



# Attitudes of students at Lublin universities towards transplantation and their personal values<sup>1</sup>

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**Abstract:** *Background:* Nowadays, transplantation is the only effective method for saving human lives when organs fail. Its choice in clinical practice encounters numerous barriers along the way, related to religious, ethical, social, and moral considerations. Nowadays, there are many changes in the hierarchy of values of young adults, and it is therefore important to analyse their impact on the perception of socio-cultural processes, including transplantation. *Aim of the study:* To analyse values and their influence on attitudes towards organ transplantation among students at Lublin universities. *Material and methods:* The study was conducted using a diagnostic survey method, with a survey technique. A self-administered survey questionnaire and a standardised tool List of Personal Values (*Lista wartości osobistych, LWO*), bearing a label were used. The study involved 205 respondents studying at three universities in Lublin (Medical University, Catholic University of Lublin, Maria Curie-Skłodowska University). Statistical analyses were performed using the SPSS Statistics package. Relationships between attitudes towards transplantation and sociodemographic variables and values were analysed using Kruskal-Wallis H tests and Spearman's rho correlation coefficient. A graphical presentation of the results was made using summary tables and bar charts. *Results and conclusions:* Hierarchy of personal values has no influence on attitudes towards transplantation. Age, gender, type of university and religion are not related to students' attitudes towards the transplant procedure. There are correlations between place of residence and attitude towards religious practice and students' attitudes towards transplantation.

**Keywords:** transplantation, students, attitude

## Introduction

Transplantation therapy is still controversial in the medical community and raises numerous ethical dilemmas in various social groups. The main aspects ini-

tiating discussions on this issue are commercialisation, accessibility, depreciation of human dignity and issues of respect for patient and family autonomy. Transplan-

1 Article in polish language: Postawy studentów lubelskich uczelni wyższych wobec transplantacji i ich wartości osobiste <https://www.stowarzyszeniefidesetratio.pl/fer/2023-3Pawl.pdf>

tation medicine is governed by basic medical ethical norms as well as aspects and social phenomena such as respect for autonomy, beneficence, nonmaleficence, and justice (Kotomska, Tataj-Puzyna, Danielewicz, 2019; Rajab & Singh, 2018; Chen et al., 2020).

Today, the value hierarchy is used in pedagogy, psychology, sociology and philosophy. Its creator is the phenomenologist Max Scheler (after: Żuk, 2016). According to him, the lowest in the hierarchy are sensory values, which include pleasure and pain. Slightly higher are vital values such as power, weakness, nobility, and meanness (so-called vices and virtues). Above these are spiritual values: knowledge of truth, righteousness and lawlessness, as well as beauty and ugliness. At the highest, we see religious values, which include holiness, happiness, despair, and that which is opposed to these values (Bourke, 1994; Perz, 2020).

Nowadays, there is a shift in the hierarchy of values. Constant changes in the environment we live in, economic, political or social changes result in the disappearance of traditional values in favour of modern values that meet current human needs. It is, therefore, necessary to systematically update and study the impact of these changes on the perception of socio-cultural processes, including those relating to aspects of medicine in its broadest sense.

## **1. Own study**

### **1.1. The aim of the study**

This study aims to analyse the influence of personal values on the attitudes towards the transplantation of students from Lublin Universities.

### **1.2. Material and method**

The study was based on the diagnostic survey method, the research technique was the survey, and the research tool was the standardised survey questionnaire List of Personal Values (*Lista wartości osobistych, LWO*) in the Polish adaptation according to Zygfryd Juczyński and the author's survey questionnaire assessing the respondents' attitudes towards organ transplantation. The questionnaires were accompanied by a metric

containing basic socio-demographic data, religion, and attitude to religion, as well as place, faculty, level and year of study. Respondents were informed of the anonymity of the survey and that the data would only be used for scientific purposes. To provide a uniform representation of the respondents' attitudes towards transplantation, an overall index was constructed; it was the sum of the points awarded to the respondents for the individual answers to the questions in the author's survey questionnaire. Each question was scored on a five-point Likert Scale, where 1 represented a negative attitude towards transplantation and 5 a positive attitude. The scale constructed in this way was characterised by high reliability of  $\alpha = 0.752$ . The number of possible scores ranged from 15 to 85 points. The higher the score, the more positive the respondent's attitude towards transplantation.

