

Racial and Ethnic Differences in Altruism Assessed by Blood Donation

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Blood donation is considered a prototypically altruistic act. This paper reviews the results of studies comparing blood donation rates among different ethnic and racial groups as a possible indication for differences in the level of dispositional altruism. The results show that whites have the highest donation rates and blacks have lower rates. This suggests that whites are more altruistic than blacks, although other interpretations of the observed results are possible.

Key Words: Altruism; Race; Blood donation

It has been proposed that psychopathic personality and altruistic personality are opposite poles of a psychopathic-altruistic continuously distributed personality dimension (Lynn, 2002, 2019). The theoretical rationale for positing this dimension is that psychopaths are selfish and have little or no concern for the welfare of others, whereas altruists have concern for others without expecting to receive rewards (Swank, Robinson & Ohrt, 2012). The existence of this dimension is supported by the significant negative correlation of altruism with primary psychopathy at $-.56$ and with secondary psychopathy at $-.33$ (White, 2014).

It has been further proposed that there are racial differences in this trait 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, while Europeans and North East Asians are the least psychopathic and most altruistic (Lynn, 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) behavioral expressions of altruism in the form of charitable giving and organ donation. It has been shown by Yeung, Kong and Lee (2000) and Morgan and Miller (2002) that those who are willing to donate organs are altruistic.

The present paper presents further evidence for racial differences in altruism from studies of blood donation. The classical study of blood donation as altruism was advanced by Richard Titmuss (1970) in his book *The Gift Relationship: From Human Blood to Social Policy*. Donating blood is an act of altruism in that it increases the welfare of other individuals without increasing the welfare of the donor. Furthermore, donating blood entails costs. Pierma and Merz (2019, p. 1894) have written that “Donating blood is a costly endeavor. Donating requires individual resources, e.g., knowledge, health, and time, and can involve medical risks, such as fainting or bruises”.

It has frequently been reported that blood donors are primarily motivated by altruism. For instance, Oswalt (1977) reviewed studies of blood donor motivation and reported that “The altruism/humanitarian motivation is given most often as the reason for donation.” Royse & Doochin (1995) have written that blood donation is “a classic example” of altruism. Huis, de Kort and Merz (2019) in a study of the motivation of blood donors in the 28 countries of the European Union have written that “Helping family or people in need were the most powerful motivators for blood donation willingness in almost all countries.” Ferguson et al. (2018) have written that “Blood donation is a prosocial altruistic act that is motivated by the mechanisms that underlie altruism e.g. warm-glow, reciprocity, fairness/trust.”

It has been shown that blood donors have an altruistic personality. In a study of blood donors in Germany, Studte et al. (2019, p. 1002) found that “There are significant differences between blood donors and non-donors in their engagement in pro-social behaviors. Blood donors (vs. non-donors) are more likely to engage in other pro-social behavior forms, namely, donating money, volunteering, and participating in citizens' initiatives. If people start donating blood, they also are more likely to act in other pro-social ways, namely, donating money and volunteering. If people stop donating blood, they also are more likely to stop other forms of pro-social behavior, namely, volunteering and participating in citizens' initiatives”.

It has been argued by Wilson (2019) that in humans there is a genetically based capacity for altruism — something like an “altruism gene” — that is responsible for “eusocial behavior”, i.e. altruistic behavior. He argues that other species that have evolved an “altruism gene” are alphaeid shrimps, vespid wasps, bark beetles, naked mole rats, ants, termites, sphecid wasps, allodapine bees,

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augochlorine bees, thrips and aphids. Wilson's (2019) theory is supported by Pedersen et al. (2015), who have shown in a study of twins in Denmark that blood donation is significantly determined genetically. Casewise concordance rates were 0.61 in monozygotic and 0.41 in dizygotic twin pairs, with an estimated additive heritability in the ACE model of 53% (95% confidence interval: 33-73%). The authors proposed that this genetic variance is due to individual variation in the genetic determinants of dispositional altruism.

The implication that the altruistic personality has a significant heritability is consistent with studies showing that its opposite, the psychopathic personality, has a significant heritability given by Mason and Frick (1994) as 41% as the average of eight studies and as 56% by Nigg and Goldsmith (1994) as the average three further studies. A more recent review of psychopathic traits (Dhanani et al., 2018) summarized the results of 24 heritability studies published between 1980 and 2015. It found modest to high heritabilities, with highest heritability for callous-unemotional behaviors.

Method and Results

All issues of *Transfusion*, the principal journal for studies of blood donation, were read for papers providing data on racial and ethnic differences in blood donation, and all relevant citations in these to other publications were also read. There are two kinds of studies on the percentages of donors from different racial and ethnic groups. The first gives data on the percentages of donors from different racial and ethnic groups attending centers to donate blood compared with their percentages in the population. The results of these are summarized in Table 1.

