**Organ donation in Israel: revisiting the relationship between altruism and organ donation**

## What is known about this topic:

* The transplantation of human organs is one of the great advances of modern medicine.
* Every day, people die while waiting for an organ for transplantation. The need for organ donors far outstrips than the number of people who donate organs.
* Organ donation is based on an act of altruism.

## What this paper adds:

* Various factors influence organ donations, and these can differ within different groups (e.g., religion or age).
* Altruism can be perceived differently by different groups—thus more targeted interventions are needed to encourage organ donations.
* Suggested policy directions to be pursued to encourage organ donations.

**Abstract**

The number of people on the waiting list for an organ transplant increases year on year. However, the number of donated organs available for transplantation does not rise in line with this increased demand. This study examines the associations between altruism, attitudes towards organ donation, and behavioral intentions regarding organ donation in Israel. In a cross-sectional study, 452 participants completed an online questionnaire. Data collection occurred between November-December 2020. Convenience sampling was used, and participation was voluntary. Data were analyzed using Pearson correlations and independent samples t-tests. Within the study population, high levels of altruistic behaviors and positive attitudes toward organ donation were found. However, the level of behavioral intentions toward organ donation was low. No associations were found between altruism levels and attitudes toward organ donation, or between altruism levels and the degree of behavioral intentions toward organ donation. However, a positive relationship was found between attitudes toward organ donation and willingness to sign an organ donor card. In addition, positive associations were found between religiosity and altruism, while negative associations were found between religiosity and attitudes towards organ donation, and between religiosity and willingness to sign an organ donor card. Positive attitudes towards organ donation may result in increased organ donation in the future. Thus, raising awareness and positive attitudes towards organ donation among the wider public and, in particular, the ultra-Orthodox population in Israel in particular is necessary. Consequently, it is essential to make information about the organ transplant process accessible and culturally adaptive to different sectors.

**Key words:** organ donation, altruism, behavioral intentions, transplantation, religiosity

1. **Background**

Organ transplantation is one of the clearest examples of how technological advancement has enabled the realization of ancient medical visions. The possibility of transplanting an organ from a healthy person into the body of a sick person has excited the medical imagination for many centuries. However, it was only in the second half of the twentieth century that this vision became a reality, with the first kidney transplants in the 1950s followed by pancreas, liver, and heart transplants in the 1960s. Since then, technological development has enabled more organs and tissues to be transplanted, and organ transplants have become a viable solution to a growing number of medical conditions (Barr et al., 2021).

Since the outset of the development of transplant medicine, ethical rules have been established for the supply of human organs for transplantation. Above all, such organs must be obtained through altruistic donation, i.e., given freely without any material consideration. The source of the altruistic rule in organ donation can be found in the revolution that inspired Richard Titmuss’ book *The Gift Relationship* (1970). Titmuss compared blood collection systems around the world and concluded that voluntary blood donation is the most effective, safe, and ethical method of collecting blood. According to Titmuss, voluntary or altruistic donations express a pure desire to help and therefore are free of fears of fraud or falsification of medical data. Further, they contribute to social solidarity and are a buffer against trends of commercializing human relationships.

This view is the dominant paradigm when it comes to collecting human cells, tissues, and organs for therapeutic purposes, and although Titmuss’ book is outdated in many ways, the paradigm he proposed still prevails as the ethical envelope when it comes to organ transplantation. For Titmuss, an individual’s altruistic behavior is the driving force behind the mechanism of organ donation. Altruistic individuals create a norm of volunteering and donating that, in turn, increases social solidarity. The state should create “opportunities for altruism” for individuals, such as, for example, the opportunity to donate blood or organs for transplantation. The aggregated altruistic behavior of individuals crystalizes into a social norm, contributes to social solidarity, and, in a virtuous circle, leads to an increase in altruistic behaviors. This position forms the basis of policies for collecting organs for transplantation and underpins advocacy systems for encouraging organ donation around the world. The assumption is that altruism constitutes an extant force in society and can be mobilized as a solid base for organ collection policies. This paper seeks to examine the assumption that altruism is associated with organ donation in Israel and helps shed light on the complexity of this concept. The paper also highlights the need for a broad cultural and social context if we are to understand the complex interplay of social structure and organ donation.

