



# Validity and reliability of the cardiac self-blame attributions scale in Turkish

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## ARTICLE INFO

### Keywords:

Cardiac  
Self-blame  
Validity  
Reliability  
Nursing

Received: Jan 06, 2023

Accepted: Apr 17, 2023

Available Online: 28.04.2023

DOI:

[10.5455/annalsmedres.2023.01.07](https://doi.org/10.5455/annalsmedres.2023.01.07)

### Abstract

**Aim:** In this study, it was aimed to evaluate the Turkish validity and reliability of the cardiac self-blame scale (CSBA) scale and to bring it to Turkish society.

**Materials and Methods:** The research was methodological and descriptive. Data were obtained from 125 patients. Exploratory factor analysis (EFA) was used for the construct validity of the scale. The results showed that the scale can be used in Turkish society. The two-factor structure of the scale was preserved in this sample.

**Results:** KMO value of the scale is 0.872. Bartlett Test values are  $\chi^2=708,532$  and  $p=0.001$ . The factor loads of the scale are between 0.444-1.13. In this study, the Cronbach's alpha value of scale was 0.89.

**Conclusion:** Findings obtained because of validity and reliability studies of cardiac self-blame attributions scale, which was adapted into Turkish, revealed can be used to determine the accusations against the behaviors and characters of individuals with cardiac disease in Turkish society.



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## Introduction

Regardless of the structure of the countries, chronic diseases are increasing day by day. Among these increasing diseases, cardiovascular diseases (CVDs) are the leading ones with a rate of 48% [1]. Cardiovascular Diseases rank first among all causes of death according to the World Health Organization (WHO) 2019 data. Ranking second in top 10 global causes of disability-adjusted life years (DALYs) in 2019 according to WHO's global health forecast, ischemic heart disease illustrates the importance of cardiovascular diseases [2]. According to data of the Turkish Statistical Institute, it ranks first among the causes of death in 2018, constituting 38.4% of the death cases due to circulatory system diseases [3].

There are known variable cardiovascular risk factors to be claimed as those that should be changed to achieve better prevention of CVDs development [4]. Cardiovascular disease risk factors are discussed under two headings as modifiable and non-modifiable factors [5]. Modifiable risk

factors include poor blood sugar regulation, hypertension, dyslipidemia, obesity, psychosocial factors, sedentary life, bad habits, and nutritional disorders [6]. Among the psychosocial factors, which are modifiable risk factors, frequently reported ones are; economic problems, depression, stress, personality traits, lack of social support, social isolation, self-efficacy, and self-blame [5]. Self-blame, one of these risk factors, is one of the most important concepts in coping with a stressor. It is a reaction that a person directs to himself as the cause of a stressful event such as illness and shows against stress [7]. Self-blame has positive and negative effects on physiological, psychological, and mental health outcomes and affects the control and management of the disease. Self-blame was found to be significantly positively associated with depressive symptoms and negatively associated with mental quality of life in individuals with cardiovascular disease [8].

Self-blame is a type of causal attribution that includes perceptions of personal control over cause of an event and is often reported by people with chronic health conditions as not being well. Self-blaming individuals believe that an undesirable event is somehow their fault and that they are

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personally responsible for its occurrence [9]. Self-blame can be handled in two ways. These are behavioral self-blame and characterological self-blame [8]. Behavioral self-blame is defined as attributing certain behaviors or undesirable events to one's own behavior [8,10]. Self-blame, on the other hand, is one's accusation against stable aspects of one's personality and character [8].

In the literature, studies on self-blame attributions in CVD patients are insufficient [11]. For this purpose, with CSBA Scale, which was developed by Harry et al. in 2018, they developed a scale that determines the self-blame attributions in patients who have recently experienced a cardiac event. With this scale, they measured how much participants blame themselves in terms of their behaviors and characteristics related to cardiac events [10]. Validity and reliability of scale were confirmed according to evaluation study conducted in Iran, and it was concluded that CSBA-P Scale could be used in future research to assess self-blame among the individuals with heart disease in Iranian society [11].