The statistical package SPSS Statistics version 25 was used for statistical analyses. The level of  $\alpha < 0.05$  was considered statistically significant. Inference of the possible proportion of responses in the study population was made based on the adopted 95% confidence intervals. Relationships between attitudes towards transplantation and sociodemographic variables and values were analysed using Kruskal-Wallis H tests and Spearman's rho correlation coefficient. A graphical presentation of the results was made using summary tables and bar charts.

### **1.3. Characteristics of the surveyed group**

The study was conducted in a group of 205 students of Lublin universities such as the Medical University of Lublin, the Catholic University of Lublin, the Maria Curie-Skłodowska University, between January and March 2022 on the premises of the above-mentioned universities.

The average age of respondents was 21.8, with a standard deviation of 2.59. Half of the respondents were under 22. The youngest respondent was 18 years old, while the oldest respondent was 41. The vast majority of respondents (88.78%) were female. Every tenth respondent (11.22%) was male. More than half of the respondents (59.51%) came from the city, while about 40% (40.49%) lived in the countryside. A quantitative description of the other independent variables is provided in Figures 1., 2. and Table 1.

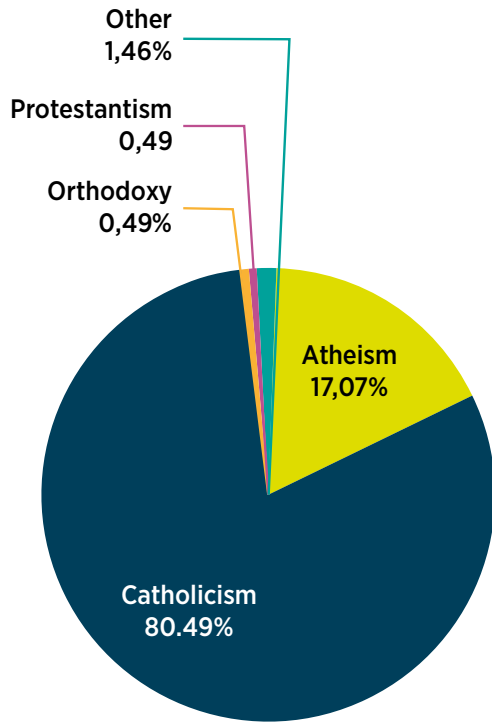


Figure 1. Religion of respondents.

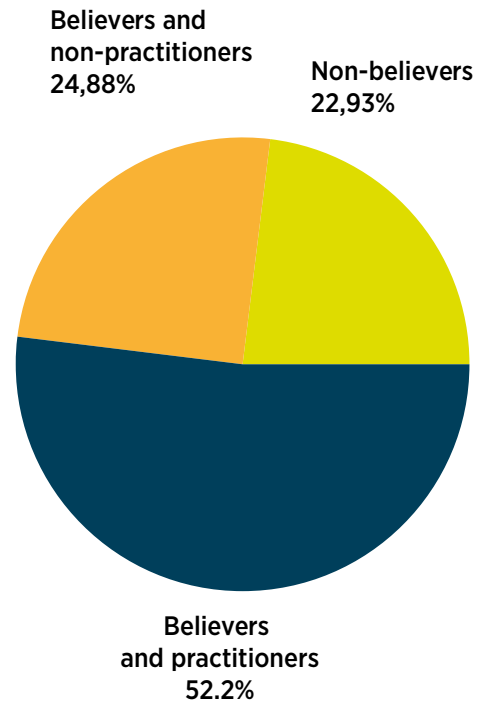


Figure 2. Respondents attitudes to the faith.