**1.1 Quantifying altruism**

Altruism is defined as behavior aimed at helping others (Meyers, 2005). Altruism may promote prosocial behavior that is more sensitive to the actual needs of others (Batson, 2011). The behavior is carried out even when the helper does not expect any benefit or return and even when she may endanger herself to one degree or another (de Waal, 2008). On an extreme level, altruism can manifest itself in conscious self-sacrifice for the sake of others. Altruism is also defined as the social motive for doing good for others (Monday, 2020).

Various scales for measuring altruism are described in the literature. For example, the “dictator game” examined altruistic charitable donation through a survey or experiment (Bekkers, 2007; Carpenter et al., 2008; Hilbig et al., 2015). Sliwak conducted the Altruism-Nonaltruism (A-N) Questionnaire, which contains ten stories, each with six answers to reflect the various degrees of intensity of a person's altruistic attitude (Milaniak et al., 2018). Another way is measuring altruistic value orientations through self-rating on an altruistic value questionnaire, such as fairness, world peace, and social justice (de Groot & Steg, 2008).

The most common measurement scale of Self-Report Altruism (SRA) is Rushton's altruistic behavior scale. Rushton et al. (1981) developed a set of 20 questions to measure the level of helping or altruistic personality traits. For example, “I have helped push a stranger's car out of the snow;” “I have given directions to a stranger;” “I have given money to a charity;” “I have given money to a stranger who needed it;” “I have donated goods or clothes to a charity;” “I have donated blood;” “I have helped carry a stranger's belongings (books, parcels, etc.).” Respondents were asked to mark how often they had participated in each behavior, ranging from never (1) to very often (5). Rushton's altruistic behavior scale has been translated and validated in many languages and cultures, including Chinese (Chou, 1996), Hindi (Khanna, Singh & Rushton, 1993), Spanish (Aguilar Pardo & Martínez Cotrina, 2016), Indonesian (Suseno, 2019), Turkish (Karacan et al., 2013), Dutch (Garofalo et al., 2019), and Hebrew (Khalaila, 2013).

**1.2 The relationship between altruism and the willingness to donate organs**

The use of altruism as a predictor of organ donation is prevalent in many studies. Khalaila (2013) used Rushton's altruistic behavior scale and found that Israeli students’ willingness to donate organs was positively related to their altruism level, positive attitudes toward organ donation, and organ donor registration. However, the students’ level of knowledge had no impact on willingness to donate. Finally, while students who identified as Christian were more willing to donate organs than students of other religions in Israel, religiosity was negatively associated with behavioral intentions regarding organ donation. Milaniak et al. (2018) examined the role of empathy and altruism in organ donation decision-making among 111 nursing and paramedic students using the Sliwak Altruism scale. They found that altruism levels were associated with post-mortem organ donation and the willingness to sign a donor card.

In a meta-analysis that included an analysis of 27 studies (most of them based on semi-structured interviews and focus groups) altruistic motivation to help others emerged as the most identified motivator for becoming an organ donor. Altruistic motivation to help another person while knowing that the organs help another person to become well and receive the donor’s life as a gift was a driving force behind the consent to donate organs. Other factors mentioned including a sense of solidarity with society as well as the belief that organ donation is used for beneficial purposes with patients (Newton, 2011).

Drawing upon the literature on the association between altruism and organ donation, this study examines this relationship in Israeli society, and specifically whether altruism levels are linked to organ donation in Israel.

**2. Methods**

**2.1 Participants and procedure**

The study received approval from the Ethics Committee of the Ashkelon Academic College (Approval # 26-2020).

The cross-sectional study involved 452 participants from the adult population in Israel who were sampled in a convenience sample. The questionnaire was programmed using the Qualtrics survey software, and a link to fill out the questionnaire was distributed on social networks (WhatsApp and Facebook groups) on November 14, 2020. A week later, a reminder was sent to the groups. On December 1, 2020, the survey in the software was closed. According to the software data, the response time for the questionnaire is around 4.5 minutes on average. The survey had 564 entries; 463 participants filled out the questionnaire. 11 participants were removed due to non-response to the dependent variable. The response rate was 80% of total entries in the survey. At the beginning of the questionnaire, the purpose of the study was explained. Filling out the questionnaire constituted informed consent to participate in the study. No question was defined as a mandatory field.