In our country, there is no measurement tool for self-blame in cardiovascular diseases, which ranks first among chronic diseases. The aim of this study is to introduce CSBA Scale, which is a measurement tool to better understand the self-blame behaviors of the patient during the recovery period from cardiovascular disease, to the Turkish society.

The scale can be applied to individuals with cardiovascular disease and can facilitate the healthcare team in determining the accusations of the patients' behaviors and personality traits. By introducing this measurement tool to the Turkish literature, it has potential to help healthcare professionals better understand how they can turn these perceptions into a positive change by determining the guilt perceptions of patients receiving cardiovascular disease treatment and increasing the probability of a successful recovery. The care provided by nurses and other healthcare team members to the patient and their families by being aware of the guilt levels of patients' personalities and behaviors can contribute to the disease management of cardiovascular patients experiencing emotional stress.

## Materials and Methods

### Research design

This research is a study in which the cardiac self-blame attributions scale developed by Harry et al. [10] was adapted to Turkish culture, and the validity and reliability analyzes of the scale are based on the method of testing the relationship between variables, as required by the research design. The research was carried out in the cardiology service of a university hospital. For this reason, the sample of the study was determined as purposive sampling method. The data of the study were obtained by random sampling method from individuals who were hospitalized in the cardiology service and had cardiovascular disease. Since the data of the reliability and validity study cannot be generalized to a universe, the general and study universe is not determined. However, it is necessary to conduct analyzes on a sufficient number of individuals. For this, 5-10 times the total number of items in the scale can be selected [12]. While Akgül (1997) argues that the sample size should not

fall below 100, it is mentioned that this number is 5-10 times the number of items (variables) [13]. While Nunally (1978) recommends 10 times the number of items for the sample number, [14]. Kass and Tinsley (1979) suggest that if the sample number is below 300, the item number should be 5 to 10 times, when the sample number exceeds 300 (independently of the item number ratio). suggests that stable results have been achieved [15]. In this direction, when it is calculated by taking 10 samples (11\*10) for each item, it would be sufficient for 110 individuals to participate in research. Accordingly, in order to increase the reliability of the scale in study, sample size was exceeded, and a sample of 125 patients with cardiovascular disease was formed.

### Inclusion criteria

Volunteering to participate in the study, being between the ages of 18-65, being followed up with a diagnosis of cardiovascular disease, not having a cognitive and sensory disability that prevents answering the research questions.

Each stage of research was carried out in accordance with Declaration of Helsinki. Written permission was obtained from authors who developed scale via e-mail. The consent was obtained from Clinical Research Ethics Committee of Munzur University (decision no: 16). Necessary permission was obtained from relevant institution to conduct research. During the collection of the research data, the patients filled the "Informed Voluntary Consent Form" about the research. The principle of autonomy was complied with by expressing that the participants can leave the research at any time, and the ethical principle of protecting confidentiality and privacy was complied with by declaring that their personal information will be protected.

### Data collection tools

Data collection tools were collected by face-to-face interviews with patients after necessary explanations (purpose of the study, confidentiality of the data).

### The personal information form

Form containing introductory characteristics of individuals was created by the researchers.

### CSBA scale

This measurement tool was developed by Harry et al. [10] with the aim of determining self-blame characteristics in patients who have recently experienced a cardiac event. Scale consists of 11 questions. All scale items are rated in a scale ranging from 0 (strongly disagree) to 4 (strongly agree). The scale consists of two subscales. The first subscale is the "Behavioral Self-Blame" including the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> items in the scale, and its total score varies between 0-24. The second subscale is the "Characterological Self-Blame" including the 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup> items and its total score varies between 0-20. Higher scores indicate the situation of self-blame in both sub-dimensions. The Cronbach's alpha coefficient of the original scale was reported as .93 [10].

