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The Attitudes of Students at the Vocational School of Health Services Towards Blood and Organ Donation

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Abstract

Students at vocational schools of health services are future healthcare professionals who can play a key role in promoting blood and organ donation (BOD) in society. This study aimed to assess students' attitudes toward BOD and examine the influence of demographic factors, donation experience, and educational backgrounds. This descriptive study was conducted with 396 students from at a university in Burdur between March 30 and May 5, 2024, using a questionnaire. Data were collected using validated attitude scales for blood and organ donation and a demographic questionnaire. Among the participants, 27.3% had donated blood, 3.3% had donated organs, and 68.7% had not received any prior education on BOD. The average attitude score was 3.41 for blood donation and 3.68 for organ donation (on a 5-point scale). No significant gender differences were found in overall blood donation attitudes. However, female students scored higher in the sub-dimensions of altruistic values, positive outlook, and religious perspective on organ donation, while males showed higher levels of fear and anxiety. Students aged 20 years and above reported more anxiety about blood donation. Those with prior donation experience or education had more positive attitudes and stronger sense of social responsibility. Students demonstrated generally positive but somewhat indecisive attitudes toward BOD. Education and personal experience were associated with more favorable attitudes toward BOD. Implementing targeted and comprehensive educational programs is essential to increase awareness and motivation, enabling students to become informed advocates in their future healthcare roles.

Keywords: Blood Donation, Organ Donation, Attitudes, Vocational Health Students.

JEL Codes: I10, I12, D64

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1. Introduction

Despite rapid advancements in medicine, blood and blood products cannot be produced in a laboratory environment, necessitating reliance on donations from healthy individuals for blood transfusions. Increasing life expectancy has led to an increase in the demand for blood and blood products in many countries. Blood and blood components can be life-saving, particularly in medical emergencies, such as severe accidents, injuries, significant post-surgical blood loss, and hematological diseases, such as hemophilia, leukemia, and aplastic anemia, as well as in cancer patients and pregnant women (Heper, 2010). Similarly, organ transplantation involves replacing a dysfunctional organ or tissue with a functional and compatible organ obtained from a living or cadaveric donor (Kavurmacı et al., 2014). Transplantation of many vital organs, including the heart, lungs, liver, kidneys, pancreas, small intestine, bone marrow, blood, skin, and cornea, is currently performed. However, one of the most critical stages of organ transplantation is the procurement of the organ (Çayırlı, 2002). In Türkiye, organ procurement for transplantation is largely met through donations from living donors, especially close relatives of the patient, whereas in developed countries, this need is primarily met by cadaveric donors (Aydın & Öztekin, 2020). According to the World Health Organization (2024), 135.860 solid-organ transplantations were performed in 2016, representing 10% or less of the global transplantation needs. According to data from the T.C. Ministry of Health (2023), 22,660 patients were awaiting organ transplants, indicating an insufficient number of donors despite the increasing organ transplant waiting list. The cadaveric organ donation rate in Türkiye is 2 per million, whereas in developed countries, this rate is 20-30 per million (Eren & Mermer, 2021).

Despite the long-standing presence of blood banks in Türkiye, blood donations remain insufficient (Kaya et al., 2007). While the voluntary blood donation rate reaches 5% of the population in developed countries, this rate is approximately 1.5% in Türkiye (WHO, 2016; TCCİB, 2024). This situation leads to many patients waiting for blood donors for treatment every day, and many individuals lose their lives because of their inability to procure blood in a timely manner (Bostancı Daştan et al., 2013). Misinformation, beliefs, and prejudices about blood donation are widespread. Some individuals are unaware of how their blood can be used to save others' lives, while some believe that blood donation jeopardizes their health, and many are unwilling to donate unless they are paid or their blood is given to a family member (Kocabaş & Eke, 2022). Similar problems have been experienced in organ donation. Organ donation efforts and practices in Türkiye are carried out in accordance with Law No. 2238 on "The Procurement, Preservation, Transplantation, and Implantation of Organs and Tissues" dated 29/05/1979 (resmigazete.gov.tr). The relevant law, for organs and tissues to be taken from a person who has reached the age of 18 and is mentally competent, a record signed by them declaring their consent in writing or verbally in the presence of at least two witnesses must be approved by a physician. For cadaveric organ procurement, brain death must have occurred, the organs must have been usable, and legal permission must have been obtained (resmigazete.gov.tr).