**2.2 Research tool**

An online, closed, anonymous, self-report questionnaire was used. The questionnaire included 31 closed questions:

1. Demographics: Gender, age, marital status, having children, level of religiosity, country of birth.
2. Altruistic Behavior: The questionnaire includes ten questions from Watad's doctoral dissertation (2004), which were translated into Hebrew and validated the questionnaire taken from Rushton et al. (1981) and adapted to Israeli culture. Reliability of the translated questionnaire was α = 0.83. Participants were asked to indicate their degree of agreement with each statement on a scale ranging from 1 (never) to 5 (often). The statements describe everyday acts of altruism, such as “I donated money to charity.” The variable was constructed using the mean calculation for each participant, with a higher score indicating a higher level of altruistic behaviors. The internal consistency in the present study was α = 0.75. (See the distribution of answers in Appendix 1.)
3. Attitudes towards organ donation: the questionnaire included 13 questions taken from Utitz (2002). Participants were asked to indicate their degree of agreement with each statement in the questionnaire on a scale ranging from 1 (strongly disagree) to 5 (very much agree). The statements relating a general attitude towards organ donation, for example, “organ donation is a human *mitzvah* (commandment).” The variable was constructed using the mean calculation for each participant after reversing scales in questions: 1,4,5,7,8,10. A higher score indicates more positive attitudes toward organ donation. The internal consistency in the present study is α = 0.94. See the distribution of answers in Appendix 2.
4. Behavioral intentions regarding organ donation: 2 questions taken from Utitz (2002). Participants were asked to mark their degree of agreement on each statement in the questionnaire on a scale ranging from 1 (not at all) to 5 (very much agree), and an option to mark “I have already signed a donation card.” The variable was constructed using the mean calculation for each participant. A higher score indicates a higher behavioral intention regarding organ donation.

**2.3 Data Analysis**

The data were imported from the survey software and analyzed in SPSS v. 26. A probing analysis found a normal distribution of the variables, and therefore parametric tests were used. The relationships between the variables were examined using Pearson correlations. The relationships between the level of religiosity and the study variables were analyzed using Spearman correlations. Differences between two groups (e.g., signed a donation card, having children) were tested using independent samples t-tests.

**3. Results**

**3.1** **Sample characteristics**

452 individuals participated in the study, of whom 72.1% were women, 60% were married, 48.2% had children. Most of them were Israeli born (90%). A quarter defined themselves as secular, 23.7% traditional, 42.9% religious, and 8.6% ultra-Orthodox. Sample characteristics are shown in Table 1.

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**3.2 Willingness to donate organs/ to sign an organ donor card**

In response to the statement “I would like to donate organs after my death,” 30% selected a low level of agreement (responses 1 and 2), 21% selected a medium level of agreement (response 3) and 49% chose a very high level of agreement (responses 4 and 5). A quarter of the sample n=111, 26%) had already signed an organ donor card. The remaining respondents (n=341) responded to the statement “I am considering signing an organ donor card” as follows: 50% chose a low level of agreement (responses 1 and 2), 21% chose a medium level (response 3), and 29% chose a high level (responses 4 and 5). The mean for the variable “willingness to donate/sign an organ donor card” was 3.21 (SD=1.52).

**3.3 Relationships between the study variables**

No relationship was found between altruism and attitudes toward organ donation, or between altruism and the level of willingness to donate/sign an organ donor card, as the results were not significant (p>0.05). Thus, the hypotheses were not proven. A positive, significant association was found between attitudes towards organ donation and the degree of willingness to donate/ sign an organ donor card (rp=0.86, p<0.001). That is, the more positive the attitudes toward organ donation, the higher the willingness to donate/ sign an organ donor card. Thus, the hypothesis was confirmed.

**3.4 Association between age and the study variables**

Positive, significant weak-to-moderate associations were found between age and altruism (rp=0.16, p=<0.01); attitude toward organ donation (rp=0.20, p<0.001) and the level of willingness to donate/ sign an organ donor card (rp=0.19, p<0.001). The older the respondents, the more altruistic they were, and their attitudes toward organ donation were more positive, and their willingness to donate/ sign an organ donor card were higher.

**3.5 Associations between levels of religiosity and the study variables**

A positive, significant weak-to-moderate association was found between level of religiosity and altruism (rs=0.15, p=0.001). Further, negative, significant moderate-to-high associations were found between level of religiosity and attitudes toward organ donation (rs=0.36, p<0.001) and level of willingness to donate/ sign an organ donor card (rs=0.32, p<0.001). That is, as religiosity level increased, the respondents were more altruistic, their attitudes toward organ donation were more negative, and their willingness to donate/sign an organ donor card were lower.