### Research process

First, permission was obtained from the authors. For language adaptation of original scale with permission, the target language was translated into Turkish by experts in the field, and then these Turkish forms were translated back to English and the consistency between the Turkish and English forms was examined. For the content validity of scale whose Turkish translation was completed, the opinions of 8 faculty members who are experts in the field of psychiatry were taken. Depending on the evaluations made by the experts, necessary corrections were made on the scale items. The scale was administered to 125 patients who met inclusion criteria.

### Data analysis

Data were analyzed using SPSS 22.0 (Statistical Package for Social Sciences) and AMOS 16 (Analysis of Moment Structures) programs. The level of significance in the analyzes was accepted as  $p < .05$ . In this study, the Turkish validity and reliability hypotheses of validity and reliability of the Cardiac Self-Blame Attributions scale were tested. The analysis of the reliability of the scale was made using the cronbach alpha, item total score reliability method. The validity of the scale was tested with content validity and construct validity (Factor analysis: explanatory and confirmatory factor analysis).

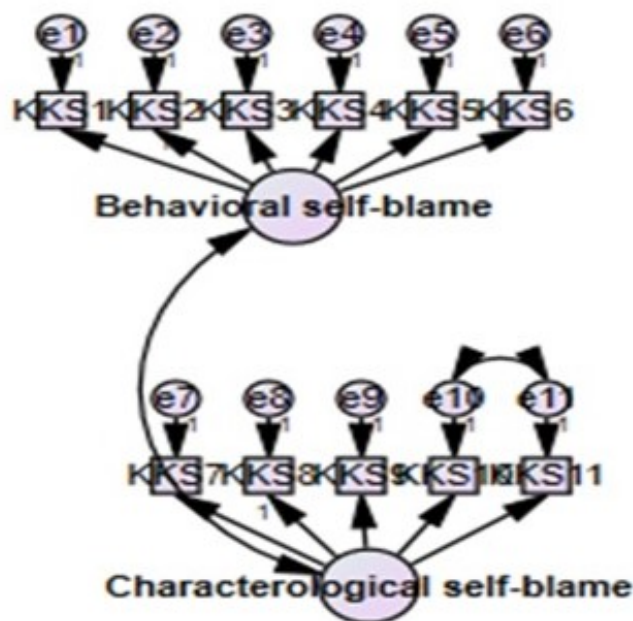
While evaluating the study data, the frequency distribution for categorical variables and descriptive statistics for numerical variables are given. Item total score correlation, Cronbach's Alpha coefficient, and Hotelling's T-Square analysis were used in the reliability study of CSBA. In order to test the validity of scale, content validity index (CVI) and construct validity were performed. Factor structure of scale was examined by exploratory factor analysis and confirmatory factor analysis. In construct validity, Kaiser-Meyer-Olkin (KMO) and Bartlett tests were performed. Factors were tested with confirmatory factor analysis in the AMOS program. At this stage, fit indices such as CMIN/DF, RMSEA, NFI, CFI, GFI, AGFI, p-value were used. In CFA, statistics of goodness of fit were evaluated and Path diagram of the scale was provided its final form.

## Results

The findings obtained from the study were examined under three headings.

1. Findings Regarding the Socio-demographic Characteristics of the Participants
2. Findings Regarding the Validity of Scale
3. Findings Regarding the Reliability of the Scale

When introductory characteristics of participants were examined, it was determined that 52.8% of them were male, 95.2% of them were married, 72% of them were primary school graduates, and 61.6% of them were between the ages of 56-65. The income of 66.4% of participants was equal to their expenses and the BMI of 51.2% of the participants was between 25-29.99. Scale score average is  $20.24 \pm 9.98$ .