Blood and organ donation continues to be a highly important issue in the healthcare system in Türkiye. The number of patients awaiting organ transplantation annually in Türkiye, and the insufficient number of voluntary donors despite regular blood donation campaigns highlight the necessity of increasing efforts in this area. 22,660 patients were awaiting organ transplantation. Furthermore, while the cadaveric organ donation rate in Türkiye is 2 per million, this rate is 20–30 per million in developed countries (T.C. Ministry of Health, 2023). Previously, research has often focused on general medicine, nursing, or medical school students (Allahverdi et al., 2020; Robert et al., 2021). However, this study addresses a gap in the literature by focusing on the knowledge, beliefs, and attitudes of students at a Vocational School of Health Services.

Vocational School of Health Services students, after graduation, will undertake critical roles in the healthcare system and directly interact with patients and the general public. Therefore, awareness and positive attitudes toward blood and organ donation are of great importance. As stated by Demir et al. (2016), these students have the potential to raise awareness among those around them beyond their own donation behaviors.

Despite the critical and growing need for blood and organ donations in Türkiye, there is a significant gap between demand and supply, largely influenced by public attitudes, misinformation, and insufficient donor rates. This study aims to address this by specifically investigating the attitudes of Vocational School of Health Services students, a key demographic poised to impact future healthcare practices and public health initiatives, towards blood and organ donation. Understanding these perspectives is crucial for developing targeted educational interventions.

This study aimed to investigate the following:

1. What are the current attitudes of Vocational School of Health Services students towards blood and organ donation?
2. How do demographic factors (e.g., gender and age) and prior donation experiences influence these attitudes?
3. What is the perceived impact of education on blood and organ donation attitudes among these students?

2. Literature Review

Research consistently indicates that while university students and healthcare professionals generally hold favorable attitudes towards blood and organ donation, notable gaps persist in their knowledge, various misconceptions endure, and specific concerns remain prevalent (Sarıgöl Ordin et al., 2018; Kaur et al., 2015; Tarhan et al., 2015). Several misconceptions and motivations influence individuals' decisions regarding blood donation. Common myths include the belief that donating blood can lead to health problems such as HIV or hepatitis infections, side effects like weight loss, or even sudden death (Olaiya et al., 2004). Such misconceptions are among the primary reasons people refrain from donating blood. Additionally, many fear complications from donation, or they feel they are not physically fit to donate (Sachdev et al., 2016). These deficits are observed even among students in health-related disciplines, who, despite exhibiting more positive attitudes, still demonstrate areas for improvement (Kaur et al., 2015; Sarıgöl Ordin et al., 2018; Symvoulakis et al., 2014).

A broad study involving university students from 16 countries, including Türkiye, revealed that blood donation rates among students can sometimes surpass the general population's rates. In this study, while 28.5% of the students had a good knowledge of blood donation, only 22.7% had donated blood at least once. Interestingly, students older than 20 years showed a greater likelihood of donating blood (Alkanj et al., 2024). While university students generally possess a strong understanding of blood donation, a gap often exists between their knowledge and actual donation behavior (Bostancı Daştan et al. 2013; Wiwanitkit, 2002). This highlights the complex interplay of factors—beyond just information—that influence an individual's decision to donate blood, including demographics like gender and age.

Gender is a significant factor influencing blood donation. Özpulat (2017) noted variations in blood donation rates among university students based on gender, with a majority of Health Vocational School students expressing a willingness to donate blood, and a substantial proportion also willing to donate organs. Adıgüzel et al. (2019) reported that in a university environment, 30.4% of students and 60.1% of staff had donated blood, with males and employed staff showing higher donation rates than females and students, respectively.

A study by Kaya et al. (2007) on university students revealed that 7.5% were regular blood donors and 16.5% were occasional donors. This participation rate was considerably higher than the national average of 1.5 per thousand at the time. Similarly, Bostancı et al. (2013) found that 12% of Health Vocational School students had donated blood, again surpassing the Turkish average. While 61.5% of students in this study intended to donate blood in the future, 17.2% were medically ineligible. International studies corroborate these trends; for instance, a study by Wiwanitkit (2002) in Thailand indicated that although 80% of university students were aware of blood donation, only 11% had previously donated, suggesting that awareness alone does not guarantee donation behavior.

A comparable pattern was observed for organ donation. Kaya et al. (2015) found that only 1.5% of Atatürk University students had donated organs. Their research also highlighted that female students held a more positive perception of organ donation, whereas male students voiced concerns related to organ trafficking and religious objections more frequently. Çeliktürk Doruker et al. (2024) emphasized that gender disparities in organ donation attitudes can vary across sub-dimensions, including altruism, positive outlook, religious perspective, and fear/anxiety. Furthermore, age was correlated with donation anxiety, with older students occasionally reporting elevated anxiety levels. More detailed examinations of health sciences faculty students' organ donation knowledge and attitudes provide additional insights.