**3.6 Differences between those who had signed and those who had not signed an organ donor card**

Statistically significant differences were found between respondents who had signed an organ donor card and respondents who had not signed an organ donor card (t(450)=17.57, p<0.001). Those who had signed an organ donor card had more positive attitudes toward organ donation than those who had not signed an organ donor card (mean of 4.51 compared to 3.29). No differences were found between respondents who had signed an organ donor card and respondents who had not signed an organ donor card in terms of levels of altruism.

**3.7 Differences between respondents who had children and respondents who did not have children**

Statistically significant differences were found between respondents with children and respondents without children in terms of levels of altruism (t(450)=4.76, p=0.001). Respondents who had children expressed higher levels of altruism compared with those who did not have children (mean of 3.43 compared with 3.12). Further, there were significant differences between respondents with children and respondents without children in terms of attitudes toward organ donation (t(450)=2.06, p=0.05). Respondents with children had more positive attitudes toward organ donation than those without children (mean of 3.70 compared with 3.49). No differences were found between respondents with children and respondents without children in terms of willingness to donate organs/ sign an organ donor card.

**4. Discussion**

This study seeks to investigate the levels of willingness in the general population in Israel to sign an organ donor card; the relationship between attitudes toward organ donation and altruism; and between attitudes toward organ donation and willingness to sign an organ donor card. The level of altruism among participants in the study was high (mean 3.28 on a 5-point scale), attitudes toward organ donation were positive (mean 3.60 on a 5-point scale), and willingness to donate organs was high (mean 3.21 on a 5-point scale), where a quarter of respondents had already signed an organ donor card). However, the distribution of responses to the statements reveals a complex picture: while the majority of respondents (68%) perceived organ donation as being important, as having a first-rate moral value and as a human *mitzvah* (“commandment”), only 55% were in favor of signing an organ donor card, and among respondents who believed that organ donation is a moral obligation, the study found an even lower percentage of 41% with only 26% showing a real commitment to organ donation through signing an organ donor card. This large gap between explicit attitudes and actual commitment to donate organs may be due to discomfort around signing organ donor cards, personal behavior and constraints, and religious beliefs. These findings reinforce those of previous studies, where similar gaps were found between intent and real actions (Perenc et al., 2012). Even when it comes to voluntary blood donation, an action that is far simpler than organ donation, there is an enormous gap between willingness to donate (90%) and actually taking action to donate (only 20% actually donate) (Radochonski & Radochonski, 2007). There are numerous fears that prevent people from signing an organ donor card: fear of “mutilation” of the body after death, and issues around fear and anxieties concerning death. Indeed, only 58% of respondents agreed with the statement “the thought that I will be cut open after my death does not deter me” on the questionnaire. Death and post-mortem organ donation are closely linked, since registering as an organ donor card holder requires the individual to recognize that he or she is “mortal.” Thus, this finding is consistent with studies that found that anxieties around death can intensify and be triggered when people are considering decisions regarding organ donation (Robbins, 1990; Wu & Tang, 2009).

No association was found between altruism and attitudes regarding organ donation, or between altruism and willingness to donate organs in practice. These findings are not consistent with previous studies (e.g., see Hill, 2016, Cohen & Hoffner, 2013; Kurleto et al., 2020; Roff, 2007; Mostafa, 2010). However, this finding can be explained in the literature concerning the numerous considerations for organ donation (such as mourning for the deceased, anxieties, etc.) that overshadow the values of altruism (Lopez et al., 2018, Ghorbani et al., 2011). There seems to be a considerable distance between altruistic behavior in various fields, and signing an organ donor card, and more so when it comes to donating an organ (e.g., a kidney) in practice in an altruistic living donation. While an altruistic person is expected to think of others, including in terms of organ donation, in fact organ donation is not a quotidian act of assistance like donating money, or other aid etc., but rather is a very complex emotional process. Indeed, organ donation is almost entirely unlike any other behavior undertaken for the good of others.

