

PROSPECTIVES ON ATTITUDES, THINKING STYLES AND FEARS TOWARDS BLOOD DONATION: A RESEARCH ON TURKISH SAMPLE*

*Kan Bağışına Yönelik Muhtemel Tutumlar, Düşünme Biçimleri ve Korkular:
Türk Örneklemini Üzerinde Bir Araştırma*

Mehpare Tokay Argan**

Bilecik Seyh Edebali University, Turkey

Metin Argan***

Anadolu University, Turkey

Abstract

Attitudes, thinking styles and fears towards blood donation are significant aspects of the promotion of public health. The purpose of this study is to investigate dimensions regarding blood donation behavior, thinking styles and fears based on blood donation. Data are collected from a sample of blood donors who participated in Turkish Red Crescent's campaigns in Eskişehir province of Turkey between November and December 2014. Exploratory factor analysis (EFA) was used to investigate validity and reliability of the scales adapted from literature (e.g., Choi et al., 2003; Masser et al., 2009; Mohammad et al, 2011; Sojka and Sojka, 2008). The results of factor analysis regarding dimensions of blood donation behavior revealed five factors titled as competences, attitudes towards blood donation, subjective norms, responsibility, and religion. Additionally, risk acquiring a disease had a higher mean

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** Corresponding author. Bilecik Seyh Edebali University, Applied Sciences School. Bozuyuk, Bilecik, Turkey. mehpare.argan@bilecik.edu.tr

*** Anadolu University, Sport Sciences Faculty, İki Eylül Campus, 26555, Eskişehir Turkey. margan@anadolu.edu.tr

among six fears. Moreover, according to thinking style of blood donation behavior, two factors were emerged: holistic, analytical. The results of the study have significant implications as to how well blood centers managers design strategies of blood donation and acquisition.

Keywords: Donation, Blood donation, Thinking style, Fear of blood donation, Social marketing

Özet

Kan bağışına yönelik tutumlar, korkular ve düşünce biçimleri halk sağlığının geliştirilmesi bakımından önemlidir. Bu çalışmanın amacı kan bağışıyla ilgili davranışlar, düşünce biçimleri ve korkularla ilgili boyutların incelenmesidir. Veriler, Kasım-Aralık 2014 tarihleri arasında Eskişehir’de Türk Kızılay’ı tarafından düzenlenen kampanyalara katılan kan bağışçılarından oluşan örneklemden elde edilmiştir. Literatürdeki bazı kaynaklardan (örn., Choi et al., 2003; Masser et al., 2009; Mohammad et al, 2011; Sojka and Sojka, 2008) uyarlanan ölçeklerin geçerlilik ve güvenilirliğini ortaya koymak için açıklayıcı faktör analizi (AFA) kullanılmıştır. Faktör analizi sonuçları, kan bağış davranışıyla ilgili olarak; yetkinlikler, kan bağışına yönelik tutumlar, öznel normlar, sorumluluk ve din şeklinde isimlendirilen beş faktörü ortaya koymuştur. Bunun yanı sıra, hastalık kapma riski altı korku arasında daha yüksek bir ortalamaya sahiptir. Ayrıca, kan bağış davranışında düşünme biçimleriyle ilgili olarak holistik ve analitik düşünce olmak üzere iki faktör ortaya çıkmıştır. Bu araştırmanın sonuçları, kan bağış ve elde edilmesi ile ilgili kan merkezleri yöneticilerinin nasıl stratejiler uygulamaları gerektiği konusunda çıkarımlar sağlamaktadır.

