

Mieczysław Radochoński<sup>1</sup>, Anna Radochońska<sup>2</sup>

## **Attitudes of the Polish university students toward voluntary blood donation**

<sup>1</sup> From Department of Psychology UR

<sup>2</sup> From Department of Comparative Anatomy of Vertebrates and Anthropology UR

*Objective: Assessment of the attitudes of young adults toward giving the blood voluntarily in situation of the observed decline in blood donation in Poland.*

*Design: A quantitative survey using personal interviews based on a questionnaire conducted in university lecture rooms.*

*Participants: For the quantitative survey a representative sample of 306 non-donor Polish university students were selected by multistage sampling.*

*Main results: Only 19,0% of participants definitely considered voluntary blood donation, while 37,9% not decided yet or never thought about it. A significant correlation, both positive and negative, was found between an intention to give blood and personal norms (religious, moral and social). Students representing low and high level of intention distinctly differ in motives toward blood donation: social or individual.*

*Conclusion: There is a urgent need for further research on the attitudes of young adults toward voluntary blood donation that contribute to better understanding of recent decline in blood donation in Poland.*

*Key words: voluntary blood donation, attitudes, role of personal norms.*

### ***Postawy polskich studentów wobec honorowego oddawania krwi***

*Cel badań: ocena postaw osób w wieku wczesnej dorosłości wobec honorowego oddawania krwi w sytuacji obserwowanego spadku donacji w Polsce.*

*Metoda: pomiar ilościowy oparty na kwestionariuszu zastosowanym na terenie uczelni.*

*Uczestnicy: reprezentatywna próba 306 studentów rzeszowskich szkół wyższych, którzy nigdy honorowo nie oddawali krwi.*

*Ważniejsze wyniki: Tylko 19,0% badanych zdecydowanie potwierdziło intencję honorowego oddania krwi, podczas gdy łącznie 37,9% okazało brak zdecydowania lub nigdy o tym nie myślało. Stwierdzono istnienie znaczącej, zarówno dodatniej, jak i ujemnej, korelacji pomiędzy intencją oddania krwi a normami osobistymi, zarówno religijnymi, moralnymi, jak i społecznymi. W zależności od wykazywanego poziomu intencji, studenci różnią się pod względem motywów leżących u podstaw oddawania krwi, indywidualnych bądź społecznych.*

*Wniosek: Istnieje pilna potrzeba prowadzenia dalszych badań nad postawami osób w okresie wczesnej dorosłości wobec honorowego oddawania krwi, które przyczyniłyby się do lepszego zrozumienia zjawiska spadku donacji w Polsce.*

*Słowa kluczowe: honorowe oddawanie krwi, postawy, rola norm osobistych.*

## INTRODUCTION

It is estimated that in Europe almost 20 million whole-blood donations are made annually, and that between 13 and 15 million Europeans are whole-blood donors [1]. From international perspective there is a continuous need for new blood donors because of increasing demand for donor blood, whereas recently the supply of blood is declining. At present, blood donations are obtained from less than 10 percent of the population able to donate [2]. Declining number of blood donors have some evident reasons. For instance, part of them withdraw because of age or health related limitations, but in many cases, their reasons are unknown.

In Poland each year almost one million blood units are collected from donors. For instance, in year 2005 this figure has reached 960,780 units [3]. Nevertheless, many more millions still need to be collected in order to meet the nationwide demand and ensure sufficient and timely provision of blood to the medical institutions. The blood is collected in 22 regional centers and in 186 local branches. In 2005 total 571,051 blood donors were registered in Poland, including 569,206 volunteers. The practice shows that the safest donors are found among people who donate their blood voluntarily once or twice a year. People belonging to this group are self-aware of their suitability and represent a relatively small risk of causing health damage for blood recipients. The possibility of catching a blood transmitted disease, like for instance hepatitis, is much higher among paid donors [4]. This might be accounted for by the fact that a persons in need for money are more likely to conceal their true state of health, and monetary remuneration, which is often offered as a donor motivating means, might be highly appealing for people who live in desperate situation [5]. This is why WHO is encouraging its member states to establish national blood collecting agencies that would operate on the basis of voluntary, non-remunerable blood donation [6]. The donation index in Poland equals 25,38 blood donations for 1000 population and belongs to the lowest in Europe. For instance, in Germany it is 63,69; France – 41,50; UK – 39,68 and Spain – 38,05. In order to meet nationwide demand in Poland this index should be raised up to 32,0 at least.