A positive, strong association was found between attitudes toward organ donation and willingness to donate organs in practice, similar to that found in previous studies (Zambudío et al., 2009; Saleem et al., 2009; Uyar et al., 2019; Akgün et al., 2002), positive attitudes regarding the topic of organ donation has a positive effect on peoples’ willingness to be future organ donors. This finding suggests that shaping public opinion so that organ donation is perceived as positive may lead to an increase in willingness to donate organs in the future and could encourage people to sign organ donor cards now. In their Theory of Reasoned Action (TRA), Fishbein and Ajzen (1975) argued that the intention to carry out a behavior is the best predictor of its occurrence, and that this is dependent on attitudes and norms held by the individual. An individual’s positive attitudes, alongside social norms that call for saving human lives through organ donations, will give rise to a social process that reinforces these values. This process will give rise to motivations and intentions to sign organ donor cards for the purpose of saving human lives.

Another point that emerged from the study was that the older the respondents, the more altruistic they were, the more positive their attitudes were toward organ donation, and the greater their willingness was to donate/ sign organ donor cards. It may be that a person grows older and becomes set in his mind, he understands how precious life is and is also more exposed to cases of ill health. Among younger age groups, the issue of organ transplants may seem like a topic that is not relevant to them, and they may not have given sufficient thought to its importance, as Krupic et al. (2019) and Febrero et al. (2020) have remarked. It should also be noted, however, that the attitudes of young people toward organ donation are important, since from a medical perspective they are ideal donors as their organs are less likely to be damaged by poor health.

It also emerged from this study that respondents with children were characterized by a higher level of altruism as well as more positive attitudes towards the topic of organ transplantation. Again, this group may comprise older individuals, whose views on life in general, and specifically the issue of organ transplants, differ from those of younger people who are not at a stage of life where they have children.

When it comes to level of religiosity and its association with the study variables, a contradiction emerges, since as the level of religiosity rises, so does the level of altruism; however, at the same time, willingness to donate organs decreases. The reasons for this are varied and lie mainly in *halakhic* (Jewish law) aspects of organ donation after death. In Orthodox Judaism, there is a debate regarding the validity of the definition of brain death and many groups within the Haredi (ultra-Orthodox) and Orthodox religious Israeli Jewish population do not sign organ donor cards or donate organs because of their rabbis’ opposition to the definition of brain death. In this context, it is worth noting that despite the reluctance to donate organs after death, the Haredi (ultra-Orthodox) and Orthodox Jewish populations are the largest in terms of living organ donations. This group leads the trend of donating organs from living people to total strangers. This behavior, which is certainly altruistic, is carried out by a group that in this study was found to be distant from organ donations.

The trend among the Orthodox and ultra-Orthodox communities in Israel of donating organs to strangers indicates the need for future studies to differentiate between motivations for post-mortem and living organ donations. These are two different types of motivation and helping. While signing an organ donor card indicates a contribution to the community, living organ donation usually occurs within families and is done to help a sick relative. These are two types of altruistic act that require different definitions and different operationalizations.

**4.1 Limitations of the study**

The study sample is limited and does not represent the entirety of the Israeli population (e.g., the sample does not include any representation from Arab (Muslim, Christian, or Druze) populations). In addition, the sample comprises mostly women (72%) and the Orthodox and ultra-Orthodox Jewish religious populations are over-represented relative to the general population. Further, there may be biases in the study, such as a selection bias in response to the questionnaire, such that those who chose to respond may have a special interest in the issue of organ donation. An additional bias is social desirability—some participants may tend to provide answers to questions on the attitudes and barriers questionnaire that they think are expected of them and to select more positive or altruistic behaviors. An additional problem lies in the tools for measuring altruism. The questionnaire examined altruistic behaviors that almost all people carry out by virtue of being social beings, and so altruism should be examined as a personality trait and not as a behavior.

* 1. **Conclusions**

In Israel, the current supply of human organs for transplantation is far less than the demand. Broadly, the reason for this is twofold: the Jewish-*halakhic* (Jewish law)-religious issue and a lack of public awareness and positive incentives for organ donation. The positive association between attitudes and willingness to donate organs shows that positive attitudes toward organ donation may ultimately be translated into donations in the future. For this reason, increasing positive attitudes within the population is an important aspect of organ donation, since the formation of a positive approach is a critical step in making decisions regarding this complex topic, particularly if the aim is to reduce the number of people who oppose organ donation in Israel.

