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RESEARCH ARTICLE

EVALUATION OF THE FOREIGN STUDENT ASSOCIATION BY THE MEMBERS VIA RELIABILITY ANALYSIS

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ABSTRACT - A student association could be established in a university or between the students outside the university. It can be established in accordance with special laws in order to discuss and solve the common problems of the students. The first step to establish an association is to choose the representatives of the students. After discussing the common problems of the students, the solutions and decisions are made by the representatives of the association within group which is in charge according to slate and policy of the association. The representative's members could be ranked within a group less or more than 13 members as the president, vice president, general secretary, etc. One of the association representative's duties is to find solutions to the problems and guide the students to be more effective in their study life. This study was carried out on the Yemeni Student Association in Karabuk University. The representatives of the association are 13 students, and the total number of Yemeni students in Karabuk University is around 600 students. According to the questionnaire shared with the students, the members who are getting helped by the association are approximately 303 students. In this study, to evaluate the internal consistency and impartiality among the association member answers using the reliability analysis, 18 questions were asked in a survey and the number of students who answered the questions was 109 students. The method used in the reliability analysis was the Cronbach Alpha method. If α (Cronbach Alpha) ≥ 0.70, then the content of the questions is appropriate and the reliability analysis is accepted which means the internal consistency and impartiality among the association member answers are (very or highly) reliable. Otherwise, the reliability analysis should be re-applied by exchanging the order of the scales (answers) or by deleting items (questions). The survey was shared using Google Form containing 18 questions and 5-point Likert scale. The application of the reliability analysis was made by using SPSS program, and the categorical values were exchanged to numerical values before analysis. The categorization of the categorical values was as follows: Demographic information: age, gender (1=male, 2=female), educational status: (1=language preparation, 2=university), and compatibility questions (strongly agree=1, agree=2, disagree=3, strongly disagree=4, undecided=5). The number of questions which reliability analysis was applied on was 15 questions starting from Q4 to Q18. According to SPSS results, Cronbach alpha value was 0.939, so reliability analysis was accepted.

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INTRODUCTION

A student association can be established in accordance with special laws made by young people studying at a university, academy, or college in order to discuss their common problems, find solutions, and take the necessary measures for social solidarity. There are many different ways to evaluate the representatives of associations serving students, but how and what the members of the association think about the representatives of the association, and how the relationship between those opinions can be determined needs to be explored. Therefore, through a survey, the relationship between each participant's answers can be determined and the participants' answers can be analyzed according to any evaluation method such as reliability analysis and the results of the evaluation method that could show the relationship between the participants' answers such as the internal consistency and impartiality among the answers. The survey is conducted to obtain information from individuals verbally or in writing. Theinformation requested from the individual can be different kinds of quantitative and qualitative data about his personal information, his environment or his institution. This information is mainly obtained by meeting face to face, in writing by mail, by telephone or by asking on the internet and in the same research one or more of these techniques also can be used together (Arıkan, 2018). Before sharing the survey, the scale type and the number of questions should be determined and the most used scale type is the Likert type. The Likert scale and Likert-type questions were introduced by Rensis Likert in 1932. The scale and questions have become the most widely used attitude and tendency measurement technique in many fields such as social sciences,

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political science, psychology, marketing and education. However, mixing the concepts of "Likert Scale" and "Likert-type question" with each other leads to incorrect analysis and interpretation of the data obtained from these scales. Onthe other hand, before sharing the survey, it is important to determine whether the parametric or non-parametric tests will be used in the analysis of data obtained with Likert scale or Likert-type questions. (Turan et al., 2015). Considering Likert's example of 4 measurement systems with available options, it couldalso be: agree, disagree, strongly agree, and strongly disagree.

