MANKIND QUARTERLY 2020 61:14 79-89

Racial and Ethnic Differences in Altruism Assessed by Organ Donation

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It has been proposed that many behavioral differences between racial groups can be conceptualized as differences in altruism such that this is high in whites, intermediate in Hispanics, and low in blacks (Lynn, 2002, 2019). The present investigation examines whether evidence from race differences in organ donations, mainly in the United States, supports or refutes this theory. The conclusion is that race differences in living donation support the theory. Differences in expressed willingness to donate post mortem, as well as in actual post mortem donations, are also compatible with the theory but provide only weak evidence because they permit alternative explanations.
Key Words: Altruism; Race; Ethnicity; Kidney transplantation

Background

This study provides evidence testing a previously proposed theory that there is a psychopathic-altruistic continuously distributed personality dimension, and that there are racial differences in this such that Australian Aborigines are the most psychopathic and least altruistic followed successively by sub-Saharan Africans and Native Americans, New Zealand Maori, Hispanics and South Asians, Europeans and North East Asians (Lynn, 2002, 2019). This theory is based on studies of racial differences in (1) self-assessment of psychopathic personality with the MMPI (Minnesota Multiphasic Personality Inventory); (2) behavioral expressions of psychopathic personality such as crime, conduct disorder in children, cheating in sport, sexual promiscuity, pathological gambling, inability to delay gratification, drug abuse and child neglect; and (3) altruism defined as behavior that improves the welfare of another individual or individuals without improving or even reducing the welfare of the altruist and expressed in charitable

giving and organ donation. These racial differences have been confirmed by studies in Australia, Britain and the United States of blood donation as an expression of altruism that showed whites have a higher donation rate than blacks, with Hispanics intermediate in the United States. The present paper presents further evidence for racial differences in altruism assessed by studies of organ donation.

Organ donation began in the United States in 1954 and has become widely used to replace defective kidneys, hearts, livers, lungs and pancreases. Kidneys are the most frequently transplanted organ. They are either donated by the living or are obtained post mortem, authorized by advance directive from the deceased and with the consent of relatives. Hearts, livers, lungs and pancreases are generally obtained after death. Organ donation is an act of altruism in so far as it improves the welfare of another individual without improving or even reducing the welfare of the donor. It has been shown by Yeung, Kong and Lee (2000) and by Morgan and Miller (2002) that those who are willing to donate organs are highly altruistic.

Many studies have reported that blacks in the United States donate organs less than do whites. Reitz & Callender (1993) note that “Since the beginning of organ transplantation in the United States in 1954 the lack of donated organs has been significantly more pronounced in the African-American population.” In a review of other studies, they give the reasons for the unwillingness by African Americans to donate as distrust of the medical profession, superstition, religion, cost, fear of contracting infection, fear of pain, and lack of awareness that donation was possible. Creecy and Wright (1990) report similar reasons and add that significant numbers of blacks believe that organ donation only helps whites.

Callender (1989) and Callender et al. (1991) reported a low rate of organ donors among blacks who were fewer than 10 percent of organ donors while 50 percent of those needing a transplanted organ. They investigated the reasons for the low rate of organ donors among blacks and found that they stated that they did not donate organs because of (*a*) lack of awareness about transplantation; (*b*) religious myths, misperceptions and superstitions; (*c*) distrust of the medical profession; (*d*) fear of premature death if they donated; and (*e*) racism, i.e. the desire that their organ would be given preferentially to other African Americans. Subsequent studies have reported that blacks are two to three times more likely to decline organ donation, compared with white Americans, and that hypotheses to explain this discrepancy include blacks' distrust of the medical system (Hartwig et al., 1993; Siminoff & Arnold, 1999; Siminoff & Sturm, 2000). A review of kidney transplantation for black Americans showed that black patients make up 37 percent of the patients undergoing dialysis but receive only 25 percent of

cadaveric kidneys and 14 percent of kidneys from living donors; the average wait for a transplant is 1185 days for blacks and 605 days for whites (Young & Gaston, 2000). Davis and Randhawa (2006) have reported that blacks in Britain are less willing to donate organs than are whites and give the same reasons as American blacks.