Table 1. Distribution of variables relating to respondents' place and stage of education

University of the respondents					
Medical University in Lublin	41,95%	Catholic University of Lublin	26,34%	Maria Curie-Skłodowska University	31,71%
Degree of study of respondents					
First-cycle studies (Bachelor's degree)	31,71%	Second-cycle studies (Master's degree)	22,44%	Single Master's degree	43,9%
Study year of respondents					
1st year	20,98%	2nd year	36,59%	3rd year	18,54%
4th year	8,29%	5th year	15,12%		

## 2. Results

In the first stage of compiling the data obtained, the attitudes of the respondents towards transplantation and its relationships with the independent variables and the values held by the respondents were analysed. Percentage data on the moral aspects of transplantation are presented in Table 2. Inferences on the possible proportion of responses in the study population using a 95% confidence interval are presented in Table 3.

Survey participants were also asked about their attitude towards transplantation depending on the living or deceased donor. The data obtained are presented together with the proportions of responses in the table in Table 4. Respondents rated the subjective efficacy of transplantation, which in this study was 8.49 points with a standard deviation of 1.17 and the 95% confidence interval for the mean was between 8.33 and 8.65. These analyses allow us to conclude that in the surveyed population, students rate the efficacy of transplantation quite highly (Chart 1.).

Table 2. Moral aspects of transplantation according to respondents

The variant of the answer	Conduct incompatible with ethics and/or religion (%)	Study of phenomena occurring in the human body (%)	Saving the lives of people whose bodies are unable to function without a transplant (%)	Transplantation of organs, tissues, and cells in whole or in part (%)	Non-compliant behaviour (%)	Heroic deed/action (%)
strongly agree	2,44	8,78	80,00	84,88	5,37	37,56
agree	0,98	23,41	15,61	11,71	2,93	32,68
neutral	5,37	11,71	0,98	0,49	2,44	17,56
disagree	16,59	27,32	1,46	0,98	14,15	7,80
strongly disagree	74,63	28,78	1,95	1,95	75,12	4,39

Table 3. Ranges of response proportion ratios in the study population with a 95% confidence interval

The variant of the answer	Conduct incompatible with ethics and/or religion (%)	Study of phenomena occurring in the human body (%)	Saving the lives of people whose bodies are unable to function without a transplant (%)	Transplantation of organs, tissues, and cells in whole or in part (%)	Non-compliant behaviour (%)	Heroic deed/action (%)
strongly agree	0,33 - 4,55	4,91 - 12,65	74,52 - 85,48	79,97 - 89,78	2,28 - 8,45	30,93 - 44,19
agree	0,00 - 2,32	17,62 - 29,21	10,64 - 20,58	7,31 - 16,11	0,62 - 5,23	26,26 - 39,1
disagree	11,49 - 21,68	21,22 - 33,42	0,00 - 3,11	0,00 - 2,32	9,38 - 18,92	4,13 - 11,48
strongly disagree	68,68 - 80,59	22,58 - 34,98	0,06 - 3,84	0,06 - 3,84	69,2 - 81,04	1,59 - 7,19

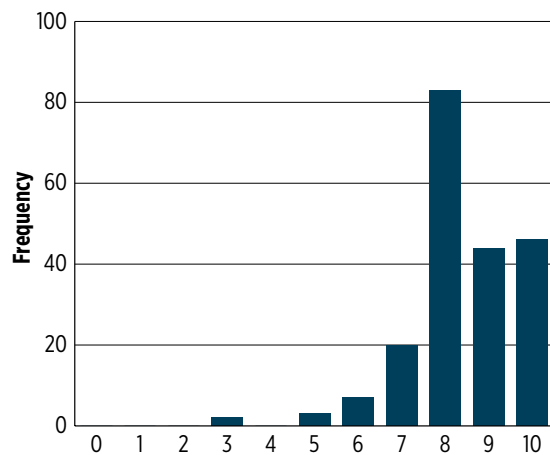


Chart 1. Effectiveness of transplantation according to respondents.

