.9%)

Table 2. Openness and Likelihood Means and *t*-Tests for Gender, Race/Ethnicity, Previous Experience, and Registration Status

	Gender			Race/Ethnicity			Experience?			Registered?					
	Mean (SD)	<i>t</i>	<i>df</i>	Mean (SD)	<i>t</i>	<i>df</i>	Mean (SD)	<i>t</i>	<i>df</i>	Yes	No	<i>t</i>	<i>df</i>		
	Female	Male		WNH	OR/E		Yes	No		Yes	No				
Current System															
Live donation to family/friends	4.34 (.67)	4.31 (.82)	0.27	156	4.36 (.71)	4.26 (.74)	0.76	155	4.37 (1.01)	4.33 (.66)	-0.20	30.9	4.30 (.88)	-0.52	161
Live donation to strangers	3.98 (.93)	3.10 (1.12)	1.64	157	3.34 (1.00)	3.28 (1.01)	0.36	156	3.37 (1.12)	3.28 (.99)	-0.42	153	3.02 (.89)	-2.54*	162
Sign-up for tissue registry	3.21 (.94)	3.00 (1.02)	1.26	157	3.14 (.98)	3.23 (.97)	-0.51	156	3.30 (1.14)	3.12 (.94)	-0.86	153	2.88 (.88)	-2.54*	162
Sign-up for post-mortem registry	4.44 (.97)	4.37 (.97)	0.44	156	4.54 (.92)	4.21 (.98)	2.08*	155	4.31 (1.23)	4.45 (.93)	0.66	149	3.55 (.56)	-6.98**	55.12
Financial Incentives															
Live donation if paid by recipient	3.06 (1.04)	3.20 (1.10)	-0.82	155	3.13 (1.15)	3.12 (1.15)	0.053	154	2.65 (1.23)	3.19 (1.02)	-2.34*	148	3.02 (1.13)	0.71	157
Live donation if paid by recipient's insurance	3.60 (1.06)	3.61 (1.10)	-0.09	156	3.66 (1.06)	3.56 (1.11)	0.55	155	3.42 (1.07)	3.64 (1.09)	0.93	149	3.62 (1.15)	0.08	158
Live donation if paid by federal or state program	3.53 (1.07)	3.69 (.97)	-0.88	154	3.62 (1.08)	3.53 (.99)	0.50	154	3.62 (.98)	3.59 (1.07)	-0.13	147	3.59 (1.08)	-0.01	156
Live donation if given tax deduction	3.32 (1.04)	3.47 (1.17)	-0.78	155	3.45 (1.02)	3.27 (1.21)	0.99	154	3.58 (.95)	3.31 (1.12)	-1.11	148	3.17 (1.02)	-1.62	157
Post-mortem (PM) donation if paid by recipient	3.44 (1.23)	3.59 (1.26)	-0.74	155	3.57 (1.23)	3.33 (1.25)	1.15	154	3.38 (1.39)	3.47 (1.22)	0.32	149	3.62 (1.23)	-2.10*	157
PM donation if paid by recipient's insurance	3.82 (1.24)	3.82 (1.17)	0.04	155	3.91 (1.22)	3.65 (1.19)	1.26	154	3.69 (1.35)	3.81 (1.21)	0.44	149	3.89 (1.21)	-1.21	157
PM donation if paid by federal or state program	3.90 (1.20)	3.78 (1.26)	0.57	153	3.94 (1.22)	3.71 (1.22)	1.13	152	3.80 (1.23)	3.85 (1.24)	0.20	147	3.96 (1.20)	-1.54	155
PM donation if funeral paid for by recipient	3.40 (1.31)	3.65 (1.31)	-1.07	153	3.57 (1.30)	3.31 (1.34)	1.17	152	3.73 (1.22)	3.39 (1.34)	-1.21	148	3.57 (1.33)	-1.30	155
PM donation if funeral paid for by recipient's insurance	3.83 (1.21)	3.88 (1.17)	-0.22	154	3.98 (1.16)	3.60 (1.23)	1.91	153	3.79 (1.06)	3.79 (1.24)	-0.79	148	3.94 (1.16)	-1.45	156
PM donation if given tax deduction	3.67 (1.12)	3.76 (1.22)	-0.41	154	3.89 (1.11)	3.33 (1.14)	2.94**	153	3.88 (1.03)	3.65 (1.20)	-0.95	148	3.87 (1.10)	-2.95**	156
Non-Financial Incentives															
Live donation if given preferred waiting list status	3.69 (.98)	3.53 (1.34)	0.72	72.34	3.75 (1.03)	3.48 (1.23)	1.44	154	3.96 (1.04)	3.60 (1.13)	-1.51	148	3.77 (1.01)	-1.84	71.42
PM donation if given preferred waiting list status	3.95 (1.11)	3.96 (1.11)	-0.02	154	4.12 (1.10)	3.67 (1.18)	2.33*	153	3.92 (1.23)	3.97 (1.16)	0.18	148	4.13 (1.04)	-2.84*	69.49
PM donation if donation is made in donor's honor	3.86 (1.08)	3.56 (1.32)	1.37	76.26	3.94 (1.11)	3.42 (1.19)	2.68**	153	3.81 (1.30)	3.74 (1.15)	-0.27	147	4.03 (1.06)	-4.45**	155

* = $p \leq .05$, ** = $p \leq .01$. WNH: White non-Hispanic; OR/E: Other race/ethnicity; SD: Standard deviation.