Results

Studies of race differences in willingness to donate organs in the event of death are summarized in Table 1. Row 1 gives percentages stating that they were likely or very likely to donate their own organs after death obtained in a 1987 Gallup poll on a sample of 1055. Row 2 gives results of a study in New York, Los Angeles and Miami of percentages of refusal to donate organs after death for blacks (41%), Hispanics (42%) and whites (19%). From these results it is inferred that the percentages willing to donate organs would be blacks 59%, Hispanics 58%, and whites 81%.

Table 1. *Race differences in willingness to donate organs (percentages, except row 14 which is relative to whites = 1.0) and actual organ donations (rows 15-16).*

	Asians	Blacks	Hispanics	Whites	Reference
1	-	30	48	49	Perez et al., 1988
2	-	59	58	81	Perez et al., 1988
3	39.6	36.6	45.3	59.2	Rubens, 1996
4	54.5	-	-	-	Joun et al., 1997
5	-	23	31	43	McNamara et al., 1999
6	45.9	-	-	-	Lam & McCullough, 2000
7	-	10	-	38	Minniefield et al., 2001
8	-	24	-	39	Spigner et al., 2002
9	51.3	-	-	-	Pham & Spigner, 2004
10	-	30.3	51.4	77.3	Verble et al., 2002
11	-	-	38.3	-	Siegel et al., 2005
12	0.34	0.42	0.40	1.0	Thornton et al., 2006
13	-	35	-	67	Cort & Cort, 2008
14	-	-	31	-	Salim et al., 2010
15	-	8.85	-	9.20	Bloembergen et al., 1996
16	18.5	32.9	32.2	33.9	Callender et al., 2002

Row 3 gives percentages endorsing the question “I am willing to donate my organs or tissues at the time of my death” in a 1994 study of 683 college students

and shows the percentage significantly lower in blacks than in whites, with Asians and Hispanics intermediate. It was also found in this study that there was little difference between the races in knowledge of organ transplantation; the question "I am knowledgeable about organ procurement and about organ procurement system" was endorsed by 36.6% of blacks, 37.5% of Hispanics, 41.7% of Asians, and 39.0% of whites. Row 4 gives results from a study of Koreans in New York showing a high percentage of willing organ donors. Row 5 gives results from a study of over 6,000 telephone interviews reporting that 43% of whites, but only 31% of Hispanics and 23% of blacks were willing to donate their organs after death.

Row 6 gives results from a survey of 122 Chinese–Americans reporting that 45.9% of respondents would donate their organs to strangers, 84.4% would donate to a distant relative, 95.9% would donate to a close relative. Row 7 gives results from a survey reporting that 10% of blacks (N = 249) and 38% of whites (N = 497) were willing to donate organs and that the reasons given by blacks were that they feared they would receive less medical attention and that organs might be taken from them before they died.

Row 8 gives results from a survey of high school students to the question 'I would like to become an organ donor' and shows more positive responses by whites (39%) than by blacks (24%). Row 9 gives results from a study of 278 ethnic Vietnamese in Seattle showing a high percentage (51.3%) were willing to donate organs after death. Row 10 gives results from a survey of 323 participants reporting that whites were the most willing to donate organs (77.3%) followed by Hispanics (51.4%) while blacks were the least willing (30.3%). Row 11 gives results from a survey of 603 Hispanics reporting that 38.3% stated that they would be willing to be an organ donor. Row 12 gives race differences expressed as odds ratios with the rate for whites set at 1.0 in a study at nine inner-city high schools in Seattle of 883 students who were asked whether they had signed an organ donor card. The results show that whites were more willing to donate than minorities, such that in relation to one white donor there were 0.42 black donors, 0.34 Asian donors and 0.40 Hispanic donors. This study also found that girls were significantly more willing to donate than boys. Row 13 gives results from a survey of college students again showing a much higher percentage of whites than of blacks willing to donate organs. Row 14 gives results from a telephone survey of 524 Hispanics showing that 31% expressed intent to register as donors and 69% did not intend to register.

Row 15 gives rates of kidney donation by living donors to relatives per million population during 1991-1993 and shows higher donation rates by whites (9.20) than by blacks (8.85). This study also found that women had higher rates of

donation than men among both blacks (10.0 vs 7.7) and whites (10.3 vs 8.1), indicating greater altruism in women, consistent with many studies showing that women are more altruistic and less psychopathic than men. Row 16 shows total donations per million population confirming slightly higher prevalence of white than black donors. Hispanics were similar to blacks and whites, but donor rates of Asians were much lower.