Anahtar Kelimeler: Bağış, Kan bağış, Düşünme stili, Kan bağış korkusu, Sosyal pazarlama

INTRODUCTION

Despite all the developments made in medicine and technology, no means of treatment, as a substitute for blood, blood components, or components obtained from blood, has yet been discovered. Blood obtained from human beings, as a form of treatment, cannot be acquired in any other way. In this respect, blood donation is a way of saving lives and bestowing life on others (Aggarwal and Sharma, 2012). Three different lives can be saved with a single donation and

the donation of blood is a gift, given voluntarily, for which there is no replacement. Regularly collecting and storing sufficient amounts of blood from voluntary blood donors is crucial for maintaining a supply of blood. To assure the safety of blood and blood products, the World Health Organization (WHO) and the European Council recommend collecting blood only from voluntary donors. Accordingly, if no payment is made and no other commodity, which may be considered as remunerative, is offered in return for blood donation, the donation is considered to be voluntary. In Turkey, the law prohibits making a payment to the donor; however, when the blood of voluntary donors is insufficient, the family, relatives and acquaintances of the patient have to meet the need for blood components. If the rate of voluntary blood donation could be increased to the desired level, there would be no need to collect blood and blood components from a patient's relatives. Therefore, a regular increase in the number of voluntary blood donors is an important aspect in safeguarding a permanent supply of blood (Eser et al., 2010).

According to a report by the World Health Organization (WHO), resorting to cheap and unsafe methods due to insufficient voluntary donations is one of the reasons why safe blood transfusion could not be achieved in developing countries. While approximately 107 million units of blood are donated worldwide, almost half of this figure is donated in high-income countries. Since 2005, the Turkish Red Crescent has been carrying out its blood collection services at 16 Regional Blood Centers and under the auspices of the Ministry of Health within the scope of "Safe Blood Supply Program," and is considered to be the only authorized institution for blood banking. While the ratio of voluntary blood donations to total population is around 5-10% in developed countries, this ratio is approximately 3.6% in Turkey. Blood requirements that cannot be met through voluntary donations are mostly satisfied through replacement, blood for blood or the compulsory method, and this will continue to be the case, as long as voluntary blood donations continue to reach the desired level (Kan Hizmetleri Genel Müdürlüğü, 2016).

LITERATURE REVIEW

Factors Affecting the Blood Donation Behavior

The only way to compensate for insufficient blood donation is to ensure that people donate blood. Blood can be obtained from new blood donors, through more frequent donations made by existing donors, or from both. Typically, blood donation centers aim to encourage first time donors, motivate behavioral change by helping individuals to overcome their fears and concerns, and by assuring that such behavior leads to an increase in the number of regular donors (Holdershaw, Gendall and Wright, 2003).

The first step towards increasing the number of blood donors is to reveal the factors that affect individuals' blood donation behavior. There are various studies cited in the literature on blood donation behavior. Initial studies provide transactional analyses on how to estimate the intentions and behavior of blood donors (Ferguson et al., 2007). Most of these studies focus on revealing the socio-demographic characteristics of people who donate blood. These studies, concerning demographic characteristics, indicate that blood donation behavior is observed at greater frequency among Caucasian individuals with relatively high incomes (Veldhuizen et al., 2009) and high levels of education (Tscheulin and Lindenmeier, 2005). Moreover, it has been observed that the tendency among older males to donate blood is higher (Schlumpf et al., 2008).

Other studies on blood donation behavior, in addition to demographic characteristics, have attempted to explain the relationship between blood donation and personality traits (Ferguson et al., 2007). The main focus in this respect has been to reveal relationships between risk preferences and piety levels of individuals, and five major personality traits. While Burnett (1981) argued that donors tend to be highly religious, Gillum and Masters (2010) observed that blood donation behavior could not be associated with piety. Once again, while Burnett (1981) found that risk takers tend to donate blood more than

risk-averse individuals, Andaleeb and Basu (1995) obtained the exact opposite result in their study. Even though there is a relationship between personality traits and blood donation behavior, the results documented in the literature are inconsistent. This may either be due to differences in measurement criteria, or that blood donation cannot be explained simply by looking at personality traits.