Karacan at al. (2024) reported that health sciences students possessed above-average organ donation knowledge and moderate attitudes. Their study noted that students who received organ donation education, had a family history of organ donation, or were influenced by religious leaders' explanations demonstrated enhanced knowledge and more positive attitudes. In Greece, Symvoulakis et al. (2014) discovered that only 3.6% to 8.7% of health sciences students carried donor cards. While over 78% were aware that kidney donation was possible after death, only 10%–39% felt adequately informed. Notably, nursing students (21.5%) were more inclined to consider opting out of organ donation than medical students (10.9%), underscoring the persistence of knowledge gaps and hesitations, even among future healthcare professionals. Specific knowledge deficits exist among medical students. Despite a general awareness of the irreversibility of neurological death among medical students, recent studies, including the survey by Robert et al. (2021), emphasize a knowledge gap, particularly regarding organ donation after circulatory death. This situation underscores the necessity for targeted educational interventions, which our methodology intends to evaluate among professional healthcare students.

In conclusion, despite generally positive attitudes towards blood and organ donation among university youth and healthcare professionals, significant knowledge deficits and reservations persist. Crucially, prior donation experience and thorough education have consistently been shown to positively impact social responsibility and reduce donation anxiety (Keten et al., 2025; Allahverdi et al., 2020).

Building on this existing body of knowledge, the present study seeks to further investigate these dynamics within the specific context of Health Services Vocational School students in Türkiye. The anticipated findings will contribute to the development of more effective health education programs and public health campaigns aimed at addressing these challenges.

3. Method

This descriptive research was designed to determine the attitudes of Vocational School of Health Services students towards blood and organ donation. This descriptive study, conducted between March 30 and May 5, 2024, aimed to determine the attitudes of students at Burdur blood and organ donation. The study included students from the school's active programs: First and Emergency Aid, Anesthesia, Physiotherapy, and Operating Room Services.

The population of the study consists of 660 students. The study group consisted of 396 students who voluntarily agreed to participate in the study utilizing a convenience sampling method. The survey was administered face-to-face. Before starting the study, written permission was obtained from the relevant vocational school administration and verbal informed consent was obtained from all participants. Approval for this study was obtained from the Burdur Mehmet Akif Ersoy University Non-Interventional Clinical Research Ethics Committee with the decision number GO 2022/673.

3.1. Data Collection

In this study, a survey form was used to comprehensively collect relevant data. The first two sections of the survey utilized two scales whose validity and reliability had been previously established to measure attitudes towards blood and organ donation. The details and contents of these measurement instruments are explained in detail under the "Measurement Instruments" subheading.

The survey form used in this study was divided into three sections to comprehensively collect relevant data. The first section of the survey consisted of the 24 item Blood Donation Attitude Scale, which was developed to evaluate participants' attitudes towards blood donation. The second section comprised 20 items and was the Attitude Towards Organ Donation Scale, which measured participants' attitudes toward organ donation. Finally, the third section consisted of seven questions aimed at obtaining important details regarding demographic information and donation behavior. This section includes data on participants' age, gender, specific study program, current academic year, previous blood and/or organ donation participation, and whether they had previously received formal education (seminars, conferences et al.) on blood and/or organ donation.

3.2. Measurement Instruments

The study utilized two validated scales to assess students' attitudes towards blood and organ donation, alongside a demographic questionnaire.

Blood Donation Attitude Scale: In this study, the Blood Donation Attitude Scale, a 24 item instrument validated by Çelik and Güven (2015), was used to measure students' attitudes toward blood donation. Participants responded on a 5 point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The scale measures attitudes across three dimensions: "Community and Social Responsibility" (12 items), "Anxiety" (4 items), and "Social Views and Understanding" (8 items). The scale contains no reverse-scored items, and a higher total score indicates a more positive attitude. Community and Social Responsibility, measures the individual's perception of blood donation within the framework of social responsibility values, such as civic duty, societal benefit, and helping others; a high score in this dimension reflects a strong sense of social responsibility. The second sub-dimension, Anxiety, determines the level of fear, worry, and apprehension felt regarding the blood donation process; consequently, a higher score indicates greater anxiety about the process. Finally, the Social Views and Understanding sub-dimension evaluates the general understanding, prevalent social perceptions, and common misconceptions concerning blood donation. Cronbach's alpha values of the scale were reported to be .84 for the first sub-dimension, .93, for the second sub-dimension .77 and .71 for the third sub-dimension (Çelik & Güven, 2015). In this study, the overall internal consistency of the scale was found to be .73 (Cronbach's alpha), with sub-dimension coefficients of .88, .74, and .75, respectively.