Most developed countries have well functioning systems of non-paid blood donation. Some East-European countries unfortunately have or-

ganized paid donation systems, with donors being offered compensation for blood. An analysis of blood donation systems in 17 European countries which was made in 2001 revealed that only five of them had exclusively voluntary non-remunerated donors (Finland, former Republic of Yugoslavia, Slovenia, Spain and the UK). The Czech Republic, Greece, Italy, Macedonia, Romania and Croatia reported to have voluntary non-paid donors, but all or part of them were offered some sort of compensation (small gifts or days off work); whereas in Albania, Bosnia-Herzegovina, Bulgaria and Croatia blood supplies only partly (13–50%) originate from really non-remunerated donors [7]. A short review of the literature shows that both developed and developing countries have problems with the non-paid blood donation system.

## STUDY DESIGN

Each year the Polish blood donation centers attempt to recruit new donors by means of posters, leaflets and other promotion activities. The effectiveness of specific recruitment activities has not been evaluated precisely but in recent years recruitment has had limited success, especially when blood donation is purely voluntary and non-remunerated. One reason may be that attempts to recruit new donors in Poland have not been based on an empirically proved understanding of the determinants of the decision to donate blood. This may reflect the limitations of research into the psychological determinants of non-donation among non-donors. Given the lack of scientific research into the psychological determinants of blood donation, this seems not to be unique to Poland, but comparable to other European countries. Previous research has focused mainly on why donors have donated their blood [8]. Thus there is a need to carry out research studies aimed on examination the beliefs and attitudes relevant to blood donation among non-donating individuals.

Let's start with a question: What encourages an individual to donate blood? Possible answers to this question would be helpful for blood collection agencies to determine which individuals are likely to be a new donors and enable them to make predictions of prospective donors. The factors that influence an individual's decision to give blood is a collection of an individual's specific observable characteristics such as socio-demographic factors and unobservable psychological

characteristics, such as the degree of altruism. In order to facilitate the process of transition to non-paid donation, it is essential to examine and understand donor behavior. According to some research findings, blood donation correlates with donor gender, place of birth, occupation and knowledge about donation as well as social attitudes, and health-related, structural and social-economic factors [9, 10].

The specific aim of this study was to investigate the nature of blood donation motivation among a population of young adults who were not donating blood. In addition to measuring attitudes and subjective norms directly, we also assessed behavioral beliefs that could effect attitudes and specific sources of social influence that could contribute to subjective norms. We also applied measures of personal moral norms in relation to blood donation, knowledge about blood donation, and perceived knowledge, as well as anticipated affective consequences. We assumed that an anticipated affective consequences have been found to predict intention directly, but it should be remembered that anticipated consequences are also a central aspect of the attitude construct. Also we tested the utility of anticipated affective consequences as correlates both of attitudes and intentions.

### SUBJECTS AND METHODS

*Subjects.* Participants were recruited from undergraduate students (I<sup>st</sup> to III<sup>rd</sup> years of study) of the Rzeszow University (UR) and the University of Information Technology and Management in Rzeszow (WSIZ). The students were studying such courses like pedagogy, physical education, economy and journalism. Questionnaires were distributed among the students during lectures. In an introductory part of the questionnaire it was explained that the study is concerned with blood donation and that the data would be used to facilitate development of new educational strategies for the recruitment of blood donors. Completion of the questionnaire took approxi-

mately 15 to 20 minutes, and questionnaires were returned to the experimenter directly by the subjects. Totally, 309 questionnaires were completed and returned. Only three participants were excluded from the analysis because they were already registered blood donors. This left a sample of 306 non-donors for analyses. The majority of respondents were females (57,5%; n = 176), while males constituted 42,5% (n=130). A mean age of the subjects was 20.7 years, ranging from 19 to 25 years.