**Figure 1.** Path diagram and parameter estimates for the Cardiac Self-Blame Attributions.

### Content and language validity

Language adaptation of scale was provided by translation and back translation methods. For content validity of the scale whose Turkish translation was completed, the opinions of 8 faculty members who are experts in the field of psychiatry were taken. In order to say that the scale has content validity, score must be 0.80 and above [12]. In this study, the CVI score was found to be 0.93.

### Confirmatory factor analysis (CFA)

CFA was applied to test the two-factor structure of CSBA scale. In the study, CFA was applied to 11 items on scale. Finally this factor analysis, the estimates and factor load values that give the data quality of 11 items in the scale are provided in Table 1. The findings of the goodness-of-fit indices obtained for CFA are shown in Table 2 and parameter estimates are presented in Figure 1.

### PATH diagram

As seen in the path diagram, the scale consisted of two factors and confirmed the acceptable goodness of fit indices. There was a high rate of covariance between the 10<sup>th</sup> and 11<sup>th</sup> items of the scale. It was observed that assigning covariance to these items brought the goodness of fit indexes (CMIN/DF, p-value, RMSEA, CFI, NFI, GFI, AGFI) and standardized regression coefficients (estimate) to the desired level, which is important in confirmatory factor analysis.

### Item analysis and reliability

Internal consistency of scale was determined by the Pearson moments product correlation coefficient. With this coefficient, how much the items that make up the scale contribute to the measurement tool and their relationship with the measurement tool were evaluated.

**Table 1.** Factor Matrices (F.M.), Factor Loads (F.L.), and Data Quality (D.Q.) of 11 Items in the Scale (D.Q).

ITEMS		F.M	F.L	D.Q
Number of the items on the original scale				
1	How much do you blame yourself for past behaviors that may have caused your cardiac event?	1	1.00	.474
2	To what extent do you accept fault for behaviors that may have caused your cardiac event?	1	1.137	.588
3	How much do you think your past behaviors contributed to your cardiac event?	1	.917	.429
4	To what extent do you believe that a change in your behavior could have prevented your cardiac event?	1	.797	.448
5	To what extent do you feel accountable when thinking about past behaviors that may have caused your cardiac event?	1	1.073	.594
6	When discussing possible causes of your cardiac event with important people in your life, to what extent have you blamed your past behavior?	1	.862	.470
7	How much do you blame the type of person you are for your cardiac event?	1	1.000	.588
8	To what extent do you believe that a change in the type of person you are could have prevented your cardiac event?	1	.444	.328
9	How much do you blame your personality for your cardiac event?	1	1.009	.595
10	How much do you blame yourself for being the type of person who has bad things, like a cardiac event, happen to them?	1	.476	.407
11	When discussing possible causes of your cardiac event with important people in your life, to what extent have you blame your personality?	1	.517	.541

**Table 2.** Confirmatory factor analysis concordance values of the cardiac self-blame attributions scale (n=125).

Compliance Indexes	Normal-Acceptable	Fit Analysis result
Chi-square/df (CMIN/DF)	CMIN/DF $\leq 3^*$ CMIN/DF $\leq 5^{**}$	2.040
P-Value for Test of Close Fit	p=0.001	0.000
Root Mean Square Error Of Approximation, (RMSEA)	0.05<RMSEA<0.10****	0.92
Comparative Fit Index- (CFI)	CFI value close to or above 0.90***	0.936
Goodness of Fit Index- (GFI)	GFI $\geq 0.85^*$	0.90
Adjustment Goodness of Fit Index-(AGFI)	AGFI $\geq 0.80^{****}$	0.84
Normed Fit Index- (NFI)	NFI $\geq 0.80^{****}$	0.88

[\*16, \*\* 17, \*\*\*18, \*\*\*\*19].

#### Investigation of internal consistency reliability coefficient of total and sub-dimensions of CSBA scale

Cronbach  $\alpha$  reliability coefficient of total scale was determined as .89. Hotelling's t was calculated as 27,780 (p = 0.008). The Cronbach's alpha coefficient of the sub-dimensions of scale was determined as .845 for Behavioral Self-Blame and .819 for Characterological Self-Blame.