Attitude Towards Organ Donation Scale: This 20 item scale, with its validity and reliability established by Tokay Arğan (2007), assesses university students' attitudes towards organ donation. Participants responded on a 5 point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The scale consists of five sub-dimensions: "Positive Outlook" (8 items), "Altruistic Values" (5 items), "Legitimation in Religion" (2 items), "Religious Perspective" (2 items), and "Fear and Anxiety" (three items). Positive Outlook sub-dimension measures the belief and perspective toward the positive outcomes of organ donation, such as its life-saving potential, medical necessity, and success rates. The Altruistic Values sub-dimension reflects the individual's evaluation of organ donation in terms of humanitarian and moral values, such as self-sacrifice, compassion, and valuing the lives of others.

Religious Legitimacy measures the views on the general acceptability and appropriateness of organ donation within the context of Islamic beliefs and by the collective religious authority. The Religious Perspective sub-dimension evaluates the role of personal religious beliefs and teachings that influence the organ donation decision, as well as the individual's spiritual thoughts on the matter. Lastly, the Fear and Anxiety sub-dimension measures the level of worry, fear, and apprehension felt regarding potential negative outcomes of organ donation, such as medical procedures, organ theft, or disrespect for the deceased body.

The lowest possible score on this scale is 20, and the highest is 100. The scale contains 3 reverse-scored items. A higher score indicates a positive attitude towards organ donation, while a lower score points to a negative attitude. Cronbach's alpha values of the scale were reported to be .81 for the first sub-dimension, .84, for the second sub-dimension .71, third sub-dimension .88, fourth sub-dimension .77 and .45 for the fifth sub-dimension (Tokay Arğan, 2007). In this study, the scale demonstrated strong overall reliability with a Cronbach's alpha of .83, and sub-dimension reliability coefficients ranged from .61 to .84.

3.3. Data Analysis

The collected data were analyzed using the Statistical Package for Social Sciences for Windows (Version 24.0). Descriptive statistics, such as frequency, percentage, mean, and standard deviation, were used to determine the participants' demographic characteristics and the distribution of scale scores.

In this study, the Skewness and Kurtosis values of each scale sub-dimension were examined to assess whether they met the assumptions of a normal distribution. As a result of the analyses, it was determined that the Skewness and Kurtosis coefficients for the "Community and Social Responsibility" and "Altruistic Values" sub-dimensions fell outside the standard reference range of -1.96 to +1.96, indicating that they do not follow a normal distribution (Can, 2018). Accordingly, non-parametric tests (Mann-Whitney U and Kruskal-Wallis) were used to compare the data for these sub-dimensions.

Furthermore, it was determined that the other sub-dimensions of both scales did meet the normal distribution assumption, and therefore parametric tests (Independent Samples t-Test and ANOVA) were applied to analyze these dimensions.

Independent sample t-tests and ANOVA were employed to analyze the scales and their sub-dimensions used by the participants. P-values ($p<0.5$) were used to determine whether the difference between the group means was statistically significant.

4. Findings

The study cohort predominantly comprised females (73.7%), with the majority (72.9%) being aged < 20 years. The largest proportion of participants (36.3%) were enrolled in the Operating Room Services Program, and over half (50.8%) were in their second year. A significant majority of the participants reported no history of blood donation (72.7%) or organ donation (96.7%). Furthermore, most students (68.7%) had not received prior formal education on blood and organ donation. (Table 1)

Table 1. Socio-Demographic Characteristics of the Study Group

		N	%
Gender	Female	292	73.7
	Male	104	26.3
Age	<20	170	42.9
	≥ 20	226	57.1
Program	First and Emergency Aid	96	24.2
	Anesthesia	100	25.3
	Physiotherapy	96	24.2
	Operating Room Services	104	36.3
Class	1. Class	195	49.2
	2. Class	201	50.8
Blood Donation Status	Yes	108	27.3
	No	288	72.7
Organ Donation Status	Yes	13	3.3
	No	383	96.7
Education About Blood /Organ Donation	Yes	124	31.3
	No	272	68.7

4.1. Attitudes Towards Blood and Organ Donation

The mean score for students on the Blood Donation Attitude Scale was 3.41 ± .41, indicating attitudes close to positive but with an ambivalent tendency. Within its sub-dimensions, "Community and Social Responsibility" had the highest mean score (4.10 ± .60), while "Social Views and Understanding" (2.67 ± .99) and "Anxiety" (2.73 ± .72) had lower ones.