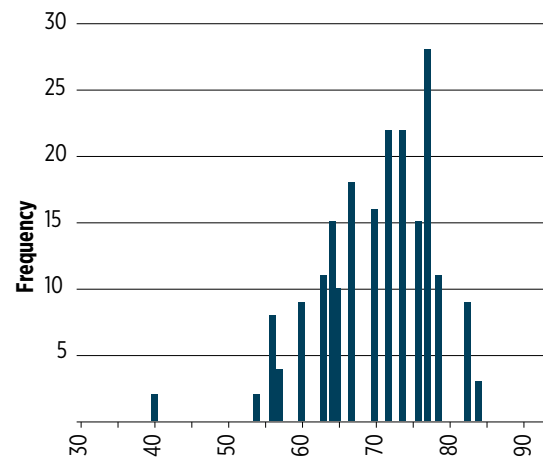


Figure 2: Respondents' attitudes towards transplantation..

Table 4. Attitudes to transplantation by living and deceased donor

Transplantation from living people				
The variant of the answer	n	%	95% confidence interval	
			Lower bound	Higher bound
strongly disapprove	4	1,95	0,06	3,85
disapprove	1	0,49	0,00	1,44
neutral/don't know	15	7,32	3,75	10,88
approve	39	19,02	13,65	24,40
strongly approve	146	71,22	65,02	77,42

Transplantation from deceased people				
The variant of the answer	n	%	95% confidence interval	
			Lower bound	Higher bound
disapprove	1	0,49	0,000	1,442
neutral/don't know	4	1,95	0,058	3,845
approve	29	14,15	9,376	18,917
strongly approve	171	83,41	78,323	88,506

The average intensity of attitude towards transplantation was 70.38 points with a standard deviation of 7.28, the 95% confidence interval indicated that the true score in the population could be between 71.38 and 70.65. Half of the respondents scored no higher than 72 points. The skewness and kurtosis coefficients (SKEW = -0.64; KURT = 0.49) did not indicate that the distribution of respondents' scores on the scale examining attitudes towards transplantation differed significantly from a normal distribution. However, the Kolmogorov-Smirnov test showed statistically significant differences between the distribution of scores obtained on the scale in question and a normal distribution, KS = 0.095; p = 0.000. Figure 2. shows the distribution of respondents overall attitudes towards organ and tissue transplantation. The analyses conducted showed no statistically significant correlations between attitudes towards transplantation and age, gender, place of education and religion. Statistically significant, weak correlations were found between the place of residence and attitude towards transplantation—higher results were obtained by respondents living in the city.

Table 5. Attitudes towards transplantation versus sociodemographic variables and attitudes towards religion

Variable	Category	Attitude towards transplantation				Kruskal-Wallis H test			
		M	SD	n	Mr	H	df	p	ε²
Sex	female	70,33	7,34	182	102,52	0,108	1	0,742	0,001
	male	70,78	6,96	23	106,83				
Place of residence	city	71,07	7,71	122	110,35	4,639	1	0,031	0,023
	village	69,37	6,52	83	92,19				
University	Medical University in Lublin	71,94	6,28	86	114,66	5,978	2	0,050	0,030
	Catholic University of Lublin	69,63	7,77	54	97,52				
	Maria Curie-Skłodowska University	68,94	7,80	65	92,13				
Religion	Catholicism	69,92	7,18	165	99,05	4,838	4	0,304	0,024
	Orthodoxy	69,00	-	1	82,50				
	Protestantism	77,00	-	1	161,50				
	Other	70,33	9,61	3	104,83				
	Atheism	72,40	7,61	35	120,37				
Attitudes to the religion	believing, practising	68,82	7,28	107	89,87	12,406	2	0,002	0,061
	believing, non-practising	71,35	6,77	51	110,48				
	non-believing	72,87	7,08	47	124,77				

Table 6. Ranks assigned to values by respondents

Values	average weight	Ranks					
		0	1	2	3	4	5
		%	%	%	%	%	%
love, friendship	4,15	2,93	2,44	6,34	9,76	21,95	56,59
good health, physical and mental fitness	3,39	13,17	4,39	4,88	12,68	37,56	27,32
sense of humour, wit	0,50	74,63	11,22	6,83	4,88	1,95	0,49
intelligence, sharpness of mind	1,88	30,73	9,27	23,90	20,98	7,32	7,80
knowledge, wisdom	1,66	37,56	11,22	18,05	18,05	10,73	4,39
happiness, satisfaction	1,42	40,49	14,63	20,00	15,61	5,85	3,41
courage, decisiveness	0,45	72,68	15,61	6,83	3,41	1,46	0,00
kindness, gentleness	1,28	48,78	15,12	9,27	13,66	12,20	0,98
pleasing external appearance, presentation	0,09	93,17	4,88	1,95	0,00	0,00	0,00
wealth and assets	0,22	85,85	10,24	1,46	1,46	0,49	0,49