*Measures.* The questionnaire used in the study consisted of the questions and statements measuring direct and indirect attitude toward blood donation. All items covered 3 basic components of attitude: cognitive, emotional and behavioral. The questions concerning the *cognitive* component were addressed to subjects' knowledge about blood donation in Poland and were assessed by means of true-false answers. They comprised such problems as requirements for donation eligibility, the procedure involved in blood donation and testing of the blood donors. To a correct answer was given 1 point, an incorrect answer – 0 points. The *emotional* component was measured by items asking subjects about feelings they anticipate in connection with the blood donation (for example: "I feel pride when donating the blood"). And the *behavioral* component was assessed with items like, for example: "Donating blood makes me feeling good for whole day" or "When I would donate blood there would be a chance of testing my blood", "Donating is not painful"). In each group of items the subject could get maximum 3 points. Additionally, the subjects were presented with several statements describing their intentions in relation to possible blood donation in the near future. An important part of the questionnaire were items related to personal moral norms of the subjects, like for instance: 1. *moral obligations* (e.g. "I feel moral obligation to give blood for other people"), 2. *social responsibility* (e.g. "I give blood because I feel responsible for others"),

TABLE 1. Subjects' intentions to become a blood donor

Form of intention	Males		Females		Total	
	N	%	N	%	N	%
Definitely considered blood donation	34	26,2	21	11,9	58	19,0
Considered blood donation once	56	43,1	74	42,1	132	43,1
Not decided yet	25	19,2	24	13,6	54	17,6
Never thought about blood donation	15	11,5	57	32,4	62	20,3
Total	130	100,0	176	100,0	306	100,0

**TABLE 2. The Pearson correlation coefficients (r) between intentions and personal norms**

Form of intention	Personal norms		
	Moral	Social	Religious
Definitely considered blood donation	0.27 <sup>2/</sup>	0.19 <sup>2/</sup>	0.35 <sup>1/</sup>
Considered blood donation once	0.11	0.36 <sup>1/</sup>	0.13
Not decided yet	0.06	0.08	0.21 <sup>2/</sup>
Never thought about blood donation	0.10	-0.04	-0.09
P values are as follows: <sup>1/</sup> p<0.01 <sup>2/</sup> p <0.05			

3. *religious obligation* (e.g. “My religious beliefs encourage me to help other people”). In the last part of the questionnaire, the participants were asked to select a motive which is the most important to them as a prospective donors.

**RESULTS**

Table 1 shows that the biggest group (43,1%) constitute students who recently were considering to give blood at least once. There is no significant difference between genders in this case. Only 19.0% of participants express a definite consideration. There are much more females (32,4%) than males (11,5%) who never were thinking about blood donation. Also males prevail among subjects who definitely considered blood donation. While taking into account all above mentioned intentions, it should be stated that gender is an important factor influencing decisions of young adults about blood donation.

Another interesting issue of this study is interdependence between intentions and personal norms presented by the subjects. Table 2 shows the Pearson correlations for determined variables.

There is a marked correlation between some of the variables considered in the study. First of all, significant correlation was found between religious norms and such intentions, like “definite consideration of blood donation” (r=0.35) and lack of decision in this matter (r=0.21). Socially influenced norms positively correlate with such intentions as “consideration of blood donation once” (r=0.36) and “definite consideration of blood donation” (r=0.19). Also significant correlation appeared between moral norms and

“definite consideration of blood donation” (r=0.27). There was a negative correlation between intention “never thought about blood donation” and personal norms of moral and social kinds.

A final step of analysis of results was comparison of attitudes presented by subjects according to their intentions. In order to assess these differences, the participants were divided into two groups: low- (116 persons) and high-intenders (190 persons). The differences between them are shown in table 3.