The mean Organ Donation Attitude Scale score was 3.68 ± .48. The "Altruistic Values" sub-dimension showed the highest mean score (4.33 ± .78), followed by "Positive Outlook" (3.95 ± .73) and "Religious Perspective" (3.7 ± .99). The "Legitimation in Religion" sub-dimension had a mean of 3.57 ± .97, and "Fear and Anxiety" recorded the lowest mean score (2.73 ± .9). (Table 2)

Table 2. Mean Scores of the Blood Donation Attitude Scale and the Organ Donation Attitude Scale and Their Sub-Dimensions

Scale	Number of Items	Min-Max Score	Mean-Standard Deviation
Blood Donation Attitude Scale	24	1.67-5	3.41± .41
Subdimensions			
Community and Social Responsibility	12	1.33-4.83	4.1 ± .6
Social Views and Understanding	8	1-5	2.67 ± .99
Anxiety	4	1-5	2.72 ± .72
Scale			
Organ Donation Attitude Scale	20	1.2-4.5	3.68 ± .48
Subdimensions			
Positive Outlook	8	1-5	3.95 ± .73
Altruistic Values	5	1-5	4.33 ± .78
Legitimation in Religion	2	1-5	3.57 ± .97
Religious Perspective	2	1-5	3.7 ± .99
Fear and Anxiety	3	1-5	2.73 ± .9

4.2. Factors Affecting Attitudes

Gender: Significant differences were observed in overall organ donation attitudes by gender (F=9.34, p=.00). While males had a slightly higher mean total score on the Organ Donation Attitude Scale (3.58±.55 vs. 3.41±.43 for females), females scored higher in the "Positive Outlook," "Altruistic Values," and "Legitimation in Religion " sub-dimensions. Conversely, males exhibited slightly higher "Fear and Anxiety" levels (2.8±.81 vs. 2.70±.94 for females). For blood donation attitudes, no significant gender differentiation was observed in the overall score, but women showed stronger in the "Social Views and Understanding" sub-dimension (Table 3).

Age: A statistically significant difference related to age was detected in the "Anxiety" dimension of the Blood Donation Attitude Scale (F=3.96, p=.04). Students aged 20 years and over reported higher anxiety levels (2.76±.76) than those under 20 (2.67±.66) regarding blood donation.

Donation Experience: Prior blood donation experience significantly influenced attitudes across various dimensions of the Blood Donation Attitude Scale. Experienced donors showed higher scores in "Community and Social Responsibility" (4.24±.43 vs. 4.06±.65 for non-donors) and lower scores in "Social Views and Understanding" (2.45±.92 vs. 2.76±1.01 for non-donors) and "Anxiety" (2.6±.75 vs. 2.76±.71 for non-donors). For organ donation, experienced blood donors showed lower "Fear and Anxiety" (2.67±.8 vs. 2.75±.94 for non-donors). Similarly, organ donation status significantly affected attitudes, with differences observed in the "Anxiety" dimension of the Blood Donation Attitude Scale and "Legitimation in Religion" and "Fear and Anxiety" dimensions of the Organ Donation Attitude Scale.

Education: Receiving education on blood and organ donation positively influenced attitudes toward donation. A statistically significant difference was found in the "Community and Social Responsibility" dimension of the Blood Donation Attitude Scale (U= 13838.5, p=.00), with educated participants scoring higher (4.21± .55 vs. 4.06±.62 for uneducated participants). This suggests that education enhances individuals' perceptions of social responsibility. A significant difference was also found in the "Religious Perspective" dimension of the Organ Donation Attitude Scale (F=6.57, p=.01), where educated participants had a lower mean score (3.86±.88) than uneducated participants (3.64±1.04).