Of the published data in Table 1 only rows 15 and 16 are about actual organ donation. The others concern verbally expressed preferences or intentions to donate or to apply for an organ donor card, and they generally relate to post-mortem organ donation rather than living donation. However, it appears plausible that living donation and post-mortem donation have different psychological determinants. Unless high payment is offered, living donation is likely to require an exceptionally high level of altruistic motivation; but giving permission to use one's organs after death is a no-cost proposition that is likely to be affected by many considerations other than altruism, such as religious myths and superstitions, aesthetic concerns about disfigurement of the dead body, and virtue signaling.

Data about organ donations in the United States, separated out as living donation and post-mortem donation, are published by the Organ Procurement and Transplantation Network (optn.transplant.hrsa.gov/data/view-data-reports). According to this database, a total of 167,489 living donations and 226,209 donations of post mortem organs took place in the United States between 1988 and early 2020. 91.6% of the post-mortem organs and 95.2% of the living donations were kidney transplants. The data are broken down by race and ethnicity, as well as sex and age of the donor.

Table 2 provides data about donor organs expressed as donations per million population for the years 1990 and 2018, the first and the last year for which the US Census Office provides data about the US population broken down by race and ethnicity (https://www.census.gov/topics/population/race/data.html).[1] For post mortem donations, we see that in 1990 the donation rate was highest for whites, lowest for Asians, and intermediate for blacks and Hispanics. By 2018, however, blacks had pulled ahead of whites, Asians were still lowest, and Hispanics intermediate. Results for living donations are different. Here we see that in 1990, Hispanics had somewhat higher and blacks somewhat lower donation rates than whites, while Asians were lowest. By 2018, however, Asians

[1] Numbers of Hispanics were for 2016. These were extrapolated to 2018 by assuming the same rate of population growth for Hispanics as for the entire US population.

had pulled ahead of blacks, with non-Hispanic whites highest and Hispanics second.

Table 2. *Organ donations in the United States, absolute numbers (N) and number of donations per million population (N/10⁶) for each race/ethnicity.*

	Post mortem donations				Living donations			
	1990		2018		1990		2018	
	N	N/10⁶	N	N/10⁶	N	N/10⁶	N	N/10⁶
All	4,509	18.13	10,721	33.18	2,123	8.54	6,850	21.20
n-H White	3,705	19.69	7,007	35.84	1,621	8.62	4,808	24.59
Black	438	14.99	1,728	40.60	220	7.53	576	13.53
Hispanic	296	13.24	1,509	26.18	215	9.62	1,029	17.85
Asian	40	6.02	249	12.78	8	1.20	306	15.71

Discussion

The results of the studies in Table 1 can be summarized as follows: (1) all of the 11 studies giving data for blacks and whites show that blacks are less willing to donate organs than are whites; (2) Hispanics are intermediate between blacks and whites in three of the studies (rows 3, 5 and 10), approximately the same as blacks in three studies (rows 2, 12 and 16), and approximately the same as whites in one study (row 1); (3) the results for Asians are inconsistent. Results from studies without a comparison group suggest average or above average rates of expressed willingness to donate among Chinese (row 6), Koreans (row 4) and Vietnamese (row 9), intermediate rates among unspecified Asians (row 3), and low rates among unspecified Asians (row 12). These inconsistent results may be attributable to the diverse countries of origin of ethnic Asians in the United States, and to the high prevalence of recent immigrants from different socio-economic backgrounds and with different extents of acculturation.

One seeming inconsistency in the results presented in Table 1 is the substantial black-white gap in verbally expressed willingness to donate organs although the rate of actual donations is only marginally lower for blacks than whites (8.85/million versus 9.20/million, row 15; 32.9 versus 33.9/million, row 16). The attitude measures in Table 1 relate to post mortem donations, not living donations. They should therefore be compared only with actual post-mortem donations which, according to Table 2, are not much different between blacks and whites. While post mortem donation rates were somewhat higher for whites than for blacks in 1990, this had reversed by 2018. The rise in organ donations by blacks and other minorities can perhaps be attributed to systematic efforts at

raising transplantation awareness among US minorities, as described in Callender et al. (2002), pp. 166-168.