It is important to note the difference between willingness to donate organs to a stranger after death, and willingness to donate organs to a stranger while alive. This difference is especially significant in relation to the study’s findings among the Orthodox and ultra-Orthodox (Haredi) populations in Israel. The data indicate a high level of altruism and low level of willingness to donate organs within this population; however, these data should be interpreted with caution, since the low levels of willingness to donate organs relate to post-mortem organ donation, while there is a high level of willingness within this population for living organ donation to strangers, the most altruistic act of organ donation.

**Appendix 1: distribution of responses to the altruistic behavior questionnaire**

The distribution of responses to the statements examining altruistic behavior, after grouping into categories as follows: responses 1+2 were grouped into the category “infrequently,” response 3 remained as “more than once” and responses 4 + 5 were grouped into the category “frequently.”

**Table 2: Distribution of responses to the altruism questionnaire**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Infrequently** **(%)** | **More than once (%)** | **Frequently****(%)** | **Mean ± SD** |
| 1. I donated money to a charitable cause | 13 | 14 | 73 | 4.08±1.12 |
| 2. I gave up my place in line to another person (in the store, cinema, clinic) | 10 | 22 | 68 | 3.96±1.02 |
| 3. I offered my seat (on the bus etc.) to another person | 14 | 18 | 68 | 3.92±1.14 |
| 4. I gave money to someone who needed it or who asked me | 19 | 23 | 58 | 3.70±1.84 |
| 5. I helped someone I don’t know very well carry something heavy | 30 | 23 | 47 | 3.37±1.32 |
| 6. I helped a person with disabilities/ an older person cross the road/ carry a bag | 33 | 28 | 39 | 3.14±1.27 |
| 7. I volunteered to watch a pet or child for a neighbor | 51 | 19 | 30 | 2.63±1.43 |
| 8. I undertake volunteering activities | 52 | 20 | 28 | 2.75±1.39 |
| 9. I donated something that was of value to me to another person | 47 | 28 | 25 | 2.71±1.22 |
| 10. I helped an acquaintance move house | 55 | 23 | 22 | 2.45±1.31 |

To construct the variable “altruism,” the mean value of the responses for each participant was calculated. Mean = 3.28 (SD=0.70).

**Appendix 2: Distribution of responses in the attitude questionnaire regarding organ donation**

Distribution of responses to statements examining attitudes around organ donation, after grouping into categories as follows: responses 1+2 were grouped into the category “slightly agree,” response 3 remained “somewhat agree,” and responses 4+5 were grouped into the category “strongly agree.”

**Table 3: Distribution of responses to the questionnaire regarding attitudes to organ donation**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Slightly agree (%)** | **Somewhat agree (%)** | **Strongly agree (%)** | **Mean ± SD** |
| 1. Organ donation is [is not] contempt for the dead\* | 16 | 12 | 72 | 4.07±1.39 |
| 2. Organ donation is a human *mitzvah* | 16 | 16 | 68 | 3.96±1.31 |
| 3. Giving life after death by donating organs is an honor | 17 | 17 | 66 | 3.86±1.36 |
| 4. Organ donation is [is not] desecration of the dead\* | 18 | 16 | 66 | 3.36±1.39 |
| 5. Organ donation is [is not] intervening in the affairs of God\* | 18 | 17 | 65 | 3.81±1.41 |
| 6. I am in favor of organ donation | 23 | 17 | 60 | 3.69±1.44 |
| 7. Signing an organ donor card will hurt [will not hurt] my family’s feelings\* | 25 | 17 | 58 | 3.56±1.49 |
| 8. The thought of being cut open after my death makes me [does not make me] hesitant\* | 27 | 15 | 57 | 3.59±1.55 |
| 9. I am in favor of signing an organ donor card | 27 | 18 | 55 | 3.53±1.49 |
| 10. Donating organs makes it difficult [does not make it difficult] for the family after the death of a loved one\*  | 26 | 25 | 49 | 3.36±1.39 |
| 11. Signing an organ donor card will make my family think I did a good deed | 24 | 28 | 48 | 3.39±1.39 |
| 12. Donating organs is a moral duty | 33 | 26 | 41 | 3.14±1.47 |
| 13. Donating organs will help the family of the deceased cope better with the bereavement | 35 | 34 | 31 | 2.93±1.30 |

\*Reverse questions. The data are shown following the reversal of the scales, so the parentheses have been added to reverse the meaning of the statement.

To construct the variable “attitudes toward organ donation,” the mean value of the responses for each study participant was calculated after reversing the scales in the reverse questions. The mean was 3.60 (SD=1.08).