Non-financial incentives. There was a lack of statistical significance for programs involving non-financial incentives. Contrary to the hypothesis, men and women were equally likely to donate in programs involving non-financial incentives.

Current altruistic system. There was a lack of statistical significance for all questions involving the current altruistic donation. Contrary to the hypothesis, men and women were equally open to donating in the current altruistic donation system.

Race/Ethnicity Independent Samples t-tests (Column 2, Table 2)

Financial incentives. If given an estate tax deduction for post-mortem donations, white non-Hispanics had a mean likelihood of donating of 3.89 ($SD= 1.11$), while other racial/ethnic groups had a mean likelihood of 3.33 ($SD= 1.14$). Contrary to the hypothesis, white non-Hispanics were more likely than other racial/ethnic groups to donate ($t(153)= 2.94, p < .01$).

There was, however, a lack of statistical significance for other alternative programs involving financial incentives, which is contrary to the research hypothesis in that white non-Hispanics and other racial/ethnic groups are equally likely to donate in these programs.

Non-financial incentives. If given preferred waiting list status for post-mortem organs, white non-Hispanics had a mean likelihood of 4.12 ($SD= 1.10$), while other racial/ethnic group members had a mean likelihood of 3.67 ($SD= 1.18$). Contrary to the hypothesis, white non-Hispanics were more likely than other racial/ethnic groups to donate ($t(153)= 2.33, p < .05$).

If charitable donations are made in honor of the donor for post-mortem organs, white non-Hispanics had a mean likelihood of 3.94 ($SD= 1.11$), while other racial/ethnic group members had a mean likelihood of 3.42 ($SD= 1.19$). Contrary to the hypothesis, white non-Hispanics were more likely than other racial/ethnic groups to donate post-mortem organs ($t(153)= 2.68, p < .01$).

If given preferred waiting list status for live organs, white non-Hispanics had a mean likelihood of 3.75 ($SD= 1.03$), while other racial/ethnic group members had a mean likelihood of 3.48 ($SD= 1.23$). Contrary to the hypothesis, white non-Hispanics and other racial/ethnic groups were equally likely to donate, due to a lack of statistical significance ($t(150)= 1.42, p = .15$).

Current altruistic system. White non-Hispanics had a mean likelihood of signing an organ donor card of 4.54 ($SD= 0.92$), while other racial/ethnic groups had a mean likelihood of 4.21 ($SD= 0.98$). In accordance with

the hypothesis, white non-Hispanics were more likely than other racial/ethnic groups to sign an organ donor card ($t(155) = 2.08, p < .05$).

There was a general lack of statistical significance for other questions regarding the current altruistic donation system. Contrary to the hypothesis, white non-Hispanics and other racial/ethnic group members were equally open to donating in the current system.

Previous Experience Independent Samples t-tests (Column 3, Table 2)

Financial incentives. If paid by the recipient for live organs, experienced persons had a mean likelihood of 2.65 ($SD = 1.23$), while inexperienced persons had a mean likelihood of 3.19 ($SD = 1.02$). In accordance with the hypothesis, experienced persons were more likely than inexperienced persons to donate ($t(148) = -2.34, p < .05$).

There was, however, a lack of statistical significance for other financial incentives. Therefore, contrary to the hypothesis, experienced and inexperienced persons were equally likely to donate in these financial incentives programs.

Non-financial incentives. There was a lack of statistical significance for programs involving non-financial incentives. Therefore, contrary to the hypothesis, experienced and inexperienced persons were equally likely to donate if given non-financial incentives.

Current altruistic system. There was a lack of statistical significance for all questions involving the current altruistic donation system. Therefore, contrary to the hypothesis, experienced and inexperienced persons were equally open to using the current system.

Registration Status Independent Samples t-tests (Column 4, Table 2)

Financial incentives. If paid by the recipient for post-mortem organs, registered persons had a mean likelihood of 3.62 ($SD = 1.23$), while non-registered persons had a mean likelihood of 3.17 ($SD = 1.22$). In accordance with the hypothesis, registered persons were more likely than non-registered persons to donate ($t(157) = -2.10, p < .05$).

In a system that allows for receipt of an estate tax deduction for post-mortem organs, registered organ donors had a mean likelihood of 3.87 ($SD = 1.10$), while non-registered persons had a mean likelihood of 3.30 ($SD = 1.18$). In accordance with the hypothesis, registered persons were more likely than non-registered persons to donate ($t(156) = -2.95, p < .01$).