Table 3. Mean Scores of the Blood Donation Attitude Scale and the Organ Donation Attitude Scale and Their Sub-Dimensions

Gender		F/Z	Sig.	t/U	df	Sig.(2)	Mean Diff.
Blood Donation Attitude Scale	Community and Social Responsibility	-2.07	-	13112.0	394	.06	-27.02
	Social Views and Understanding	5.91	.01	-.38	394	.69	-.04
	Anxiety	.86	.35	1.59	394	.11	.13
	Blood Donation Total	1.08	.29	-.40	394	.68	-.19
Organ Donation Attitude Scale	Positive Outlook	7.18	.00	-2.53	394	**.01**	-.21
	Altruistic Values	-3.02	-	12201.0	394	**.00**	-38.9
	Legitimation in Religion	.38	.53	-1.91	394	**.05**	-.21
	Religious Perspective	3.95	.04	-1.80	394	.07	-.2
	Fear and Anxiety	4.71	.03	.95	394	.33	.09
	Organ Donation Total	9.34	.00	-2.38	394	**.01**	-.13
Age		**F/Z**	**Sig.**	**t/U**	**df**	**Sig.(2)**	**Mean Diff.**
Blood Donation Attitude Scale	Community and Social Responsibility	-.35	-	18814.5	394	.72	-4.08
	Social Views and Understanding	.08	.76	.23	394	.81	.02
	Anxiety	3.96	.04	-1.18	394	.23	-.08
	Blood Donation Total	.69	.40	-1.34	394	.18	-.05
Organ Donation Attitude Scale	Positive Outlook	1.34	.24	-.59	394	.55	-.04
	Altruistic Values	-.57	-	18571.0	394	.56	6.59
	Legitimation in Religion	.11	.73	-1.71	394	.08	-.17
	Religious Perspective	.02	.87	-1.57	394	.11	-.15
	Fear and Anxiety	1.55	.21	-.22	394	.82	-.02
	Organ Donation Total	1.15	.28	-1.16	394	.24	-.5
Class		**F/Z**	**Sig.**	**t/U**	**df**	**Sig.(2)**	**Mean Diff.**
Blood Donation Attitude Scale	Community and Social Responsibility	-.04	-	19550.5	394	.96	.47
	Social Views and Understanding	.28	.59	-.65	394	.51	-.06
	Anxiety	.02	.88	-.29	394	.76	-.02
	Blood Donation Total	.02	.87	-.25	394	.80	-.01
Organ Donation Attitude Scale	Positive Outlook	3.82	.06	-.12	394	.90	-.00
	Altruistic Values	-.26	-	19305.5	394	.79	-2.95
	Legitimation in Religion	.05	.81	.58	394	.55	.05
	Religious Perspective	.25	.61	.64	394	.52	.06
	Fear and Anxiety	.02	.87	.22	394	.82	.02
	Organ Donation Total	.71	.40	.31	394	.75	.01

Donating Blood		F/Z	Sig.	t/U	df	Sig.(2)	Mean Diff.
Blood Donation Attitude Scale	Community and Social Responsibility	-2.55	-	12971.5	394	.01	32.85
	Social Views and Understanding	.49	.48	-2.84	394	.00	-.31
	Anxiety	2.30	.13	-1.99	394	.04	-.16
	Blood Donation Total	.01	.91	-.29	394	.76	-.01
Organ Donation Attitude Scale	Positive Outlook	.41	.52	.09	394	.92	.00
	Altruistic Values	-.00	-	15546	394	.99	-.08
	Legitimation in Religion	.01	.91	-.30	394	.76	-.03
	Religious Perspective	3.47	.06	1.36	394	.17	.15
	Fear and Anxiety	6.03	.01	-.78	394	.43	-.08
	Organ Donation Total	.01	.90	.34	394	.72	.01
Organ Donation		**F/Z**	**Sig.**	**t/U**	**df**	**Sig.(2)**	**Mean Diff.**
Blood Donation Attitude Scale	Community and Social Responsibility	-.96	-	2101	394	.33	30.89
	Social Views and Understanding	1.74	.18	-.94	394	.34	-.26
	Anxiety	8.05	.00	-1.87	394	.06	-.38
	Blood Donation Total	.56	.45	-.66	394	.50	-.07
Organ Donation Attitude Scale	Positive Outlook	.94	.33	1.38	394	.16	.28
	Altruistic Values	-.92	-	2120.0	394	.35	29.38
	Legitimation in Religion	.29	.58	2.63	394	.00	.72
	Religious Perspective	.8	.37	1.92	394	.05	.54
	Fear and Anxiety	1.21	.27	-2.56	394	.01	-.65
	Organ Donation Total	1.99	.15	1.0	394	.31	-1.39
Blood and Organ Donation Education		**F/Z**	**Sig.**	**t/U**	**df**	**Sig.(2)**	**Mean Diff.**
Blood Donation Attitude Scale	Community and Social Responsibility	-2.87	-	13838.5	394	.00	35.52
	Social Views and Understanding	.26	.60	-1	394	.31	-.10
	Anxiety	.04	.83	-.04	394	.96	-.00
	Blood Donation Total	.00	.96	1.25	394	.21	.05
Organ Donation Attitude Scale	Positive Outlook	.87	.35	1.17	394	.24	.09
	Altruistic Values	-1.31	-	15498.5	394	.18	16.03
	Legitimation in Religion	.10	.75	.08	394	.93	.00
	Religious Perspective	6.57	.01	2.09	394	.03	.22
	Fear and Anxiety	.43	.51	-.84	394	.40	-.08
	Organ Donation Total	1.80	.18	1.45	394	.14	.07