Within the scope of this subject, there are student associations in different universities in manydifferent countries, and within the scope of this study, the Yemeni student association in the Karabuk branch was taken as an example. The representatives of the association are 13 students and the members of the association are approximately 600 students, and approximately 303 students out of600 students have been identified as active. The study mainly determines whether there is a relationship between the answers of active students in the Yemeni student association. Thus, a questionnaire was shared with active students on the internet by using Google Forms. The answers of the participants were collected and prepared using Microsoft Excel, and the reliability analysis was applied using the Cronbach Alpha method to determine whether there was a correlation between the answersof the participants using the SPSS program. The number of participants is 109 and the number of items is 18. The number of items included in the analysis is 15, demographic information is not included in the analysis. According to the information shown above, a survey (questionnaire), reliability analysis, Yemeni student association, and reliability analysis were applied to Yemeni student association active members in Karabuk branch, evaluating their answers by using the Cronbach alpha method in the SPSS program. If α (Cronbach Alpha) ≥ 0.7 then the content of the questions is appropriate and thereliability analysis is accepted which means the internal consistency and impartiality among the association member answers are (very or high) reliable, otherwise the reliability analysis should be re-applied by exchanging the order of the scales (answers) or by deleting items (questions).

LITERATURE REVIEW

Ozcan and Eriş (2021) investigated whether the effect of computer games on academic achievement is different based on departments and variables such as gender, school averages, types of games they prefer, and reasons for playing computers. The data used for the research were collected using an online questionnaire and it was carried out with 103 participants. These data were analyzed in the SPSS program. Three problems were established for the research. As a result, no significant difference was found between the reason for playing computer games and the gender and university success average. In addition, with the crosstab analysis made, the most preferred game genre by the engineering faculty was the strategy and adventure genre. In this study, 9 questions with a 5-point Likert scale were asked. The data obtained were taken from Google Forms in Microsoft Excel format. These numerical data were analyzed in the IBM SPSS Statistics program. Arrangements have been made so that questions with more than one answer can be analyzed in IBM SPSS Statistics. As the first step of the analysis, the averages of the scales for playing computer games were found as the reason for playing computer games. In the second step, the reliability of the scales was tested. The reliability measured was 79%. So, reliability analysis was accepted (Özcan & Eriş, 2021).

Kıral and Karlılar examined the factors affecting the tax morale and tax awareness levels of the students in the Department of Finance and Theology at Çukurova University.A total of 530 students studying in the 3rd and 4th grades participated in the survey. Reliability analysis, Kruskal Wallis test, Mann Whitney U test, and Chi-square analysis were applied to the obtained data. According to the results of the analysis, it has been determined that there is a significant difference between sociocultural factors and tax morale. A significant difference was found between the statements about tax and the type of education. Since the overall Alpha coefficient value was 0.906 within the scope of this study, the students were given internal consistency between the questions shared in the questionnaire, the content of the questions was appropriate, and the reliability analysis was accepted (Kıral & Karlılar, 2018).

Aktas and Tabak (2018) in their study did a Turkish adaptation of mathematics questionnaire. A study of validity and reliability, the validity and reliability studies of the scale, item analysis, exploratory factor analysis and confirmatory factor analysis were performed on the data collected from1169 primary school students. In this direction, 18 items from the original scale were translated into Turkish, and item equivalence was ensured between the original English and Turkish translations. In order to determine the construct validity of the scale, an item with a low total correlation value was removed from the scale during item analysis. The Cronbach's alpha coefficient was calculated as 0.93. Cronbach's alpha coefficients, one of the sub-dimensions of the Pleasure and Self-Perception scale, were calculated as 0.91 and 0.88 respectively. Reliability analysis was accepted because Cronbach's alpha coefficient value was ≥0.70 (Aktas & Tabak, 2018).

Derg et al. (2017) evaluated the performance by asking three questions to academicians who are experts in the field of Turkish Music vocal education and to vocal artists who are experts in their fields. It was determined that the questionnaires, validated by expert opinions, were highly reliablewith a value of 0.798, or 80%, as a result of SPSS reliability analysis (Reliability Statistics Cronbach's Alpha). The reliability of the performance evaluation scale was also ensured through the experimental process. Pre-test reliability analysis (Cronbach's Alpha) of three experts, twelve students, and students who were pre-tested on seven variables, showed that the scale was generally highly reliable, with a value of 937%. The post-test reliability analysis (Cronbach's Alpha) of the students who were subjectedto the post-test was found to be 86%, with the result that the scale was generally highly reliable (Derg et al., 2017).