There are other studies on blood donation that have focused on motivational factors. For instance, one study addressed the relationships between blood donation, recurrent blood donation, and psychosocial factors (Ringwald, 2010). Other studies have discussed blood donation within the context of altruism and voluntariness, which in turn revealed that blood donation is an act carried out only for the benefit of others (Macaulay and Berkowitz, 1993; Hablemitođlu, Özkan and Yıldırım, 2010).

In several studies, Giles et al. (2004); Armitage and Conner (2001); Ferguson (1996); Giles and Cairns (1995) and Masser et al. (2009) have described blood donation behavior using Planned Behavior Theory; however, studies based on this theory have emphasized the need to include new variables in order for the theory to perform better.

This study intends to address the current situation of factors that influence blood donation behavior after evaluating the literature on blood donation in general.

Donors Fear Appears

In addition to the factors that positively motivate blood donation, there are also motivations that negatively affect donation behavior. The studies conducted on this issue (Bartel, Stelzner and Higgins, 1975) have focused on why non-donors prefer not to donate blood and the factors that deter them. It was indicated in these studies that needle phobia, blood phobia, dizziness, distress, and the fear of potentially adverse effects of blood donation on the individual's health, were the most common fears. Furthermore, it was also reported

that although only in a very small number of cases, the possibility of having negative results in the tests that are required to be conducted for blood transfusion also negatively affect donors. In this respect, identifying donors' level of anxiety and fear would be an important indicator.

Style of Thinking

Styles of thinking (thoughts) are defined as individually adopted ways of perceiving; thinking; learning; problem solving; connecting with others; the ways of processing and organizing information; making judgments, or achieving results based on observations; the preferred method of organizing, representing and processing knowledge, and characteristic styles adopted in perception, recollection and problem solving. Based on these definitions, styles of thinking are permanent methods preferred for providing guidance to individuals on how they behave; for instance, methods of acquiring and utilizing information, while deciding on blood donation behavior. This study aims to specify the main styles of thinking to which donors revert. In this regard, holistic and analytical thinking are taken as a basis for styles of thinking that can be categorized in various ways.

Holistic Thinking

Holistic thinking is a style of thinking that includes the field or content as a whole, covers the relationships between the field and the object, and the preference to predict and explain events based on these relationships (Umay and Arıođ, 2011). An individual who thinks holistically perceives the whole at a single instance in all its details. He or she knows the relationship between the details, but he or she makes a decision on the whole, without focusing on these relationships but rather with regard to the effect of these relationships on the whole. Hence, rather than focusing on the parts of the object, those who think holistically approach the object as a whole from the outset. Individuals who think holistically mainly feel the need to look at the overall picture and they concentrate on the details after they have

understood the problem (Umay and Ariol, 2011). When considering holistic thinking in relation to blood donation, the idea that blood donation is a social issue when considered aggregately and one for which society has to bear costs, and that a health problem could be resolved in general, while a modest contribution could be made to the well-being of patients in particular, come to the fore.

Analytical Thinking

Analytical thinking involves the tendency to distinguish the object from its present context, to focus on its properties by categorizing the object, and a preference to employ rules in order to explain and predict the behaviors of objects (Umay and Ariol, 2011). In other words, analytical thinking prefers to assign categories while examining the object. In contrast to holistic thinking, analytical thinking chiefly implies dealing with objects separately and then examining how these parts interact with each other. A person who tends to think analytically divides a larger problem into simpler parts, and tries to solve the main problem by finding solutions to these parts. According to this thinking style, the main logic for donating blood is that the patient requires blood in emergency situations, and the necessary steps should be taken to find the necessary blood. Nevertheless, a chain of rules could be defined, starting with the reasons why the blood required by the patient could not be found, to blood units in a hospital and the regional and national system.

METHOD

Measurement Instrument

This study intends to reveal factors of blood donation behavior, fears, and thinking styles that affect the behavior of individuals who donated blood. The questionnaire designed to this end consists of three sections. The first section contains 23 statements (five-point Likert scale), which were based on previous studies on blood donation. Some of these previous studies are listed in Table 1.