Note. F = F-value (Analysis of Variance), Sig. = Significance level (p-value), t = t-value (t-test), df = Degrees of freedom, Mean Diff. = Mean difference. U- value, Z = Z-value(Z-test)

According to Table 4, the students' academic program did not create a statistically significant difference in any dimension of either the blood donation or organ donation attitude scale (p>.05).

Table 4. Mean Scores of the Blood Donation Attitude Scale and the Organ Donation Attitude Scale and Their Sub-Dimensions

Program		SS	df	MS	F /χ^2	P
Community and Social Responsibility	Community and Social Responsibility	-	3	-	9.45	.06
	Social Views and Understanding	2.35	3	.78	.78	.5
	Anxiety	2.75	3	.91	1.77	.15
	Blood Donation Total	.05	3	.01	.09	.96
Positive Outlook	Positive Outlook	.58	3	.19	.35	.78
	Altruistic Values	-	3	-	9.9	.08
	Legitimation in Religion	2.16	3	.72	.75	.52
	Religious Perspective	4.25	3	1.41	1.43	.23
	Fear and Anxiety	5.93	3	1.97	2.43	.06
	Organ Donation Total	.12	3	.04	.16	.91

Note. SS = Sum of Squares, df = Degrees of freedom, MS = Mean Square, F = F-value, P = p-value, X^2 = Kruskal-Wallis Test

5. Discussion

The findings of this study reveal that students of the Vocational School of Health Services hold largely positive attitudes toward blood and organ donation, as indicated by the mean scores on the Blood Donation Attitude Scale and the Organ Donation Attitude Scale. However, this positive stance is accompanied by an underlying ambivalence. This is a critical observation, suggesting that while students acknowledge the importance of donations, certain barriers or uncertainties prevent a more definitive positive stance. This ambivalence is evidenced by the lower mean scores in specific sub-dimensions of the scales, particularly 'Social Views and Understanding' and 'Anxiety' for blood donation, and 'Fear and Anxiety' for organ donation. These lower scores indicate that despite a generally positive view, students still harbor significant concerns and uncertainties. This finding aligns with previous studies on the attitudes of students in the health field. (Akram et al., 2024; Vicdan et al., 2011; Kaur et al., 2015; Eren & Mermer, 2021; Kulakçı Altıntaş, 2018; Adıgüzel et al., 2019; Saeed et al., 2024). The effect of factors such as gender, donation experience, and education on attitudes particularly supports the findings in the literature.

In our study, the finding that female students scored higher in the "Positive Outlook," "Altruistic Values," and "Religious Perspective" sub-dimensions related to organ donation is consistent with Kaya et al. (2015) finding that female students have a more positive perception of organ donation. Conversely, the fact that male students scored higher in "Fear and Anxiety" aligns with Çeliktürk Doruker et al. (2024) statement that gender differences may vary across sub-dimensions such as sacrifice, positive outlook, religious perspective, and fear/anxiety. These gender differences once again highlight the complex structure of attitudes.

In addition to gender, individual experiences are also seen to shape attitudes. The finding that students with blood donation experience scored higher in the "Social and Societal Responsibility" dimension of the blood donation scale compared to those without experience indicates that experience creates a positive effect. Furthermore, these students having lower levels of "Fear and Anxiety" towards organ donation supports the findings of Keten et al. (2025) and Allahverdi et al. (2020) that previous experience increases social responsibility and reduces anxiety.

Finally, the power of education has once again been confirmed by our findings. The fact that participants who received education related to donation scored higher in the "Social and Societal Responsibility" sub-dimension of the Blood Donation Attitude Scale reveals the positive impact of education on donation attitudes. These results are consistent with the findings of sources such as Karacan et al. (2024), Sarıgöl Ordin et al. (2018), and Tarhan et al. (2015).