Girgin (2015) developed a valid and reliable scale that can be used to determine the motivationof music teacher candidates for individual instrument lessons. As a result of the exploratory factor analysis, it was determined that the scale had 25 items and three sub-dimensions. Cronbach Alpha values of the sub-dimensions of the scale are; lack of motivation is 0.90, motivation for success is 0.88, and motivation to work is 0.76. The Cronbach Alpha value of the whole scale is 0.77. After the exploratory factor analysis, the 3-factor structure was tested with confirmatory factor analysis and it was seen that the model had very good indices. The findings obtained from this study revealed that the Individual Instrument Lesson Motivation Scale is a valid and reliable measurement tool that can be used to determine the motivation of prospective music teachers towards instrument lessons. Reliability analysis is accepted as the Cronbach Alpha value of the entire scale is 0.77 (Girgin, 2015).

Surgevil et al. (2013) in their validity and reliability analysis of structural strengthening and psychological empowerment scale included the validity and reliability analysis of Laschinger's Structural Empowerment Scale (Conditions of Work Effectiveness Questionnaire-II, CWEQ-II) and Spreitzer's Psychological Empowerment Scale (PES) which were adapted to Turkish. As a result of the analysis, the original version of the structural reinforcement scale showed very good compliance values; however, it was found that the forced six-factor structure was more successful in measuringthe concept of structural reinforcement. The original version of the psychological empowerment scale was confirmed as a suitable structure. According to the results of the internal reliability analysis, the scales were accepted since the internal reliability values of the factor dimensions in all constructs were above 0.70 (Sürgevil et al., 2013).

In the validity and reliability study of basketball referees stress questionnaire (BHSA), the "main components factor, analysis was applied to the BHSA stressors items, the 3-factor patterns that emerged after the Oblique Transformation explain 50.09% of the questionnaire for 137 referees. After the Oblique Transformation of the "Main Components Factor" analysis was applied to the scores of the methods of coping with the sources of stress of the questionnaire, 3-factor structures were determined again and the 3 factors explained 65.80% of the methods of coping with stress for 137 referees. As a result of the analysis, the predictive coefficients of both stress sources and methods of coping with stress sources are between 0.26 and 0.72. In this study, the Alpha coefficient values of some items are ≤ 0.70 and in such cases, the scales of the items should be reordered or those items should be removed from the analysis, and new α values can be seen by clicking the scale if item deleted option in SPSS. Ifthe new α values are still ≤ 0.70, factor analysis should be applied (Sciences, 2010).

Ersöz et al. (2009) explored the measurement of service quality with equal method and analysisof results with structural equation models which is teacher's house practice. The data collected by questionnaires were tested with factor analysis, reliability analysis, anode analysis, and regression analysis and the results obtained was positive. According to service quality dimensions reliability analysis, the results were accepted and the Alpha coefficient value was ≥ 0.70. The detailed results were as follows:Physical Characteristics (0.933), Reliability (0.953), Enthusiasm (0.928), Assurance (0.926), and Empathy (0.942) (Ersöz et al., 2009).

METHODOLOGY

In this study, the method used in reliability analysis was the Cronbach Alpha method, if $\alpha \geq 0.7$, the content of the questions is appropriate and the reliability analysis is accepted. Otherwise, the scales should be reordered or some of the items (questions) should be removed from the analysis so that the Cronbach Alpha is equal to or more than 70%.

In this study, data were collected online using Google Forms. Each participant is restricted to submitting an answer only once. The demographic information of the participants was collected in the first part of the questionnaire but these questions are not included in the analysis. In the second part, 15 questions with a 5-point Likert scale were presented. The data obtained were exported from Google Forms into Microsoft Excel format. These categorical data were exchanged into numerical data and analyzed in the IBM SPSS Statistics program. The number of questions shared on the Google Form was 18 questions and the number of scales (answers) was 5. The total number of students who received the survey was 303, and the number of participants who returned the survey was 109 students, of which 20.2% of the participants were women and the rest were men.