Row 1 gives the results of an Australian study of 425 African blood donors in Victoria and South Australia. These were 2.4 percent of the African population in the region. In the white population, 3.5 percent had given blood. Row 2 gives the results of an English study reporting census and National Health Service data showing that there were 2.21 donors per 100 population for whites, 1.84 donors for blacks and 1.59 for South Asians of Bangladeshi descent. Row 3 gives the results of an English study carried out by the National Health Blood and Transfusion Service (NHBTS) reporting race differences in the percentage of blood donors in England and Wales in 2019. Row 4 gives the results of an American study of volunteer donors at a number of locations in 2001 showing that 1.4 percent of Hispanic adults, 2.4% of African American adults and 4.2% of whites were donors. Row 5 gives the results of an American study carried out in 2006 at six blood centers distributed across the USA that collected over one million donations per year. The figures are the representation ratios calculated as the proportion of each race/ethnicity among all donors at each center divided by

the proportion of each race/ethnicity among the general population in counties comprising the blood centre catchment area. They show the percentage of white donors was approximately three times greater than that of Asians, blacks and Hispanics.

Table 1. *Racial and ethnic differences in blood donation as percentages of population.*

	Country	Asians	Blacks	Hisp.	Nat. Amer.	Pac Isl.	Whites	Reference
1	Australia	-	2.4	-	-	-	3.5	McQuilten et al., 2014
2	England	1.59	1.84	-	-	-	2.21	Lattimore et al., 2015
3	England	-	1	-	-	-	4	NHBTS, 2019
4	USA	-	2.4	1.4	-	-	4.2	Shaz et al., 2008
5	USA	0.4	0.6	0.5	-	-	1.7	Murphy et al., 2009
6	USA	-	0.6	0.3	-	-	1.1	Shaz et al., 2011
7	USA	-	4	4	-	-	7	US Dept Health, 2011
8	USA	1.46	1.41	1.5	1.6	1.54	1.85	Yazer, Delaney et al., 2017

Hisp., Hispanics; Nat. Amer., Native Americans; Pac. Isl., Pacific Islanders.

Row 6 gives the results of an American study carried out in Atlanta in which 1.1 percent of the white population were donors, 0.6 percent of blacks and 0.3 percent of Hispanics were donors. Row 7 gives the results of a study carried out in 2009 of a national American blood collection survey of blood donation reporting that 7 percent of the white population and 4 percent of blacks and Hispanics were donors in the previous year. Row 8 gives the results of an American study carried out from 2006 through 2015 from eight US blood collectors. Native American include Alaska Natives and Pacific Islanders include Native Hawaiians.

All of these studies show that blacks have lower rates of blood donation than whites. These results have been confirmed by some further reports of the low rates of blood donation by blacks. In the United States, Royse and Doochin (1995) reported a study in a region of Kentucky where the population was 95 percent

white and 5 percent black, and 99 percent of multi-gallon blood donors were white and 1 percent were black. Also in the United States, Ballen et al. (2002) reported data from five blood donation centers showing that the ratio of Hispanics and blacks to whites among donors was 0.3 : 1.0. In France, Grassineau et al. (2007) reported that there are approximately 70,000 black immigrants from the Comoros Islands in Marseilles and that there is a “low incidence of this phenotype in our regular donor pool (i.e., 2.98%)” and “analysis of sociodemographic data at the blood bank showed that only few Comorian immigrants living in Marseilles were regular blood donors.” In Canada, Tran, Charbonneau and Valderrama-Benitez (2013) have carried out a study of blood donation in Montreal's black communities. They write that “Black donors are under-represented in donor pools.” In Israel, Merav and Lena (2011) have reported that Ethiopians have a more negative attitude towards blood donation than native Israelis. In a study of blood donation in the 27 countries of the European Union, de Kort and Wagenmans (2011) write that “available data suggest that migrants tend not to be a blood donor in their new country. For example, in the Netherlands, the percentage of the blood donors who are so-called ‘originally non-Dutch citizens’ is less than a tenth of the percentage of the general population.”

The second source of data on racial and ethnic differences in blood donation comes from surveys of the general population who report having been blood donors. The results of these are given in Table 2.

Table 2. *Racial and ethnic differences in blood donation reported in general population studies (percentages).*

	Country	Immigrants	Blacks	Hispanics	Whites	Reference
1	Australia	-	25	-	-	Francis et al., 2017
2	Germany	11.5	-	-	21.1	Boenigk et al., 2015
3	USA	-	53	-	76	Boulware et al., 2002
4	USA	-	29	24	41	Gillum et al., 2008

Row 1 gives the results of a survey of 454 Africans in Australia of whom a quarter reported that they had previously donated blood. Row 2 gives the results of a survey of 11,009 individuals aged 18 to 68 in Germany in which they were asked whether they had donated blood in the last ten years. The percentages who made this claim are substantially higher than the 4.3 percent of the population who have donated blood given by Ritter, Hamouda and Offergeld (2012). Row 3 gives the results of a telephone survey of 385 individuals aged 18 to 75 in the United States in which they were asked whether they had ever

donated blood and show that more whites than blacks claimed to have donated blood. Further data on this study are given by Boulware et al. (2002b). Row 4 gives the results of a study from the United States of the National Survey of Family Growth, a national survey carried out in 2002 of 4,923 men and 7,600 women aged 15-44 years that asked respondents whether they had ever donated blood and show that more whites than blacks and Hispanics claimed to have donated blood.