A closer examination of the similarities between our findings and previous research suggests a persistent indecisiveness among health service students towards donation, potentially due to a lack of targeted educational interventions or deeply ingrained societal beliefs (Kurtoğlu Olgunus & Kayabaşı, 2021; Agus et al., 2015). This observation highlights the need for curriculum reforms that incorporate comprehensive donation education, moving beyond mere factual dissemination to address emotional, social, and religious concerns (Allahverdi et al., 2020).

Gender emerged as a significant factor, particularly in attitudes towards organ donation (Çeliktürk Doruker et al., 2024). While males showed a slightly higher overall positive attitude, females scored higher in the Altruistic Values," "Positive Outlook," and "Religious Perspective" sub-dimensions, whereas males exhibited higher "Fear and Anxiety". This suggests that although men may be generally inclined to do-

nate, underlying anxieties may act as barriers. Conversely, women's higher scores in altruistic and positive outlooks indicate a strong prosocial motivation that could be leveraged in targeted campaigns. The finding that older students reported higher anxiety regarding blood donation may be attributed to their increased awareness of potential health risks or a greater sense of personal vulnerability as they age. This highlights the need for age-appropriate educational content that addresses specific concerns and provides accurate information to mitigate unwarranted fear (Al-Drees, 2008).

Significantly, prior experience with blood and organ donation consistently correlated with more positive attitudes and lower anxiety. This suggests that direct engagement with the donation process, whether as a donor or through exposure to successful outcomes, reinforces altruistic values and reduces donors' fear. This underscores the importance of promoting initial donation experiences through accessible and supportive donation drives within educational institutions. Furthermore, receiving formal education on blood and organ donation positively influenced students' perception of "Community and Social Responsibility" (Can, 2017; Fontana et al., 2017; Karacan et al., 2024; Kulakçı Altıntaş, 2018; Sarıgöl Ordin et al., 2018; Tarhan et al., 2015).

Our findings confirm that receiving formal education on blood and organ donation positively influences students' attitudes, particularly by enhancing their perception of "Community and Social Responsibility". This result aligns with extensive research showing that comprehensive education can lead to more favorable donation attitudes among students. For example, studies by Karacan et al. (2024), Ordin et al. (2018), and Tarhan et al. (2015) all corroborate the idea that targeted educational interventions improve knowledge and attitudes.

However, a critical nuance emerged from our data that warrants further investigation, as educated participants had a lower mean score in the 'Religious Perspective' sub-dimension of organ donation attitudes compared to their counterparts who had not received any prior education on organ donation. Therefore, while education is crucial for disseminating factual information, this finding highlights the need for a more comprehensive approach that moves beyond simple data sharing to encompass the emotional, social, and cultural dimensions of donation (Kavurmacı et al., 2014; Şıpkın et al., 2010).

In conclusion, strengthening future health professionals' attitudes towards blood and organ donation is paramount for increasing societal donation rates. This necessitates not only increasing their knowledge but also empowering them to serve as informed role models for society, in alignment with professional ethical values. Future interventions should focus on comprehensive educational programs tailored to address gender-specific concerns, age-related anxieties, and culturally sensitive aspects, including religious perspectives. Emphasizing the tangible benefits of donation and facilitating initial donation experiences could further cultivate a more committed and positive stance among these vital healthcare workers.

Limitations of the Study

This study was limited to students at a specific university's Health Services Vocational School. Thus, generalizing the findings to all health vocational school students in Türkiye is limited. The cross-sectional design of this study did not allow us to examine the dynamics of attitude changes over time. Furthermore, using self-reported questionnaires as a data collection method may introduce factors such as social desirability bias. Finally, the finding that the study program did not create a significant difference in attitudes needs to be supported by broader and more diverse samples in future studies.

Conclusion and Recommendations

This research reveals that the attitudes of Health Services Vocational School students towards blood and organ donation remain indecisive. As future healthcare professionals, it is critical to enhance students' knowledge and awareness. Our study identified significant effects of demographic factors, such as age and gender, as well as blood/organ donation experience and educational status, on attitudes. Notably, students who had received education and had experienced donors exhibited more positive attitudes toward organ donation. Our research findings confirm that education has a positive effect on donation attitudes. Further research on the cultural and ethical values that are expected to influence these attitudes will contribute to the existing literature.

Future research should conduct longitudinal studies with broader sample groups to examine the long-term effects of attitude changes. Comparative studies involving students from different health disciplines should be conducted. Additionally, qualitative research methods can be employed to gain a deeper understanding of the underlying motivations, anxieties, and religious and cultural perceptions that influence students' attitudes. Such detailed studies will provide a solid foundation for developing more effective educational programs and public health campaigns aimed at increasing organ donation awareness.

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