After collecting the data, reliability analysis was performed using SPSS and the categorical answers were coded. Demographic information was not included in the analysis. There are 3 questions asked in the questionnaire: age, gender (1 = male, 2 = female), education level (language preparation = 1, university = 2), and compatibility questions (strongly agree=1, agree =2, disagree =3, strongly disagree =4, undecided =5). Answers from compatibility questions were included in the analysis. The survey was shared with the President of the Yemeni Student Association. Then, the survey was delivered to the association members after taking permission from association representatives. 18 items (questions) were asked in the shared questionnaire and answers were coded using SPSS. The coding of the questions is shown in Table 1.

Table 1. Survey questions

No	Question (item)	In SPSS
1	Your age?	Q1
2	Gender?	Q2
3	Education status?	Q3
4	In 2021, are you grateful for the outcome of YSA election event in Karabük?	Q4
5	Do you think that YSA in Karabük did what is planned and said immediately after the election results?	Q5
6	Do you think that YSA in Karabük has completed most of the tasks in its quarterlyplan in 2021?	Q6
7	Do you think that YSA in Karabük provided moral support to serve the students?	Q7
8	Do you think that the various activities held in the past by YSA in Karabük were sufficient?	Q8
9	Do you think that YSA in Karabük solved the problems faced by the students at the university?	Q9
10	Do you think that YSA in Karabük helped the student with the problems that they faced in governorship?	Q10
11	Do you think that YSA in Karabük represented Yemeni students in the best way before the official authorities?	Q11
12	Do you think that YSA in Karabük was negligent in its performance towards improving the scientific aspect of students?	Q12
13	Do you think that the supervision and inspection committees of YSA in Karabük fully perform their duties?	Q13
14	Do you think that the service link shared by YSA in Karabük useful for the students?	Q14
15	Do you think that the subcommittees of YSA in Karabük were doing well? Forexample: health committee	Q15
16	Do you think YSA in Karabük is better than the previous one?	Q16
17	Do you think YSA representatives in Karabük are efficient?	Q17
18	Do you think that the expenditures of the financial support to YSA in Karabük were properly spent?	Q18

RELIABILITY ANALYSIS

Reliability is the degree to which a test or scale consistently measures what it intends to measure. In other words, it is the consistency between the answers given by the individuals to the test items. A reliable test or scale will give the same similar results when reapplied under similar conditions. The more reliable a test or scale is, the more reliable the data obtained from it. Data obtained with the help of an unreliable scale is useless. For example, in an intelligence test, if a student gets 100 points on one day and 140 points on the next day, the reliability of this test is unmeasurable (Terzi, 2017).

There are two key concepts to be considered when evaluating the results of a study, one of these concepts is validity and it can be defined as the fact that the test measures the phenomenon accurately and without confusing phenomena with each other. The other concept is reliability, and it can be defined as the consistency of the measurement process in different samples, time, and spatial conditions. The test is considered unreliable when the test produces too different results when it is answered by the same group of people under similar conditions but during different times. That means there are problems with the reliability of the measurement tool (test, questionnaire). Reliability also directly affects the validity of a test. A valid test must also be reliable. On the other hand, there may be examples where the validity of tests with high-reliability analysis results is not low.

It has been mentioned above that the concept that reveals how consistent the questions in the questionnaire are, how homogeneous they are in measuring the phenomenon, and their durability over time is called reliability (Terzi, 2017). With package programs such as SPSS, scale, survey form, etc., the methods that might be used to measure reliability can be grouped under the title of reliability analysis. Although there are different methods for reliability analysis (Yıldız ve Uzunsakal, 2018), the most commonly used one is reliability analysis through Cronbach's Alpha coefficient.

Some Considerations in Reliability Analysis

- Consistency between independent measurements of the same variables.
- A certain thing to be measured is constantly taking on the same symbols.