**TABLE 3. Differences between high- and low-intenders in their attitudes toward blood donation**

Component of attitude	High-intenders (N=190)	Low-intenders (N=116)	P value
Cognitive	2,22	1,54	0.01
Emotional	2,09	2,05	0.16
Behavioral	2,35	1,27	0.01

Table 3 shows the mean scores for two subgroups which are subject of comparison. The high-intenders scored higher in all components of their attitudes toward blood donation. Only in case of emotional component the difference is not significant. Students with higher donating intentions presented also a higher level of knowledge concerning blood donation problems. Also their specific behavioral beliefs were much more positive toward this issue. They seem to be less frightened by donating procedure. The higher level of knowledge about blood donation helps them to understand better the problem than

**TABLE 4. Motivational differences between high- and low-intenders**

Form of motives	High-intenders		Low-intenders		P values
	N	%	N	%	
Social motives (e.g. “to help the ill people”, “to accomplish a noble duty”, etc.	121	63,7	30	25,9	p<0.05
Individual motives (e.g. “family member or friend in need”, “to get a free blood test”, etc.	69	36,3	86	74,1	p<0.05

participants who have never considered giving blood for purposes of other people.

Comparison of the motives among high- and low-intenders revealed some statistically significant differences: more than half of the high-intenders (63,7%) express a prevalence of social motives (e.g. that being a donor helps the ill, or find that a giving blood is a noble duty), while in a group of low-intenders there are only 25,9% of such persons. Also significant difference, but in opposite direction, appears between two groups when we take into consideration role of the individual motives. Students belonging to the high-intender group less frequently (36,3%) are directed by this kind of motivation, while for low-intenders it is quite common (74,1%).

### DISCUSSION OF RESULTS

Effective recruitment of young adults as blood donors could offset the ongoing decline in donors, especially because this group has the potential to donate blood over coming decades. It seems that this group, especially university students, is underrepresented among donors in Poland and only few previous studies have focused on the beliefs and attitudes of this group. Better understanding of beliefs and attitudes, which are associated with blood donation motivation, is likely to enhance the effectiveness of recruitment campaigns targeting young adults, among them university students. This research distinguished between those with weaker and stronger intentions to give blood for sake of other people. Among examined students only 19,0% had considered donating seriously, but 43,1% had considered donating only once. Significant group of students (37,9%) had not considered donating at all or had not made decision yet. However, most of the participants acknowledged the value and importance of blood donation and safe blood supply.

Positive intentions concerning blood donation correlate with some basic personal norms of the subjects. First of all, a positive correlation was found between consideration of blood donation and such personal norms like religious, moral and social norms. Secondly, there was a negative correlation between lack of positive intention ("never thought about blood donation") and personal norms of moral and social kinds.

Students belonging to group of high-intenders distinctly express more positive attitudes toward blood donation than low-intenders. Also they presented a higher level of knowledge and lower

level of anxiety concerning the blood donation issues. This implies that campaigns targeting attitudes and personal norms are likely to be more effective in encouraging donation intentions than simple information provision. Attitude, as a whole, was the strong correlate of donation intentions and our analyses revealed an important role of its cognitive component.

It should be mentioned that further research should be done into the attitudes toward the donation issue among non-donor population, which would enable to identify predominant prejudices or fears that contribute to the development of negative attitudes to blood donation. This information is relevant in the development of information packages for donor recruitment campaigns as well as the formation of a positive attitude towards blood donation. Finally, some caveats concerning our study should be mentioned, because it is unclear to what extent our results can be generalized: university students may not be representative of the entire population of the Polish society.

### CONCLUSIONS

- Only a relatively small percentage (19,0%) of respondents definitely considered voluntary blood donation, while 37,9% not decided yet or never thought about it.
- Students being the high-intenders express a prevalence of social motives (63,7%), while low-intenders were directed mostly by individual kinds of motivation (74,1%).
- Better understanding of the factors contributing to attitudes and behaviors regarding participation in blood donation will be beneficial for developing effective ways to communicate its goals to the public and recruit a larger number of donors.
- Assessing differences between individuals who indicate their willingness to participate in blood donation compared to individuals who actually participate in this undertaking will be a great value.
- Future studies in this area will need to address the role that knowledge plays both in individual attitudes and in actual behavior connected with blood donation.

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Mieczysław Radochoński  
Wydział Pedagogiczny  
Uniwersytetu Rzeszowskiego  
tel. (017) 872 18 04

Praca wpłynęła do Redakcji: 9.07.2007

Zaakceptowano do druku: 1.10.2007