There was, however, a lack of statistical significance for other financial incentives programs. Therefore, contrary to the hypothesis, registered

and non-registered persons were equally likely to donate in programs involving other financial incentives.

Non-financial incentives. If given preferred waiting list status for post-mortem organs, registered organ donors had a mean likelihood of 4.13 ($SD= 1.04$), non-registered persons had a mean likelihood of 3.59 ($SD= 1.31$) In accordance with the hypothesis, registered persons were more likely than non-registered persons to donate ($t(69.49)= -2.84, p< .05$).

If charitable donations were made in honor of the donor for post-mortem organs, registered persons had a mean likelihood of 4.03 ($S= 1.04$), while non-registered persons had a mean likelihood of 3.59 ($SD= 1.31$) In accordance with the hypothesis, registered persons were more likely than non-registered persons to donate ($t(155)= -4.45, p< .01$).

In a system that gives preferred waiting list status for live organs, registered persons had a mean likelihood of 3.77 ($SD= 1.01$), while non-registered persons had a mean likelihood of 3.38 ($SD= 1.28$) Contrary to the hypothesis, registered and non-registered persons were equally likely to donate, due to a lack of statistical significance ($t(71.42)= -1.84, p= .07$).

Current altruistic system. If asked to donate to family members, registered persons had a mean likelihood of 4.36 ($SD= 0.64$), while non-registered persons had a mean likelihood of 4.30 ($SD= 0.88$) Contrary to the hypothesis, registered and non-registered persons were equally likely to donate, due to a lack of statistical significance ($t(161)= -0.52, p= .60$).

If asked to donate to strangers, registered persons had a mean likelihood of 3.45 ($S= 0.89$), while non-registered persons had a mean likelihood of 3.02 ($SD= 1.18$) In accordance with the research hypothesis, registered persons were more likely than non-registered persons to donate ($t(162)= -2.54, p< .05$).

If asked to sign up for a tissue registry, registered persons had a mean likelihood of 3.29 ($SD= 0.88$), while non-registered persons had a mean likelihood of 2.88 ($SD= 1.14$). In accordance with the research hypothesis, registered persons were more likely than non-registered persons to donate ($t(162)= -2.54, p< .05$).

If asked to sign an organ donor card, registered persons had a mean likelihood of 4.79 ($SD= 0.56$), while non-registered persons had a mean likelihood of 3.55 ($SD= 1.16$) In accordance with the research hypothesis, registered persons were more likely than non-registered persons to donate ($t(55.12)= -6.98, p< .01$).

Multiple Regression

Multiple regression models were run if t-tests showed significance for any of the independent variables (gender, race/ethnicity, previous

experience, or post-mortem registration. Race/ethnicity was coded as a dummy variable, with 0 representing white non-Hispanics and 1 representing other racial/ethnic groups. Age and current tissue donor status were used as controls, with registration status, experience, gender, and race/ethnicity used as predictors. Age, gender, and tissue donor status were not significant contributors and were thus not included in the final models. See Table 3.

Financial incentives. Multiple regression analyses were conducted to predict likelihood of post-mortem donation if the donor's estate is given a tax deduction. The final model accounted for a statistically significant proportion of variance in the outcome ($R^2 = .078$, $F = 4.531$, $p < .01$). In this model, currently being a registered organ donor significantly contributed to the final model ($b = .433$, $p < .05$). Additionally, previous experience with organ donation was also not a significant predictor ($b = .10$, $p = .687$). Race/ethnicity did significantly contribute to the final model ($b = -.494$, $p < .05$). Thus, being a white non-Hispanic and being an organ donor increases likelihood of donating post-mortem organs if given an estate tax deduction, above and beyond the effects of previous organ donation experience.

Multiple regression analyses were conducted to predict likelihood of post-mortem donation if paid by the recipient. The final model did not account for a statistically significant proportion of variance in the outcome ($R^2 < .05$, $F = 1.764$, $p = .157$). Therefore, none of the predictors significantly increased the likelihood of donating post-mortem organs if paid by the recipient. Multiple regression analyses were conducted to predict

Table 3. Summary statistics and results from multiple regression (MR) analysis

Variables (program types in bold)	MR Weights	
	<i>b</i>	β
Likelihood of post-mortem (PM) donation if given tax deduction		
Current organ donor status	0.43*	0.17
Previous organ donation experience	0.10	0.03
Race/ethnicity	-0.49*	-0.20
Likelihood of PM donation if given preferred waiting list status		
Current organ donor status	0.43*	0.17
Previous organ donation experience	-0.16	-0.05
Race/ethnicity	-0.38 [†]	-0.15
Likelihood of PM donation if charitable donation is made		
Current organ donor status	0.77**	0.30
Previous organ donation experience	-0.09	-0.03
Race/ethnicity	-0.41*	-0.16

* = $p \leq .05$, ** = $p \leq .01$, [†] = $p < .10$

likelihood of live donation if paid by the recipient. The final model did not account for a statistically significant proportion of variance in the outcome ($R^2 < .05$, $F = 2.189$, $p = .092$). Therefore, none of the predictors significantly increased the likelihood of donating live organs if paid by the recipient.