- Obtaining the same results by following the same processes and using the same criteria.
- The measurement is free from accidental errors.
- The repeatability, stability, or consistency of the measurement process (Terzi, 2019).

CRONBACH ALPHA COEFFICIENT

Cronbach Alpha gives an important idea of the reliability of a test. The reliability analysis performed on this coefficient was developed by Lee Cronbach and is suitable to use in Likert-type scales (strongly agree, agree, no answer, disagree, strongly disagree).

In cases where the value of Cronbach's alpha ≥ 0.70, it is considered an acceptable value in the literature. Cronbach's alpha coefficient which is a measure of the internal consistency of the items is used to explain or question the homogeneous structure of the items in the scale. It is interpreted that the items in the scale with a high Cronbach's alpha coefficient consist of items that are consistent with each other and measure the same feature. Cronbach alpha is frequently used in Likert-type scales. Cronbach's alpha might be expressed as:

$0 < \alpha < 0.40$ (not reliable)

$0.40 < \alpha < 0.60$ (low reliability)

$0.60 < \alpha < 0.80$ (very reliable)

$0.80 < \alpha < 1.00$ (high reliability)

Some approaches to calculating Cronbach's Alpha

- Analysis of variance
- Finding item and item totals
- Obtaining inter-item covariance values and correlation coefficients(Uzunsakal & Yıldız, 2018)

In some sources, if the Cronbach Alpha value is $\alpha \geq 0.70$, reliability analysis is accepted. The value is used to understand whether the questions asked to measure the same variable in a survey have internal consistency among themselves and check if the questions are correlated with each other. Generally, 0.70 and above is accepted as an acceptable value in the literature.

The way the questions are asked is also important to determine whether it is high or low. if there is a question asked in reverse, the values of that question should be reversed before looking at Cronbach's alpha value. It is also a good way to have a smaller test group to check Cronbach's alpha before distributing the questionnaires to a large audience to see if the content of the questions is appropriate. If there are questions that degrade the value, the questions can be eliminated until the value rises above 0.7, or the questions can be regrouped for the variables by factor analysis.

Problem-Solving Steps:

In this study, problem-solving stages were carried out according to the following hierarchy.