Discussion

There are five points of interest in the study. First, although it is widely accepted that blood donation is an act of altruism and that blacks donate blood less than whites, it is believed that the present study is the first to suggest that the explanation for this may be that blacks are less altruistic than whites. This explanation is supported by the review of the studies of racial and ethnic differences in blood donation in Australia, England and the United States summarized in Table 1 that all show that blacks donate blood less than whites and therefore supports the theory advanced in Lynn (2019) that altruism is weaker in blacks than in whites and conversely that altruism is stronger in whites than in blacks.

Second, the thesis that altruism is stronger in whites than in blacks is supported by a review of studies of the reasons for donating blood by Klinkenberg et al. (2018). They wrote: "We identified different determinants relating to altruistic motivation, such as 'helping to save a life' and 'it is the right thing to do' ... compared with Whites, SSAs (sub-Saharan Africans) less frequently reported donating because 'it was the right thing to do' (SSA 77.01%, White 81.80%; $p < .001$)." Similar results were reported by Shaz et al. (2009): sub-Saharan Africans 45.2%, whites 62.0% ($p < .001$).

Third, the data summarized in Table 1 for Asians, Hispanics, Native Americans and Pacific Islanders are too inconsistent and limited to draw any conclusions except that they donate less than whites.

Fourth, several studies have reported that blacks prefer to donate within their own community and preferably to family members and close acquaintances. This has been reported in the United States by Arriola, Perryman and Doldren (2005), Arriola et al. (2007), Mathew et al. (2007) and Shaz et al. (2009). This has also been reported in France by Grassineau et al. (2007) and in Canada by Charbonneau and Tran (2013) and Tran, Charbonneau and Valderrama-Benitez (2013). These studies suggest that blacks are less altruistic than whites in that their willingness to donate is confined to kin and other blacks whereas whites are more willing to donate to unknown recipients. This has been confirmed in a study

LYNN, R. *RACIAL AND ETHNIC DIFFERENCES ASSESSED BY BLOOD DONATION* by Amponsah-Afuwape, Myers and Newman (2002) in Britain reporting that blacks scored higher than Asians and whites on ethnic group identification (EGI) and in-group altruism (IGA) and that these were negatively related with the intention to donate blood (EGI: $r = -.27, p < .01$; IGA: $r = -.22, p < .01$). The greater in-group altruism of blacks is further confirmed by studies reporting that blacks are under-represented among organ donors and that one reason for this is that they prefer to give only to other blacks (Callender, 1989) and by studies reporting that blacks are under-represented among bone marrow donors showing that whites have the highest rates and blacks have the lowest rates (Laver et al., 2001; Yancey, Coppo & Kawanishi, 1997).

In interpreting these results, we must remember that the studies were done in Western countries in which blacks are a minority and whites are the majority. It is not clear whether higher in-group identification and in-group altruism of blacks compared to whites is specific to being black or is instead a function of being a minority. It would be interesting to perform studies of these traits in countries such as South Africa in which blacks are the majority and whites are a minority. Another limitation is that many of the surveyed studies did not control for obvious covariates such as education, income, intelligence, or other indicators and correlates of socio-economic status, although both Gillum, Eder and McLaurin-Jones (2008) and Boulware et al. (2002) reported that differences between racial and ethnic groups in the US were still evident after controls for sociodemographic variables. Also in the Murphy et al. (2009) study, racial/ethnic differences persisted after a crude control for educational level. It is therefore not always clear whether blacks differ in blood donation rate or in-group identification and altruism from whites matched on socio-economic status.

Fifth, the studies of racial and ethnic differences in those who claim to have been blood donors obtained in general population surveys summarized in Table 2 show much higher percentages than those who actually have donated blood summarized in Table 1. The very high percentages making this claim throw doubt on the validity of the results. These studies ask people whether they have ever donated blood or donated blood during a specified time period, but there is no way of verifying whether their claims are true. It is impossible to avoid the conclusion that most of these claims are not true. Studies of this kind are distorted by social desirability effects in which many people give untrue answers to present themselves in a good light.

The principal interest of the studies summarized in Table 2 is that more whites than blacks make false claims to have donated blood suggesting that more whites are concerned to present themselves as altruistic. Although this can be interpreted as providing further evidence for the higher altruism of whites, an

alternative explanation is that whites are not more altruistic than other races but are more concerned about their altruistic reputation. It has been claimed that as an adaptation for cooperation with non-kin, the importance of reputation has traditionally been high in Europeans (MacDonald, 2019). This raises the possibility that a larger proportion of actual blood donations by whites are motivated not by altruism, but by the desire to appear altruistic: a case of “costly signaling” (McAndrew, 2002) applied deliberately and opportunistically. Thus we need to be skeptical not only about the altruistic motivations stated by survey respondents of any race, but about the altruistic motivations behind actual blood donations. We can even interpret the results as showing that whites are not more altruistic than other races, but more deceitful. Only in-depth studies separating true altruistic motivations from impression management and virtue signaling can attempt to determine which of these alternative interpretations is to be preferred.

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