Non-financial incentives. Multiple regression analyses were conducted to predict likelihood of post-mortem donation if the donor's family is given preferred waiting list status. The final model accounted for a statistically significant proportion of variance in the outcome ($R^2 = .061$, $F = 3.086$, $p < .05$). In this model, currently being a registered organ donor significantly contributed to the final model ($b = .431$, $p < .05$). Previous organ donation experience did not significantly contribute ($b = -.155$, $p = .534$). Race/ethnicity was also not a significant predictor, but was trending toward significance, which suggests that the current study is underpowered to detect these relations ($b = -.377$, $p = .072$). Thus, prior registration as an organ donor increases likelihood of donating post-mortem organs if the family is given preferred waiting list status, above and beyond the effects of race/ethnicity and previous experience.

Multiple regression analyses were conducted to predict likelihood of post-mortem donation if a charitable donation is made in the donor's honor. The final model accounted for a statistically significant proportion of variance in the outcome ($R^2 = .135$, $F = 7.458$, $p < .001$). In this model, currently being a registered organ donor significantly contributed to the final model ($b = .766$, $p < .001$). Additionally, race/ethnicity was also a significant predictor ($B = -.409$, $p < .05$). Previous experience with organ donation did not significantly contribute to the final model ($b = -.089$, $p = .714$). Thus, registration as a post-mortem organ donor and being a white non-Hispanic increases likelihood of donating post-mortem organs if a charitable donation is made in the donor's honor, above and beyond the effects of organ donation experience.

Current Altruistic System. Multiple regression analyses were conducted to predict openness to live donation to strangers. The final model did not account for a statistically significant proportion of variance in the outcome ($R^2 < .05$, $F = 1.601$, $p = .192$). Therefore, none of the predictors significantly increased openness to donating live organs to stranger. Multiple regression analyses were also conducted to predict openness to signing up for a tissue registry. The final model did not account for a statistically significant proportion of variance in the outcome ($R^2 < .05$, $F = 2.114$, $p = .101$). Therefore, none of the predictors significantly increased openness to signing up for a tissue registry.

Factorial Designs

Three-way between groups ANOVAs were run to determine the main effects and interactions of gender, previous experience, and organ donor registration status against the likelihood to donate under each program type. No interactions, however, were found for the current altruistic system, which included: openness to donate live organs to family or friends, to donate live organs to strangers, and to sign-up for a tissue registry or for an organ donor card. Failure to find interactions also included financial incentives: likelihood of donating live or post-mortem organs if paid by the recipient, of donating live or post-mortem organs if paid by the recipient's insurance, of donating live or post-mortem organs if paid by a federal or state program, of donating live organs if given a tax deduction, and of donating post-mortem organs if paid by the recipient's insurance. One non-financial incentive failed to show interaction: likelihood of donating live organs if given preferred organ waiting list status. Effect sizes are included with Omnibus F-tests and descriptions of patterns; they are depicted by the letter *r*.

A three-way interaction was found using a between-groups ANOVA, $F(1, 141) = 5.65, p = .019, MSe = 1.68, r = .20$, for the likelihood to donate post-mortem organs if funeral expenses were paid by the recipient. Table 4 shows the cell means. Examination of the cell means ($LSD_{mmd} = .84$) of registered donors reveals that experienced males are more likely to donate than inexperienced males ($r = .36$). Females did not differ from each other by experience. Males and females also did not differ from each other, regardless of experience. The cell means of unregistered persons, however, revealed that inexperienced males are more likely to donate than experienced males ($r = .45$) and inexperienced females ($r = .38$), while experienced females were more likely to donate than inexperienced females ($r = .44$) and experienced males ($r = .5$). There was not a significant two-way interaction between experience and gender, $F(1, 141) = 1.382, p = .242, MSe = 1.68, r = .1$, between experience and registration, $F(1, 141) = .647, p = .423, MSe = 1.68, r = .07$, or between registration

Table 4. Gender \times Experience \times Registration Status for Likelihood to Donate Post-Mortem Organs if Funeral Expenses are Paid for By the Recipient.

	Registered as a Post-Mortem Donor		Not registered as a Post-Mortem Donor	
	Experienced	Inexperienced	Experienced	Inexperienced
Male	4.40	3.41	2.50	3.82
Female	3.62	3.51	4.00	2.74

and gender, $F(1, 141) = .563, p = .454, MSe = 1.68, r = .06$. There was not a main effect for gender, $F(1, 141) = .032, p = .858, MSe = 1.68, r = .02$ (which was descriptive for registered donors), for experience, $F(1, 141) = .516, p = .474, MSe = 1.68, r = .06$, or for registration, $F(1, 141) = .1669, p = .199, MSe = 1.68, r = .11$.