Table 1. Previous Studies on Blood Donation

<i>Variables</i>	<i>Previous study</i>
Attitudes	Masser <i>et al.</i> (2009); Yuan <i>et al.</i> (2011)
Subjective Norms	Ajzen (2002) Giles and Cairns (1995) Armitage and Conner (2001)
Responsibility	Armitage and Conner (2001) Veldhuizen <i>et al.</i> (2009)
Religion	Gillum and Masters (2010)
Competences	Masser <i>et al.</i> (2009) Veldhuizen <i>et al.</i> (2009; 2011)

The second section contains seven statements (five-point Likert scale) on the fears or barriers experienced during blood donation. These statements are taken from previous studies (Sojka and Sojka, 2008; Mohammad *et al.*, 2011). The Holistic and Analytic Thinking Scale, which includes seven statements regarding style of thinking, developed by Choi *et al.* (2003) was used in the third section. Finally, three questions were asked concerning the demographic characteristics of participants.

Sample

The sample of the study comprised blood donors, who participated in campaigns (on streets, at corporations and governmental institutions) organized by the Turkish Red Crescent in the Eskişehir province of Turkey between November and December 2014. Thus, the convenience sampling method was applied in this study. Donors who agreed to participate in the study were interviewed, informed of the purpose of the research, and having given their consent were included within the scope of the study. During the campaign period, 198 people were interviewed, forty-five surveys were deemed unusable due to invalid responses (e.g., blank, double answers, unswerving response, non-donors in campaign) and were therefore eliminated from the sample. This left the researchers with a total of 153 usable responses.

RESULTS

Demographic Characteristics

In terms of socio-demographic characteristics, it was established that 35.9% of blood donors were female and 64.1% were male, and most of the participants were between 18 and 25 years of age and held a bachelor's degree. Table 2 shows the demographic characteristics of the participants.

Table 2. Participants' Demographics

<i>Characteristics</i>	<i>f</i>	<i>%</i>
<i>Gender</i>		
Male	98	64.1
Female	55	35.9
<i>Education</i>		
Secondary	21	13.8
Vocational	44	28.9
Bachelor	87	57.2
<i>Age</i>		
18-25	85	55.6
26-35	36	23.5
36-45	16	10.5
46-55	13	8.5
56 >	3	2.0
Total	153	100

Explanatory Factor Analysis

In order to check the goodness of fit of the 22 statements on factors that may affect blood donation of the subjects to normal distribution, the skewness and kurtosis of data were examined. For the criterion in question, skewness of variables should be less than 2 and

kurtosis should be less than 7 (West, Finch and Curran, 1995). It was found that the skewness and kurtosis values of the variables derived from the research data were within these limits. Therefore, it was assumed that the data concerning the variables were normally distributed. In order to conduct a factor analysis on the answers provided by blood donors to these 23 statements, sampling adequacy was checked, for which the Kaiser-Meyer-Olkin (KMO) test was employed. Values between 0.5 and 1 were accepted as KMO values (Kurtuluş, 2011). The result of the KMO test in this study was 0.82, and the Explanatory Factor Analysis (EFA) was used in order to assess the uni-dimensionality of the variables. Regarding the scales and their sub-dimensions employed in this research, Cronbach's alpha internal consistency reliability analyses were conducted.