Table 7. Respondents' values and attitudes towards transplantation

Values	Attitudes towards transplantation	
	rho	p
love, friendship	-0,052	0,455
good health, physical and mental fitness	-0,077	0,270
sense of humour, wit	-0,070	0,318
intelligence, sharpness of mind	0,108	0,123
knowledge, wisdom	0,088	0,212
happiness, satisfaction	0,023	0,739
courage, decisiveness	0,043	0,538
kindness, gentleness	-0,055	0,433
pleasing external appearance, presentation	-0,052	0,459
wealth and assets	0,034	0,627

The analyses conducted showed statistically significant, weak relationships between attitude to religion and attitude towards transplantation. The highest results (most positive attitude) were obtained by non-believers, followed by believers, non-practising, and the lowest results by believers, practising. Statistically significantly believers, practitioners differed in their attitudes towards transplantation from believers, non-practitioners

( $p = 0.008$ ), and non-believers ( $p = 0$ ). Statistically significantly believers and non-practitioners differed in attitudes towards transplantation from non-believers ( $p = 0.013$ ) (Table 5.)

In the next stage of compiling the collected data, the respondents' hierarchy of values was assessed; the results are presented in Table 6. The respondents valued love and friendship most highly, followed by good health, and physical and mental fitness. Intelligence, sharpness of mind, knowledge, wisdom, happiness and satisfaction, kindness, and gentleness were also important. Nice physical appearance, presentation, wealth, and possessions were rated lowest. The analyses conducted showed no statistically significant correlations between the rank attributed to the values studied and the respondents' attitudes towards transplantation (Table 7).

### 3. Discussion

Nowadays, transplantology is one of the most developing treatments for end-stage organ failure. Despite its dynamic development, there is still a shortage of organs for transplantation in Poland. The social campaigns conducted to date to promote this idea have not had a significant impact on increasing the number of donors. It is, therefore, necessary to consider the question of the

factors that are likely to influence consent for organ donation. Decision-making has several determinants, which include socio-demographic, personal, cultural, and religious factors. Identifying these makes it possible to determine attitudes towards transplantation (Lisowska, Budzińska, Ścieranka et al., 2017; Molina-Pérez et al., 2019; Alhawari et al., 2020). The present study analysed students' attitudes according to gender; age; place of residence, religion and attitude towards religious practice and the university where they study.

In Perkowska's doctoral dissertation, women (female students) were more favourable toward treatment using transplants for loved ones ( $p=0.0387$ ) than men (Perkowska, 2018). In contrast, in the study conducted, both women and men were characterised by positive attitudes towards transplantation. The reason for the absence of the above-described relationship may be the growing awareness and knowledge of organ transplantation, as well as changes in masculinity considered in cultural terms (Krupic et al., 2019).

Surveys carried out by CBOS in 2009 show that, of those aged 18 and over, around 70 % accept a transplant to save their lives while 6 % are opposed to this treatment process. Respondents aged 25-54 mostly consented to organ donation (CBOS, 2009). Our study (age range 18–41) did not show statistically significant correlations between respondents' attitudes towards organ transplantation and their age, which may be due to the different age ranges of respondents. Conclusions from the CBOS survey indicate that people aged 64 and above express an aversion to transplantation (CBOS, 2009).

In a 2013 study in Poland, researchers indicated that 80% of urban and 72% of rural respondents showed a positive attitude towards transplantation (they would agree to donate their organ to save the life of another person) (Ścisło, Partyka, Walewska et al., 2013). Our research showed statistically significant, weak correlations between the place of residence and attitudes towards transplantation. The reasons for this correlation should be found in the higher level of awareness and medical knowledge of city dwellers (O'Dell et al., 2019; El-Agroudy et al., 2019).