A three-way interaction was found in a between groups ANOVA, $F(1, 141) = 4.385, p = .038, MSe = 1.28, r = .17$, for the likelihood to donate post-mortem organs if an estate tax deduction was given. Table 5 shows the cell means. Examination of the cell means ($LSD_{mmd} = .734$) of registered post-mortem donors revealed no differences between males and females by experience and no difference between experience by gender. The cell means for unregistered persons, however, revealed that experienced females are more likely to donate than inexperienced females ($r = .53$) and experienced males ($r = .51$), even though males did not differ by experience. There was no difference between inexperienced males and females. There was not a significant two-way interaction between experience and gender, $F(1, 141) = .959, p = .329, MSe = 1.28, r = .08$ (which was descriptive for registered donors), between experience and registration, $F(1, 141) = .126, p = .723, MSe = 1.28, r = .03$, or between registration and gender, $F(1, 141) = 1.065, p = .304, MSe = 1.28, r = .09$. There was not a main effect for gender, $F(1, 141) = .01, p = .922, MSe = 1.28, r = .01$, for experience, $F(1, 141) = 1.101, p = .296, MSe = 1.28, r = .09$, or for registration, $F(1, 141) = 2.697, p = .103, MSe = 1.28, r = .14$. The null effect of experience was only misleading for non-registered females, while the null effect of gender was only misleading for experienced registered persons.

A three-way interaction was found in between groups ANOVA, $F(1, 141) = 5.333, p = .022, MSe = 1.294, r = .19$, for the likelihood to donate post-mortem organs if family members were given preferred waiting list status. Table 6 shows the cell means. Examination of the cell means ($LSD_{mmd} = .738$) of registered donors reveals no differences between females regardless of experience and no differences between inexperienced persons regardless of gender. We found that experienced males were more likely to donate than inexperienced males ($r = .32$) and experienced fe-

Table 5. Gender \times Experience \times Registration Status for Likelihood to Donate Post-Mortem Organs if Given an Estate Tax Deduction

	Registered as a Post-Mortem Donor		Not registered as a Post-Mortem Donor	
	Experienced	Inexperienced	Experienced	Inexperienced
Male	4.40	3.83	3.00	3.53
Female	3.75	3.88	4.33	2.91

Table 6. Gender \times Experience \times Registration Status for Likelihood to Donate Post-Mortem Organs if Family Given Preferred Waiting List Status

	Registered as a Post-Mortem Donor		Not registered as a Post-Mortem Donor	
	Experienced	Inexperienced	Experienced	Inexperienced
Male	4.80	4.04	2.00	3.81
Female	3.94	4.13	3.67	3.48

males ($r = .35$). The cell means of unregistered persons, however, reveals no difference between females regardless of experience and no difference between inexperienced persons regardless of gender. We found that inexperienced males ($r = .62$) and experienced females ($r = .59$) were more likely to donate than experienced males. There was not a significant two-way interaction between experience and gender, $F(1, 141) = .676$, $p = .412$, $MSe = 1.294$, $r = .07$, between experience and registration, $F(1, 141) = 2.929$, $p = .089$, $MSe = 1.294$, $r = .14$ (which was descriptive for females), or between registration and gender, $F(1, 141) = 2.719$, $p = .101$, $MSe = 1.294$, $r = .14$. There was not a main effect for gender, $F(1, 141) = .19$, $p = .663$, $MSe = 1.294$, $r = .04$ (which was descriptive for inexperienced persons) or for experience, $F(1, 141) = .69$, $p = .408$, $MSe = 1.294$, $r = .07$ (which was descriptive for females). There was a main effect for registration, $F(1, 141) = 9.578$, $p = .002$, $MSe = 1.294$, $r = .25$, which indicated that registered persons (at a mean likelihood of 4.11) were more likely to donate than non-registered persons (at a mean likelihood of 3.55). This main effect is only descriptive for experienced males.