According to Table 3, the removal of any item did not make a significant change in cronbach's alpha value, so no item was removed from scale.

#### Discussion

Personality shapes an individual's point of view to react to a negative experience. This situation is very effective on the behavior of individuals. These behavioral patterns may play a role in the formation of disorders. Since CVDs are often associated with certain negative behaviors, personality traits may be influential in the formation of CVDs. With help of this study, it was aimed to analyze validity

and reliability of CSBA Scale in Turkish population after a cardiac event.

The present scale includes questions about behavioral and characterological components of self-blame attributions in individuals with CVD and measures how much they blame themselves for their past behaviors [10]. Both blame attributions have positive and negative consequences on individuals with cardiovascular disease. It has been suggested that behavioral self-blame is an accusation for one's past behaviors (smoking, insufficient exercise, poor eating, and drinking) and that control evaluations result in better health outcomes as a result of these accusations. Characterological self-blame is assumed to be an accusation for one's own self and self-esteem and is associated with more distress in control assessments and worse health outcomes [8,20]. After behavioral self-blame, the patient may experience a stable and positive change over time by noticing his faulty behaviors, while the individual who blames himself/herself may experience an increase in depressive



**Table 3.** Item-total item correlations and cronbach alpha values resulting when the item is deleted.

ITEMS		Item-Total Item Correlation	Cronbach Alpha Value if the Item is Deleted
1	How much do you blame yourself for past behaviors that may have caused your cardiac event?	.692	.884
2	To what extent do you accept fault for behaviors that may have caused your cardiac event?	.498	.895
3	How much do you think your past behaviors contributed to your cardiac event?	.699	.883
4	To what extent do you believe that a change in your behavior could have prevented your cardiac event?	.558	.892
5	To what extent do you feel accountable when thinking about past behaviors that may have caused your cardiac event?	.665	.886
6	When discussing possible causes of your cardiac event with important people in your life, to what extent have you blamed your past behavior?	.609	.889
7	How much do you blame the type of person you are for your cardiac event?	.698	.883
8	To what extent do you believe that a change in the type of person you are could have prevented your cardiac event?	.575	.891
9	How much do you blame your personality for your cardiac event?	.596	.889
10	How much do you blame yourself for being the type of person who has bad things, like a cardiac event, happen to them?	.702	.883
11	When discussing possible causes of your cardiac event with important people in your life, to what extent have you blame your personality?	.607	.889

symptoms due to the helplessness of negative events and a decrease in self-esteem, and therefore, disease control may decrease. Depressive symptoms undermine patients' belief that they can change their behavior by lowering their motivation. When self-blame is managed properly, it has the potential to improve individuals' perceptions of control [21].

With adaptation of this scale to Turkish society, it was predicted that by observing the accusations of the patients' behaviors and characters, communication with the patient, approach techniques and care would be facilitated, and thus, patient's compliance with treatment would increase, and disease management would be easier.

#### Validity

The high validity of a measurement tool also means that it has high reliability. Validity is degree to which feature to be measured is measured in accordance with the purpose. It is valid, if the measurement values belonging to a certain phenomenon accurately reflect the phenomenon, describe it correctly, and provide correct theoretical explanations [18].

#### Content and language validity

The Content Validity Index (CVI) is carried out to determine whether each item in scale and whole scale measures the concept to be measured and whether it contains different concepts. In order to say that scale has content validity, the score is expected to be 0.80 and above. In our study, the opinions of 8 faculty members who are experts in the field of psychiatry were taken for the content validity of scale, whose Turkish translation was completed, and suggested corrections were made. As a result of the

evaluations, the CVI score was determined as 0.93, and it provided the necessary content validity value.