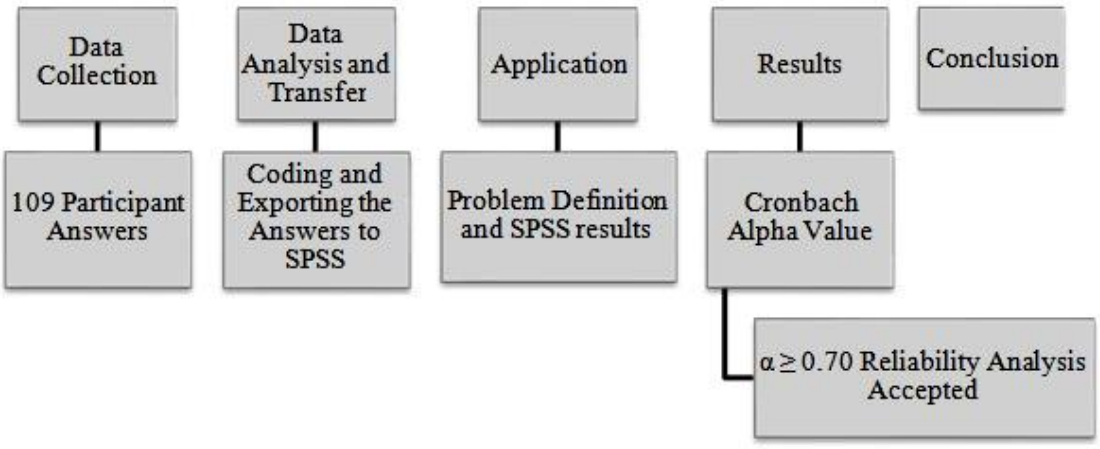

Figure 1. Problem-solving stages

DATA COLLECTION

The data was collected from the survey which was shared with YÖD, Karabük branch in Turkey. The questionnaire consists of 18 items and the number of participants was 109. Data were collected from survey questions using Google Forms and each participant is restricted to submit an answer only once. The demographic information of the participants was collected in the first part of the questionnaire but these questions are not included in the analysis. In the second part, 15 questions using a 5-point Likert scale were asked. Demographic information was not included in the analysis. There are 3 questions asked in the questionnaire: age, gender (1 = male, 2 = female), education level (language preparation = 1, university = 2), and compatibility questions (strongly agree=1, agree =2, disagree =3, strongly disagree =4, undecided =5). Answers from compatibility questions were included in the analysis. The data obtained were exported from Google Forms into Microsoft Excel format. These categorical data were exchanged into numerical data and analyzed in the IBM SPSS Statistics program. The number of questions shared on the Google Form was 18 questions and the number of scales (answers) was 5. The total number of students who received the survey was 303, and the number of participants who returned the survey was 109 students, of which 20.2% of the participants were women and the rest were men. Some of the participants' answers are shown in Table 2 and Table 3 below.

Table 2. Some of the participants' answers

No	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
1	23	Female	University	Strongly agree	Disagree	Agree	Strongly agree	Disagree	Strongly agree
2	23	Female	University	Undecided	Undecided	Undecided	Undecided	Undecided	Undecided
...	…	…	…	…	…	…	…	…	...
108	22	Male	University	Strongly disagree	Strongly disagree	Disagree	Disagree	Disagree	Disagree
109	24	Male	University	Agree	Disagree	Agree	Agree	Agree	Disagree

Table 3. Some of the participants' answers

No	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18
1	Strongly agree	Strongly agree	Disagree	Strongly Disagree	Agree	Strongly agree	Disagree	Strongly Disagree	Strongly agree
2	Undecided	Undecided	Undecided	Undecided	Undecided	Undecided	Undecided	Undecided	Undecided
..	…	…	…	…	…	…	…	…	…
108	Disagree	Agree	Agree	Disagree	Strongly Disagree	Disagree	Strongly Disagree	Strongly Disagree	Strongly Disagree
109	Disagree	Agree	Disagree	Agree	Disagree	Disagree	Strongly Disagree	Disagree	Disagree

DATA ANALYSIS

The percentage of the participants' gender (Question 2) is shown in Figure 2 below:

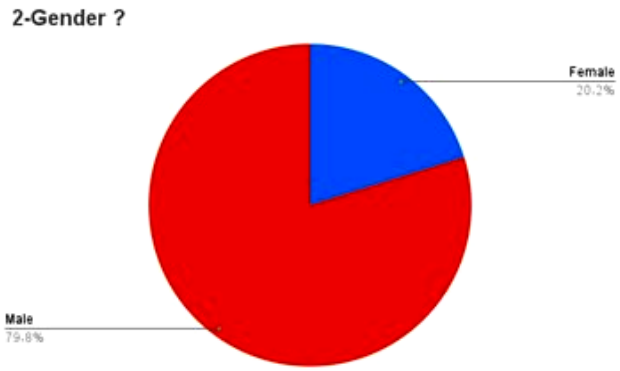

Figure 2. Percentage of participants' gender

Figure 2 shows the percentage of the participant gender, male (79.8%) and female (20.2%). The demographic information of the participants is summarized in Table 4.

Table 4. Participants demographic information

Q1 (Age)		Q2 (Gender)		Q3 (Education)	
(21 - 25)	Others	Male	Female	University	TÖMER
80%	20%	79.8%	20.2%	92.7%	7.3%

The percentage of participant answers for question 8 (Q8) is shown in Figure 3 below:

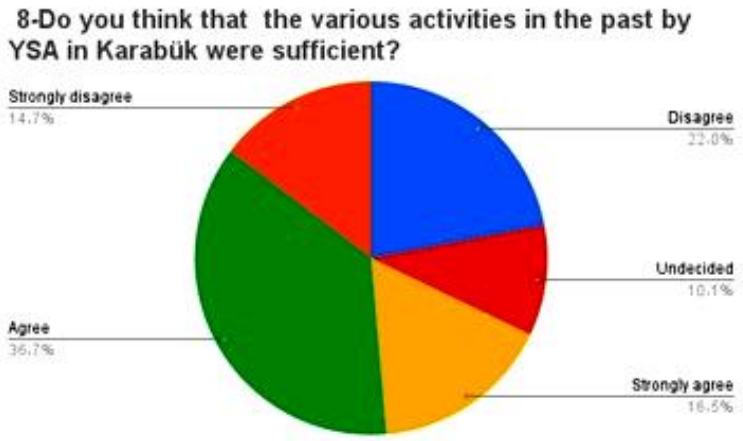

Figure 3. Percentage of participant responses for question 8

Figure 3 shows the percentage of responses for 109 participants for Question 8. The participants answer the question 'Do you think that the various activities in the pastby YSA in Karabük were sufficient?'. The percentage of participant answers for Question 13 is shown in Figure 4. The participants answer the question 'Do you think that the supervision and inspection committees of YSA in Karabük did fully perform their duties?'.

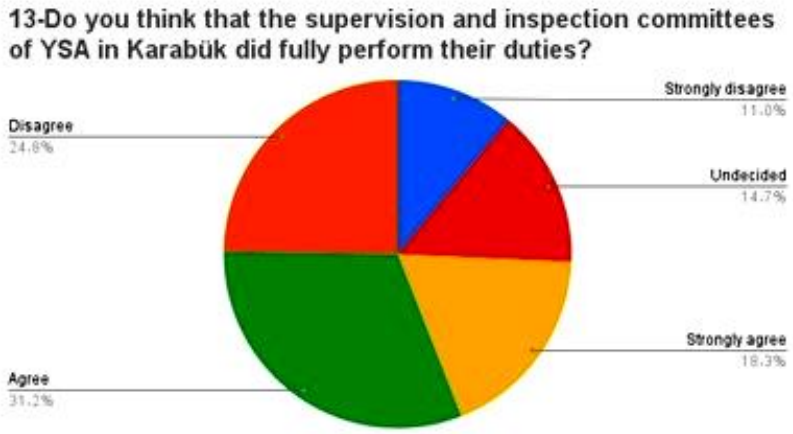

Figure 4. Percentage of participant responses for question 13

DATA TRANSFER

There are two ways of exporting data to SPSS. One might be done directly in SPSS, and the other one can be added to SPSS by changing the categorical variables to numerical variables and this is might be done by using Excel. By doing this, the data can be easily added to SPSS. In this study, the data was transferred by using Excel. Before transferring the data, the categorical variables were changed to numerical, for example, the answers of the participants are categorical variables and it was changed to numerical values. It is simply by coding the categorical data to Strongly agree=1, Agree =2, Disagree =3, Strongly disagree =4 and Undecided =5. The coding is shown in Table 5 below.

Table 5. Changing categorical variables into numerical example

No	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18
1	23	2	2	1	3	2	1	3	1	1	1	3	4	2	1	3	4	1
2	23	2	2	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
..	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…	…
108	22	1	2	4	4	3	3	3	3	3	2	2	3	4	3	4	4	4
109	24	1	2	2	3	2	2	2	3	3	2	3	2	3	3	4	3	3

The exchange of the categorical values was as follows: Demographic information: age, gender (1 = male, 2= female), educational status (1=language preparation, 2= university) and compatibility questions (strongly agree=1 , agree =2, disagree =3, strongly disagree =4, undecided =5). Table 5 above shows that the first participant's answer for the first question (Q1) (age) was 23. The answer for the second question (Q2) (gender) was female which equals 2 and the answer for the eighteenth question (Q18) (Do you think that the expenditures of the financial support to YSA in Karabük were properly spending?) was Strongly agree which equals to 1.