A three-way interaction was found in between groups ANOVA, $F(1, 140) = 12.927$, $p = .000$, $MSe = 1.128$, $r = .29$, for the likelihood to donate post-mortem organs if a charitable donation would be made in the donor's honor. Table 7 shows the cell means. In examining the cell means ($LS-Dmmd = .691$) of persons registered as post-mortem donors, we find that experienced males are more likely to donate than inexperienced males ($r = .50$) and experienced females ($r = .51$). Females did not differ from each other, regardless of experience. Inexperienced males and females

Table 7. Gender \times Experience \times Registration Status for Likelihood to Donate Post-Mortem Organs if a Charitable Donation is Made

	Registered as a Post-Mortem Donor		Not registered as a Post-Mortem Donor	
	Experienced	Inexperienced	Experienced	Inexperienced
Male	5.00	3.78	1.00	3.00
Female	3.75	4.08	4.00	3.26

Table 8. Registration Status \times Gender Semi-Marginal Means for Likelihood to Donate Post-Mortem Organs if a Charitable Donation is Made in the Donor's Honor

	Registered	Not Registered
Male	4.39	2.00
Female	3.915	3.63

did not differ from each other. Examination of the cell means of unregistered persons, however, revealed that inexperienced males ($r = .69$) and experienced females ($r = .82$) are more likely to donate than experienced males ($r = .69$). Inexperienced females were more likely to donate than experienced females ($r = .33$). Inexperienced people did not differ by gender. There was not a significant two-way interaction between experience and gender, $F(1, 140) = .992, p = .321, MSe = 1.128, r = .08$ or between experience and registration, $F(1, 140) = 3.232, p = .074, MSe = 1.128, r = .15$. There was a significant two-way interaction (Table 8) between registration and gender, $F(1, 140) = 12.451, p = .001, MSe = 1.128, r = .29$. The pattern of the interaction (using $LSD_{mmd} = .488$) was misleading for both levels of experience. There was not a main effect for gender, $F(1, 140) = 3.754, p = .055, MSe = 1.128, r = .16$ (which was descriptive for inexperienced persons) or for experience, $F(1, 140) = .10, p = .753, MSe = 1.128, r = .03$ (which was descriptive for registered females). There was a main effect for registration, $F(1, 140) = 20.144, p = .000, MSe = 1.128, r = .35$, which indicated that registered persons (at a mean likelihood of 4.01) are more likely to donate than non-registered persons (at a mean likelihood of 2.11). This main effect was only misleading for experienced females.

Discussion

In looking at the general means of likelihood to donate organs under all systems (see Table 1), participants were most likely to donate live organs to family or friends in the current altruistic donation system and to sign up to be post-mortem donors in the current system. Participants were least likely to sign up for a tissue registry in the current system and to donate live organs if paid by the recipient. All likelihood means were greater than neutral, indicating participants were more inclined hypothetically to donate than not to donate. Therefore, people are either open to the idea of alternative incentives, as it may also indicate a general willingness to donate their organs in general. Considering, however, the means for alternatives are closer to neutral than to a high likelihood, one might assume participants are not entirely desirous of alternative programs.

Gender

Considering the lack of statistical significance in independent samples t-tests and in the main effects of the interactions including gender, one must assess the findings of Decker et al. (2008) critically. The current study did not demonstrate their findings and instead demonstrated that men and women (at the University of Nebraska) do not differ on a basic level in their responses towards organ donation program type as predicted. These findings might be due to differences between the studies, perhaps due to different methods of data collection. Decker et al. (2008) utilized categorical variables and chi-square in their analyses, while the current study did not replicate their study exactly and used quantitative variables. The studies also had different populations; Decker et al. (2008) examined British citizens who had a higher mean age than those in the current study, which could have accounted for cultural differences in beliefs regarding organ donation. On the other hand, the results more closely follow the findings of the Network for Organ Sharing Ad Hoc Donations Committee's survey (1991) in that it reported no difference between men and women in their attitudes towards financial incentives.

In examining the likelihood of donating post-mortem organs, if a charitable donation is made in honor of the donor, a two-way interaction was found between registration status and gender that indicated males and females do differ if non-registered. Furthermore, in the same higher-order interaction, males and females did not have the same pattern between registration status and previous experience. Similar differences among gender occurred for likelihood to donate post-mortem organs if funeral expenses were paid by the recipient, if given an estate tax deduction, or if the family is given preferred waiting list status. Therefore, a higher-order interaction is needed to discern some indication of a gender disparity.

Race/Ethnicity

This study reported findings that were contrary to the research hypotheses and the literature, in that white non-Hispanics were theorized to be more supportive than other racial/ethnic group members of the current system, while being less supportive of alternative programs. The current study instead found that white non-Hispanics were often more in favor than minorities of alternatives, which must be critically assessed. In looking at the research of Boulware et al. (2006) and Bryce et al. (2005) in comparison to the findings of this study, one might look again to the

differences in participants. Boulware et al. (2006) examined a national population with a higher mean age, while Bryce et al. (2005) examined Pennsylvanians with a larger mean age than participants in this study. Therefore, the scope of the current study may have contributed to cultural and regional differences in opinions toward organ donation, causing a lack of disparity between white non-Hispanics and minorities in most questions regarding alternatives and findings that were the opposite of what was expected.