Table 3. Explanatory Factor Analysis Regarding Dimensions of Blood Donation Behavior

	<i>Std. Loads</i>	<i>Mean</i>	<i>SD</i>	<i>Alpha</i>
<i>Competences</i>				0.89
I am healthy enough for blood donation.	0.76	4.15	1.09	
I have the necessary physical and mental well-being.	0.77	3.97	1.21	
I have the required knowledge on blood donation.	0.72	4.05	1.09	
I am ready for the intervention necessary for blood donation.	0.82	4.13	1.16	
I can spare time to donate blood.	0.75	4.12	1.09	
I can rest after donating blood.	0.71	3.90	1.21	
<i>Attitudes Towards Blood Donation</i>				0.85
I believe that donating blood is a social responsibility.	0.66	4.67	0.63	
Donating blood is in compliance with my principles.	0.84	4.54	0.72	
My personal values encourage me to donate blood.	0.85	4.44	0.80	
I have the responsibility to donate blood.	0.75	4.35	0.97	
Donating blood is important for me.	0.64	4.35	0.99	
<i>Subjective Norms</i>				0.84
People I care about want me to donate blood.	0.73	3.56	1.25	
My acquaintances believe that donating blood is a good thing.	0.72	4.00	1.10	
My immediate family and friends want me to be the first person to donate blood.	0.73	3.45	1.29	
My acquaintances appreciate me when I donate blood.	0.81	3.78	1.23	
My acquaintances would believe that I am a good person if I donate blood.	0.75	3.70	1.22	
<i>Responsibility</i>				0.90
If I failed to donate blood, I would regret it.	0.57	3.70	1.15	
If I failed to donate blood, I would be uncomfortable.	0.65	3.63	1.23	
If I failed to donate blood, I would be frustrated.	0.70	3.39	1.27	
<i>Religion</i>				0.81
I believe donating blood is a good deed.	0.82	4.21	1.08	
Those who need blood pray to the donors.	0.74	4.26	.98	
Islam does not prohibit blood donation.	0.81	4.20	1.08	

Reliability of the total scales: 0.90

Eigen values (respectively): 3.94; 3.20; 3.12; 2.67; 2.38

% of the variances (respectively): 17.91; 14.54; 14.21; 12.14; 10.83

*M: Mean; *SD: Standard Deviation

Varimax rotation was used in the EFA, in order to reveal the dimensions related to blood donation behavior. The factor loads of all

terms related to the topic were greater than 0.56. Five factors became evident as a result of the analysis, which explained 69.93% of total variance (Table 3). The first dimension that arose as a result of the factor analysis was competence; the second dimension was attitude towards blood donation; the third dimension was subjective norms; the fourth dimension was responsibility and the fifth dimension was religious perspective. Reliability coefficients of 0.70 or higher are considered adequate (Nunnally, 1978). Cronbach's alphas coefficients of five factors were 0.89, 0.85, 0.84, 0.90 and 0.81, respectively. Additionally, for all items, the alpha value was 0.90, indicating a high consistency level.

The first factor consisted of the blood donors' feelings of competence or six statements relating to the fact that they were ready to behave as such. On average, these statements indicated agreement. The second factor was about attitudes towards blood donation and the donors showed a high level of agreement with these statements. The third factor was the subjective norm that is believed to have an impact on blood donation, and the agreement of donors with these statements was indecisive. The fourth factor, categorized as responsibility, was about the emotions the participants would have in the event that they could not donate blood. However, the average of these statements was also low, since the participants did donate blood. The last factor was the effect of religious considerations on blood donation. The average of these statements also indicated agreement. In other words, the blood donors believed that they performed a religiously positive act.

Fears of Donors

The fear and anxiety levels of blood donors during donation were questioned, and the mean values are shown in Table 4. On average, the answers of blood donors to statements regarding fears and anxieties indicated disagreement; however, considering that the standard deviation was high, it can be inferred that fears and anxieties reached

a level of indecisiveness. Hemophobia had the lowest mean, whereas the risk of acquiring a disease had the highest mean.