As a measure of altruism, living donation is far more interesting than post mortem donation because unlike post mortem donation it involves major inconvenience and risks for the donor. It is therefore not surprising that the demographic correlates of these two types of donation are different. For example, the data in the Organ Procurement and Transplantation Network show that women accounted for only 40.2% of post mortem donations but 59.5% of living donations between 1988 and 2020. If living donation requires very high altruism while other factors, which may range from better information to virtue signalling, are more important than altruism for post mortem donation, then this observation suggests that women are (on average) more altruistic than men.

One relevant fact for race differences in kidney donation is that chronic kidney failure is more common in the black than the white population of the United States. This is indicated by the fact that blacks account for about 13% of the total US population but 37% of dialysis patients (Young & Gaston, 2000). Therefore, the opportunity of donating a kidney to a close relative in renal failure will be about three times as often encountered by blacks than whites, with the expectation that donations to relatives should be substantially higher in the black than the white population. Unlike post mortem donations which generally benefit strangers, most living donor kidney transplants go to a needy relative rather than a stranger. This proportion was, for example, 77.5% in 1999 and 60.6% in 2008 (Axelrod et al., 2010). What we actually see is the opposite, with living donations consistently lower in blacks than whites over a 28-year period. This suggests less within-family altruism and perhaps also less generalized altruism.

Proximate reasons for the low willingness to donate organs of blacks and some other US minorities have been offered by many authors of the surveyed studies. As mentioned in the introduction, these reasons include lack of awareness about transplantation, distrust of the medical profession, religion and superstitions, racism, and fear of pain, infection or premature death in case of living donation. However, these explanations are question-begging and unsatisfactory. Few studies have addressed demographic, economic or other background factors. Even the usual suspects of education, income and intelligence have been neglected by most researchers. An exception is the Morgan & Miller (2002) survey of 790 corporate employees in the southern United States, which found that higher education is associated with greater willingness to donate. In this study, 31% of those with a high school degree but 48% of those with a college degree reported having signed up as organ donor. Similarly, Salim et al. (2010) found in their survey of 524 Hispanic respondents in Los Angeles

that 40% of those who intended to sign up as organ donor but 52% of those who did not had only a high school degree or less. There was no effect of income on intention to be an organ donor. This raises the possibility that black-white differences in education and its cognitive correlates, such as intelligence or general knowledge, can explain part of the difference in expressed willingness to donate organs after death. Better impression management or "virtue signalling" is one mechanism that can potentially explain why more educated racial and ethnic groups are more likely to verbally express a willingness to donate.

Actual living donation is a far more credible indicator of altruistic motivation than the stated intention to donate after death or possession of an organ donor card. Stothers, Gourlay and Liu (2005) found that a somewhat higher proportion of non-donors than donors (68.8% versus 58.2%) had at least a college education. Although this should be considered very weak evidence due to possible biases in the recruitment of donors and non-donors, the result does not support the view that higher education makes people more likely to donate a kidney or some other organ while alive. Therefore lower rates of living donation by blacks than whites cannot easily be explained as a consequence of differences in education or its correlates such as wealth, income or intelligence.

Interpretation of the results for Hispanics and Asians is complicated by the high proportions of recent immigrants in these groups and their different degrees of acculturation. Immigrants from countries in which organ transplantations are or were not routinely performed are not expected to be familiar with the procedure, and therefore are not likely to approve of it or to become donors. Low rates of post mortem donations by these groups can tentatively be attributed to lack of knowledge or familiarity with the procedure, or to difficulty incorporating it into traditional cultural value systems. The observation that these groups do not have similarly low levels of living donations shows that their low rates of post-mortem donations should not be interpreted as lack of altruistic motivation.

This investigation was done to test the theory of Lynn (2002, 2019) that some behavioral race differences can best be conceptualized as differences on a prosocial – antisocial continuum. Taken as a whole, the results on organ donation reported here support this hypothesis. Especially the observation that living donations are less frequent in the black than the white population of the United States although the most common reason for transplantation, end-stage renal disease, is more frequent in blacks than in whites, is evidence in favor of the theory. This adds to evidence from blood donation and diverse social behaviors and pathologies to make differences in altruism or prosociality a parsimonious explanation for race differences in a whole range of behavioral outcomes.

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