Previous Experience

Contrary to the research hypothesis and literature, this study indicates that having organ donation experience does not have any affect on likelihood to donate in any program at a basic level due to a general lack of statistical significance in independent samples t-tests and in the main effects of the interactions. In fact, inexperienced persons were more likely than experienced persons to donate live organs if paid by the recipient for live organs in independent samples t-tests. In looking at the higher-order 3-way interactions, however, we find that experience levels have different patterns of interaction between registration and gender for likelihoods of donating post-mortem organs if funeral expenses were paid by the recipient, if given an estate tax deduction, if families were given preferred organ waiting list status, and if a charitable donation was made in the donor's honor. Therefore, a higher-order effect is necessary to discern differences between persons of varying experience with organ donation.

Perhaps the hypothesis, based upon the research of Carducci & Deuser (1984), application of the foot-in-the-door phenomenon to garnering post-mortem donor registration is unfounded or inadequately measured. Furthermore, the one instance of statistical significance indicating higher likelihood by inexperienced persons may be demonstrative of the notion that those with experience might have appreciated those experiences in the current system and therefore cause them to favor the current altruistic donation system over suggested alternatives.

Donor Registration Status

In two instances, post-mortem registration exhibited a main effect (likelihood of donating post-mortem organs if family is given preferred organ waiting list status or if a charitable donation is made in the donor's honor), demonstrating that those registered were more likely to donate than those not registered, which is in accordance with the lit-

erature review and research hypotheses. Meanwhile, the likelihood of donating post-mortem organs if funeral expenses are paid for by the recipient and if given an estate tax deduction did not demonstrate an effect. In looking at all of the higher-order effects, however, we do find that the patterns of interaction between gender and experience differ between levels of registration status, which indicates that registered and unregistered persons do differ. Therefore, a higher-order effect is required to find differences in levels of registration status for financial incentives programs.

In looking at the research hypotheses based upon Carducci and Deuser (1984), we did find that, at the basic level, being registered resulted in a higher likelihood of donation in two of the three-way ANOVAs (mentioned above) as predicted. Although, in looking at these main effects across the patterns of the interactions between gender and experience, we do not find that it was consistently descriptive and, thus, not in accordance with the research hypothesis. For the other two ANOVAs, the inconsistency may have been responsible for the null main effect. It may be likely that being registered is not an effective measure of organ donation system experience, as not all people may consider the ramifications of signing an organ donor card when registering for a driver's license, for example.

Interactions

In looking at the three-way factorial designs for financial incentives (likelihoods of donating post-mortem organs if funeral expenses are paid for by the recipient and if given an estate tax deduction), we find similar patterns. Registered persons of both experiences did not differ by gender. Furthermore, registered females did not differ by experience. Additionally, non-registered, experienced females were more likely to donate than both non-registered, experienced males and non-registered, inexperienced females. These patterns of interaction are not in accordance with the predicted patterns (such that registered, experienced males would be most likely while non-registered, inexperienced females would be least likely).

In looking at the three-way factorial designs for non-financial incentives (likelihoods of donating post-mortem organs if families are given preferred organ waiting list status and if donations are made to charity in honor of the donor), we find similar patterns. Registered, experienced males are more likely to donate than both registered, experienced females and registered, inexperienced males. Registered females did not differ on the basis of experience, and registered, inexperienced people did not differ on the basis of gender. Additionally, non-registered, ex-

perienced males were less likely to donate than non-registered, inexperienced males and non-registered, experienced females. Non-registered, inexperienced persons did not differ on the basis of gender. These are not in accordance with the research hypotheses (such that registered, experienced females would be most likely while non-registered, inexperienced males would be least likely).

Limitations of the Study

The study utilized a self-report survey of Midwestern university students, which perhaps contributed to the statistically insignificant results that were contrary to the literature in such a manner that demographic information was not representative of the original populations studied. In some instances, younger individuals may not have considered their mortality to think critically of organ donation, and a Midwestern university is not universal to the United States, which the UAGA (1968) affects. Furthermore, the findings for race/ethnicity are perhaps the result of conflating minorities into one category, which was done due to a lack of participants for most minority races/ethnicities. Similarly, this lack of participants created a gender gap in which women greatly outnumbered men. Finally, questions about previous experience may not have steered the participants with experience to indicate they would donate more often. Adequately assessing foot-in-the-door phenomenon generally requires two versions of the study to determine if a particular variable affects the responses.

Future Directions

To minimize the scope of the project, questions gauging effectiveness of alternative programs and the current altruistic system at procuring donors were not included. Further study will be done to compare these sentiments to the variables gauging personal likelihood of use. More participants will be gathered to minimize statistical insignificance and to provide more statistical power in hopes that null results will not be repeated. Furthermore, garnering more participants will even out the gender gap and perhaps allow for separate examination of minorities rather than a conflation into one category. Separate versions of the survey will be created, in which questions gauging previous experience with organ donation will either remain or be removed. As such, the effects of the foot-in-the-door-phenomenon can truly be assessed by comparing the two surveys' responses.