The results of a study taking place in Barcelona showed that 1.70% of those surveyed did not agree to become organ donors. They argued their decision with

their religion (Lomero et al., 2015). Respondents in the above study who were either Protestant or atheist showed more positive attitudes towards transplantation. Slightly lower were those who indicated a different religion, followed by Catholics and Orthodox believers. However, due to too small, disproportionate groups of respondents representing individual faiths, research should be conducted on a wider scale among a larger, more diverse group of respondents.

According to a survey conducted by CBOS in 2011, consent and opposition to organ harvesting after death depended on the attitude to the religion of the respondents: deeply religious, religious, rather non-believing and completely non-believing. The most favourable attitude appeared among completely non-believers—96% of respondents expressed their consent, while 4% were opposed. A lesser approval was observed among rather non-believers (a positive decision was taken by 87% and a negative decision by 9%, and 4% of respondents were unable to answer this question). Among believers, 85% decided in favour of organ donation after death, 7% were against and 8% found it difficult to decide. The least favourability was shown among firm believers, where 75% of respondents agreed, while 14% would not agree to donate their organs after death. In turn, 11% of deeply religious respondents marked the answer as “difficult to say” (CBOS, 2011). Analyses of our research showed statistically significant weak correlations between attitude to religion and attitude to transplantation. The highest results (most positive attitude) were obtained by non-believers; followed by believers, non-practising, and the lowest by believers, practising. The variability in attitudes according to attitude towards religion may be due to stereotypes found in the group of practising believers and the teachings of the few Church representatives denying the compatibility of transplantation with the doctrines of the Catholic religion (Alhawari et al., 2020; Ríos et al., 2020).

Among students studying at the State Higher Vocational School in Włocławek, approximately 90% show a positive attitude towards donating organs after death to save the lives of others, while such a willingness is expressed by 80% among surveyed Poles (Kamińska, Daszuta, 2019). In the study conducted, students at the Medical University of Lublin had a slightly

stronger attitude compared to students studying at the Catholic University of Lublin and the Maria Curie – Skłodowska University. However, there was no statistically significant relationship between the place of education and attitudes towards transplantation.

The results concerning the hierarchy of values in a group of junior high school students obtained by Boczkowska in 2016 from the Lubelskie Voivodeship indicate that the values indicated as important relate primarily to friends, family, and health. Low ranks were assigned to hedonistic values (Boczkowska, 2016). The study conducted indicates an analogous hierarchy of values in the student group. The junior high school students of the time are now in higher education, so there has not been a dramatic change in the values of young people over the years.

The strengths of the study were the size of the study group and the distribution of independent variables such as age, gender, age, and different place of education, while a limitation was the low diversity of the study group primarily in terms of religion.

The results obtained in this study may prove useful for developing effective tools to educate young people about organ, tissue, and cell transplantation. This tailored education could increase public awareness and thus lead to improved data on the number of transplanted organs in Poland.

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## Conclusions

1. Respondents' attitudes towards transplantation do not depend on their age.
2. The students' attitudes towards organ transplantation do not show a dependence on their gender. Both women and men show a positive attitude in this regard.
3. Respondents' attitudes towards transplantation depend on their place of residence. Students coming from the city are more favourable to a positive attitude than those coming from the countryside.
4. Respondents' attitude towards transplantation did not show significant dependencies on the type of university. However, the most positive attitude was found among respondents studying at the Medical University of Lublin.
5. Respondents' attitudes towards transplantation are significantly dependent on their attitudes towards faith. Non-believers had the most positive attitude towards transplantation; then believers, non-practitioners the least, while believers and practitioners had the least.<sup>2</sup>
6. Declared religion is not statistically significantly related to students' attitudes towards organ transplantation. With Protestants and atheists showing the most positive attitudes towards transplantation. Catholics and Orthodox believers were slightly lower.

2 The correlations obtained indicate the need to analyse the causes of this phenomenon (Quarterly Editor's note).



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