#### Construct validity

##### Factor analysis

"Kaiser-Meyer-Olkin" (KMO) test was used to determine sample adequacy. If the KMO value is close to 1, the data is suitable for factor analysis, if the KMO value is below 0.50 it is not appropriate, a value of 50-60 is bad, a value of 60-70 is weak, a value of 70-80 is medium, a value of 80-90 is good, and a score higher than 90 indicates that the value is excellent [18]. In addition, "Barlett's Test of Sphericity" analysis was applied to determine whether scale was suitable for factor analysis. The Barlett test gives the chi-square statistical value. As in other chi-square tests, the significance value is checked [18]. If the test result is less than 0.50, it is considered significant. In our study, the sample adequacy of the Cardiac Self-Blame Attributions Scale, determined by KMO, was 0.872, the Barlett Test result was 708,532, and  $p=0.001$  was found to be significant as a result of both analyzes. The findings showed that the data were normally distributed and the sample was suitable and sufficient for factor analysis.

#### CFA

CFA was applied to test two-factor structure of 11-item Cardiac Self-Blame Attributions Scale. The fact that factor loads are above 0.30 indicates the existence of consistency between scale items. While lowest factor load in original scale was 0.45, the highest factor load was 0.75. As a result of our analysis, lowest factor load was 0.444 and the highest factor load was 1.13, showing that the scale items were consistent with each other. In line with the results found, our study with the original scale is similar.

Since all values were higher than 0.30 at end of confirmatory factor analysis, no item was removed from scale.

In order to evaluate item-dimension structure of the scale, fit indices such as Chi-Square test, CMIN/DF, RMSEA, NFI, CFI, GFI, AGFI, p-value were performed. A CMIN/DF of 2 and below 2 indicates that model is a good model, and a value of 5 and below 5 indicates that model has an acceptable goodness of fit [12]. Among the fit indices, CFI value is close to or above 0.90 [18], RMSEA value is less than 1 [16]. GFI value is equal to or greater than 0.85, AGFI value is equal to or greater than 0.80 [16] shows that the fit is good [22]. The findings of goodness-of-fit indices related to CFA in our study were as follows: CMIN/DF: 2.040, Chi-Square test: 0.000, RMSEA: 0.92, CFI: 0.936, GFI: 0.90, AGFI: 0.84. In the adaptation study of the scale to Iranian society, the findings of goodness-of-fit indices related to the confirmatory factor analysis were as follows: CMIN/DF: 2.454, RMSEA: 0.074, CFI: 0.965, GFI: 0.925, AGFI: 0.881, and the results of the findings are parallel with our study. According to goodness of fit indices obtained in the present study, it can be said that two-factor structure of scale was confirmed in the data obtained in the Turkish sample.

#### *PATH diagram*

Finally analyzes made in the structural equation model, a direction outline called a "path diagram" can be obtained. In the PATH diagram, the variables of the model, t values, factor loads, unexplained variance, and some goodness of fit values can be seen in summary form [23,24]. As seen in Path, the scale confirmed a two-factor structure and acceptable goodness of fit indices. It was observed that there was a high correlation between the 10th and 11th items of the scale. It was seen that assigning covariance to these items brought the goodness of fit indices and standardized regression coefficients (estimate), which are important in confirmatory factor analysis, to the desired level.

#### *Reliability*

Reliability is one of the most important features desired in the measurement tools [18]. Reliability is defined as degree to which a measurement tool can measure the feature it intends to measure, free from random errors, or the sensitivity level of the measurement tool used in the measurement process against errors [25]. Therefore, for a measurement tool to be reliable, it must give the same or at least similar results when it is applied repeatedly under the same conditions [26]. A measurement tool with a low level of reliability will also have a low level of validity. For this, reliability is accepted as an important feature.

#### *Internal consistency*

Internal consistency, whether one-dimensional or multidimensional, is scale items' measurement of same construct in relation to each other. Each item in the scale should somehow represent the conceptual structure to be measured. By removing items with low information, internal consistency, and therefore, reliability of scale increases. Thus, scale used gains the feature of representing the conceptual structure to be measured [18]. If the items in scale

show a high level of consistency with each other, the  $\alpha$  coefficient is also high, indicating that internal consistency, that is, homogeneity, of scale items is high [25].