Conclusions

Despite general limitations, this study contributes to the research in its unique regional scope and design. Furthermore, this study reported basic null effects for gender and mostly null effects for race/ethnicity and previous experience. Its most surprising results were that of the effect of prior registration as a post-mortem donor on likelihood of donation, in that having been registered increased the likelihood. It was also surprising in that gender and previous experience (along with registration status), when entered into factorial designs, differ at specific levels. With further study into donor registration status and the foot-in-the-door phenomenon in regards to previous experience, one might be able to find an avenue to best approach policy change. Therefore, those who have already considered the organ donation process may be able to be targeted in political campaigns as a voice for social change. It is important to note that one must not look too far ahead, as research has yet to be done in those areas with more reliable measures resulting in higher approval ratings for alternatives.

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References

- Boulware, L.E., Troll, M.U., Wang, N.Y., & Powe, N.R. (2006). Public attitudes towards incentives for organ donation: A national study of different racial/ethnic and income groups. *American Journal of Transplantation*, 6, 2774-2785.
- Boyd, S.G. (2003). Comment: Considering a market in human organs. *North Carolina Journal of Law and Technology*, 4(2), 417-474.
- Bresnahan, M., Lee, S.Y., Smith, S.W., Shearman, S., & Yoo, J.H. Reservations of the spirit: The development of a culturally sensitive spiritual beliefs scale about organ donation. *Health Communication*, 21(1), 45-54.

- Bresnahan, M., Lee, S.Y., Smith, S.W., Shearman, S., Nebashi, R., Park, C.Y., & Yoo, J.H. A theory of planned behavior study of college students' intention to register as organ donors in Japan, Korea, and the United States. *Health Communication*, 21(3), 201-211.
- Bryce, C.L., Siminoff, L.A., Ubel, P.A., Nathan, H., Caplan, A., & Arnold, R.M. (2005). Do incentives matter? Providing benefits to families of organ donors. *American Journal of Transplantation*, 5, 2999-3008.
- Cantarovich, F., Heguilén, R., Filho, M.A., Duro-Garcia, V., & Fitzgerald, R., et al. (2007). An international opinion poll of well-educated people regarding awareness and feelings about organ donation for transplantation. *Transplant International*, 20, 512-518.
- Carducci, B.J., & Deuser, P.S. (1984). The Foot-in-the-donor technique: Initial request and organ donation. *Basic and Applied Social Psychology*, 5(1), 75-81.
- Data (April 2010). United Network for Organ Sharing. Retrieved from <http://unos.org>
- Decker, O., Winter, M., Brähler, E., & Beutel, M. (2008). Between commodification and altruism: Gender imbalance and attitudes towards organ donation. A representative survey of the German community. *Journal of Gender Studies*, 17(3), 251-255.
- Goodwin, M. (2006). *Black markets: the supply and demand of body parts*. Cambridge, NY: Cambridge University Press.
- History of organ and tissue donation. California Transplant Donor Network. Retrieved from <http://www.ctdn.org>
- Lam, W.A., McCullough, L.B. (2000). Influence of religious and spiritual values on the willingness of Chinese-Americans to donate organs for transplantation. *Clinical Transplantation*, 14, 449-456.
- Mayrhofer-Reinhartshuber, D., Fitzgerald, A., Benetka, G., & Fitzgerald, R. (2006). Effects of financial incentives on the intention to consent to organ donation: A questionnaire survey. *Transplantation Proceedings*, 38, 2756-2760.
- Morgan, S.E., Harrison, T.R., Afifi, W.A., Long, S.D., & Stephenson, M.T. (2008). In their own words: the reasons why people will (not) sign an organ donor card. *Health Communication*, 23, 23-33.
- National data (May 2010). Organ Procurement and Transplantation Network/Scientific Registry of Transplant Recipients. Retrieved from <http://optn.transplant.hrsa.gov>
- Revised Uniform Anatomical Gift Act (2006). Retrieved from <http://www.anatomicalgiftact.org>
- Scheper-Hughes, N. (2003). Rotten trade: millennial capitalism, human values and global justice in organs trafficking. *Journal of Human Rights*, 2(2), 197-227.
- Schweda, M. & Schicktan, S. (2009). Public ideas and values concerning the commercialization of organ donation in four European countries. *Social Science & Medicine*, 68, 1129-1136.
- Siegel, J.T., Alvaro, E.M., Lac, A., & Crano, W.D. (2008). Intentions of becoming a living organ donor among hispanics: A theory-based approach exploring dif-

ferences between living and nonliving donation. *Journal of Health Communication*, 30, 80-99.

Stephenson, M.T., Morgan, S.E., Roberts-Perez, S.D., Harrison, T., Afifi, W., & Long, S.D. (2008). The role of religiosity, religious norms, subjective norms, and bodily integrity in signing an organ donor card. *Health Communication*, 23, 436-447.

Uniform Anatomical Gift Act (1968). Retrieved from <http://www.anatomical-giftact.org>