Table 4. Fear Levels of Donors

<i>Fears</i>	<i>Mean</i>	<i>S. D</i>
Risk acquiring a disease	2.54	1.55
Needle phobia	2.38	1.53
Fear of fainting	2.36	1.54
Hemophobia	2.26	1.42
Infection risk	2.28	1.42
Fear of pain	2.43	1.53

Factors Related to Thinking Style

In order to reveal the thinking styles of blood donors in the research, skewness and kurtosis values of data were reviewed to determine whether these seven statements fit a normal distribution. As a result of the factor analysis of the seven statements, related to the thinking styles of the participants, two factors (holistic and analytical) were obtained. These two factors explained 77.70% of the variance. The KMO value was 0.86, and Bartlett's sphericity test and chi-square value were significant ($p < 0.05$). Cronbach's α coefficients of the factors were 0.89 and 0.85, respectively (Table 5).

Table 5. Explanatory Factor Analysis with Thinking Style of Blood Donation Behavior

<i>Thinking Style</i>	<i>Factor Loads</i>	<i>Mean</i>	<i>SD</i>	<i>Alpha</i>
<i>Analytical</i>				0.89
Everything in universe is connected with each other.	0.88	4.38	1.01	
Even a minor change in any element in nature leads to significant changes in other elements.	0.85	4.14	1.03	
All events have numerous causes even though some of these causes are not known.	0.79	4.20	0.97	
There is nothing that is not connected with something else.	0.70	4.09	1.04	
<i>Holistic</i>				0.85
It is impossible to understand the parts unless the whole picture is seen.	0.78	4.11	1.08	
Whole is greater than the sum of its parts.	0.86	3.92	1.16	
Focusing on the whole is more important than focusing on the parts.	0.85	3.98	1.21	
Reliability of the total scales: 0.90				
Eigen values (respectively): 4.44; 2.58				
% of the variances (respectively): 40.89; 36.82				
*M: Mean; *SD: Standard Deviation				

Specification of Thinking Style

The thinking styles of the donors were specified within the framework of the two aspects mentioned above. A cluster analysis is a multivariate statistical method that aims to redesign a sample that consists of units in homogeneous groups (Eroğlu Hall and Sevim, 2015). Since the number of clusters was determined previously, the K-Means cluster analysis, a non-hierarchical clustering method, was chosen. In order to better reveal distinctive characteristics, one cluster for each factor dimension was specified as a result of the clustering procedure carried out after the factor analysis. These clusters are shown in Table 6.

Table 6. Thinking Styles of Donors

Thinking Style	f	%
Holistic	125	81.7
Analytical	28	18.3

DISCUSSION AND CONCLUSION

Blood donation is a significant issue for public health. Blood is a non-reproducible product obtained from human beings. In this respect, blood donations are necessary in order to meet blood requirements. Various studies have been conducted to date on factors affecting blood donation, such as personality traits and demographic characteristics. This study aimed to find dimensions of blood donation behavior, donation barriers and thinking styles, regarding blood donation among Turkish blood donors, who participated in Turkish Red Crescent's campaigns in Eskişehir province. The results of the factor analysis revealed five factors, namely: competences, attitudes towards blood donation, subjective norms, responsibility, and religion. These dimensions are to some extent linked with factors indicated in the literature (e.g., Ajzen, 2002; Armitage and Conner, 2001; Giles and Cairns, 1995; Gillum and Masters, 2010; Masser et al., 2009; Veldhuizen et al., 2009, 2011; Yuan et al. 2011). Secondly and most importantly, the results suggested that holistic and analytical thinking styles could play a decisive role in blood donation. While most of the research on blood donation focuses on different issues, such as demographics, barriers, culture and religion, this study revealed the thinking styles in terms of blood donation behavior. Finally, the findings indicated barriers based on blood donation behavior and attitudes.

The main contribution of this study is the attitude towards blood donation in terms of thinking styles. When we analyzed the thinking styles of the donors, we saw that most of them adopted a holistic style of thinking. This result implies that donors perceive the matter as a whole, which could be interpreted as an indication that the

donors felt that they made a modest contribution to overcome the inadequacy of donations at a national or general level and hence, to the well-being of patients.