Cronbach's alpha value was calculated to evaluate reliability of CSBA Scale. It is used when items of scale are scored with more than two options [8,25]. Cronbach alpha internal consistency coefficient value is between 0 and 1. Evaluation criteria ranges used in the evaluation of Cronbach's alpha coefficient are defined. Among these score ranges,  $0.00 < \alpha < 0.40$  is considered unreliable,  $0.40 < \alpha < 0.60$  is considered as low-level reliable,  $0.60 < \alpha < 0.80$  is highly accepted as reliable, and  $0.80 < \alpha < 1.00$  is considered as highly reliable [13].

In this study, total Cronbach alpha values were determined as 0.89 for whole scale, .845 for behavioral self-blame sub-dimension, and .819 for the characterological self-blame sub-dimension. In original scale, total Cronbach's alpha values were calculated as 0.93 for whole scale, .93 for Behavioral Self-Blame sub-dimension, and .87 for the Characterological Self-Blame sub-dimension. It is reported that Cronbach alpha value of the scale adapted to Iranian society was determined as 0.938. With the high-reliability coefficient of the data analyses obtained finally this research, it has been determined that the scale is a reliable scale and is generally similar to the original scale and other versions.

#### *Hotelling's T-square analysis*

In the present study, Hotelling's T-Square test was used to investigate whether individuals with cardiovascular disease responded according to their own opinions or under the influence of the researcher or other people [18]. Hotelling's T Square values have shown that the difference between Hotelling's t value of 27.780 ( $p = 0.008$ ) and item mean scores are significant, and the scales do not have any response bias. Item-total score correlation is another measure of internal consistency. The relationships among the items forming the model are determined by Pearson Product Moments Correlation coefficient. For an item to be acceptable, item-total correlation coefficient must be positive and at least 0.20 [12,27,28]. In our study, it was seen that item-total correlation scale was at a sufficient level with 27,780, showing that the scale items did not have any problematic items and had internal consistency. In addition, no item was removed from the scale because it did not make a significant change in the Cronbach Alpha values detected when any item was deleted from the scale. With this result, it can be interpreted that each item in the scale is important and if it is deleted, the reliability will decrease, while we can say that the scale has high reliability. Consequently, findings obtained finally validity and reliability studies of Cardiac Self-Blame Attributions (CSBA) Scale, which was adapted into Turkish, revealed that scale is valid and reliable in evaluating self-blame attributions of individuals' behaviors and characters.

#### **Conclusion**

Finally validity and reliability analysis, scale consists of 11 items and has 2 sub-dimensions. These sub-dimensions are the behavioral self-blame (items 1, 2, 3, 4, 5, 6) and

the characterological self-blame (items 7, 8, 9, 10, 11). All items are rated on a scale ranging from 0 to 4. Total score is between 0-20. The increase in total score obtained from sub-dimensions of scale also negatively represents accusations directed against the person in the relevant field. The validity and reliability study of this scale can be used to determine the accusations against the behaviors and characters of individuals with cardiac disease in Turkish society. Individuals diagnosed with a chronic physical illness may need help adjusting to life. Self-blame, one of the emotions that these patients often experience, is a part of life. Being aware of the emotions experienced by patients as health-care professionals will improve their current health status. In this context we experience a familiar set of unpleasant feelings such as to understand the factors that contribute to a positive change in cardiac health status in cardiac rehabilitation patients, it is recommended to conduct studies investigating contribution of self-blame.

### Limitations

The limitations of this study include the small sample size and the use of self-report questionnaires.

### Acknowledgement

There is no potential conflict of interest to declare.

### Ethical approval

The consent was obtained from Clinical Research Ethics Committee of Munzur University (decision no: 16).

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