The subjective norm, which can be defined as the impact made by acquaintances on attitudes towards blood donation, has a significant effect, as well. Particularly when voluntary donations are limited, a stimulus received from the environment (e.g. when an acquaintance needs blood) triggers donation behavior. Even though donors agreed to the subjective norm statements at a low level, the subjective norm effect is valid for Turkey, as well. Another set of statements included what the donors' feelings would be if they did not donate blood. The donors reported that they would regret it if they did not donate blood. These statements imply that donors felt a sense of responsibility for the subject. The last factor included statements associated with religious responsibility outside of social responsibility, i.e. statements that signified expectations of religious reward in return for an act of kindness. Donors believed that their behavior was not prohibited by religion, and that it would acquire merit and receive blessings.

As noted previously, another issue that has an impact on blood donation behavior with regard to the donor, is medical intervention. This procedure causes distress, anxiety, and fear among individuals. Particularly, the injection required to draw blood may cause both pain and subsequent complications. In some cases, individuals may even abandon their decision to donate, due to such fears. The analysis of the donors' fears in the research showed that even though the statements related to the fear of acquiring a disease and feeling pain had a high frequency, the level of these fears was low, or fear did not exist at all. In the context of barriers to blood donation, the results of this study are generally in line with the findings of previous studies, such as the transmission of diseases, for example hepatitis or HIV and bruising or pain associated with donating blood, or the use of needles (e.g., Boulware et al., 2002; Laver et al., 2001; Thompson, 1993). Nevertheless, there are different factors or outcomes for the blood donation barriers. For example, Polonsky et al. (2011) indicated that discri-

mination and stigma is one unanticipated barrier to donation among African communities in Australia. Additionally, other barriers, such as religious and occult were identified in other studies (e.g., Polonsky et al., 2011; Sampath et al., 2007; Umeora et al., 2005). In addition, Duboz and Cuneo (2010) underlined that medical reasons and lack of time as main two barriers (respectively) to blood donation among the French population. Furthermore, Kolins and Herron (2003) noted that “inconvenience” was a factor among younger potential donors.

The study concluded that the competence of the individual or the physical and mental readiness required for donating blood are important factors influencing blood donation. Specifically, donors who donate blood find themselves to be competent in doing so. Another issue is that donors should have a positive attitude concerning blood donation. At this juncture, behaviors in line with the adopted attitudes are acted out. Consequently, it can be inferred that for donors who thought positively about and were capable of donating blood, the impact of the environment was not so great, that they felt themselves responsible in this regard, and they perceived the behavior to be positive in religious terms. In terms of fear, on the other hand, it is possible to claim that they either were not afraid or realized that after having donated blood their fear had proved to be unnecessary. Finally, it should be noted that donors who perceive blood donation as a problem act with a holistic style of thinking. In the context of conclusion and implication, the results of the study have significant implications as to how well blood centers managers design strategies for blood donation and acquisition. Given the results of this study, it appears that blood collection organizations should take these results into consideration in order to deal effectively with barriers (Masser et al., 2008).

LIMITATION AND FUTURE STUDIES

While this study makes important contributions to the literature on blood donation, this study has several limitations in terms of met-

hodology and scope. Obviously, results from this study should be interpreted in the light of a number of these research limitations. Firstly, the results should be considered in respect of the methodological limitations. In other words, a small sample group and sampling method (convenience sampling) from a single city in Turkey represent a significant limitation. For this reason, findings from this study may not be generalizable to Turkey or Europe. Additional samples with donors from different countries and cultures should be collected in future research, to further clarify understanding of attitudes, fears and thinking styles about blood donation. Secondly, the results from this study provide a cultural or religion perspective regarding donation behavior in a Turkish blood donation context. Therefore, as the current study only assessed Turkish blood donors, future research may also consider investigating the impact of culture and religion in different countries. Finally, future studies may explore relationships between blood donation behavior, happiness and life satisfaction.

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