APPLICATION

Problem Definition

General YSA in Turkey was established in 2016 and consists of 38 branches. Each branch has a certain number of representatives. This study was carried out on the Yemeni student association in Karabuk involving 13 representatives of the association. The student registration form of the association and the number of students served by the association is about 303. The questionnaire was shared with 303 students, and a reliability analysis was conducted to see if there was internal consistency between the questions. The method used in the reliability analysis is Cronbach's alpha method. If $\alpha \geq 0.7$, the content of the questions is appropriate and the reliability analysis is considered acceptable. Otherwise, the questions should be re-evaluated. The number of questions on the Google Form is 18 and the number of scales (answers) is 5. The SPSS program was used for reliability analysis.

Table 6. Case processing summary

		N	%
Cases	Valid	109	100,0
	Excluded	0	,0
	Total	109	100,0

a. Listwise deletion based on all variables in the procedure.

As shown in Table 6, the number of participants in the transaction summary in the analysis was 109 and there was no deficiency.

Table 7. Reliability statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.939	0.939	15

Table 7 shows the reliability analysis result which is 0.939 and this value means non-standardized Alpha. The standardized value of Alpha is shown in the middle of the table and the rightmost N of items shows the number of the questions that the analysis was applied.

Table 8. Item statistics

	Mean	Std. Deviation	N
Q4	2,3028	1,31589	109
Q5	2,6789	1,23139	109
Q6	2,7523	1,27043	109
Q7	2,1835	1,20312	109
Q8	2,6514	1,21241	109
Q9	2,4495	1,25082	109
Q10	2,4587	1,25854	109
Q11	2,1835	1,27050	109
Q12	3,0183	1,22461	109
Q13	2,7248	1,29723	109
Q14	2,6055	1,36774	109
Q15	2,6239	1,32490	109
Q16	3,0275	1,37072	109
Q17	2,7523	1,33442	109
Q18	2,7339	1,39206	109

Table 9. Inter – item correlation matrix

	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18
Q4	1,000	,666	,655	,725	,560	,670	,631	,603	,203	,543	,479	,544	,314	,544	,595
Q5	,666	1,000	,760	,659	,495	,606	,544	,648	,262	,553	,606	,538	,444	,560	,620
Q6	,655	,760	1,000	,606	,496	,525	,523	,573	,176	,576	,572	,445	,498	,559	,528
Q7	,725	,659	,606	1,000	,616	,634	,610	,747	,287	,531	,528	,572	,396	,571	,660
Q8	,560	,495	,496	,616	1,000	,599	,506	,589	,297	,557	,508	,465	,385	,524	,586
Q9	,670	,606	,525	,634	,599	1,000	,615	,688	,230	,545	,603	,651	,290	,550	,569
Q10	,631	,544	,523	,610	,506	,615	1,000	,584	,229	,430	,515	,526	,427	,487	,541
Q11	,603	,648	,573	,747	,589	,688	,584	1,000	,278	,632	,554	,613	,380	,584	,619
Q12	,203	,262	,176	,287	,297	,230	,229	,278	1,000	,283	,120	,301	,303	,292	,209
Q13	,543	,553	,576	,531	,557	,545	,430	,632	,283	1,000	,481	,548	,369	,490	,569
Q14	,479	,606	,572	,528	,508	,603	,515	,554	,120	,481	1,000	,566	,416	,428	,577
Q15	,544	,538	,445	,572	,465	,651	,526	,613	,301	,548	,566	1,000	,388	,549	,573
Q16	,314	,444	,498	,396	,385	,290	,427	,380	,303	,369	,416	,388	1,000	,469	,421
Q17	,544	,560	,559	,571	,524	,550	,487	,584	,292	,490	,428	,549	,469	1,000	,552
Q18	,595	,620	,528	,660	,586	,569	,541	,619	,209	,569	,577	,573	,421	,552	1,000

Table 8 shows the mean of the items according to 109 participants and their standard deviations. Table 9 shows the Inter-item (Scale) Correlation Matrix. As noticed, participant answers in thequestionnaire are not reverse answers, so there is no negative value in the matrix.

Table 10. Inter – item correlation matrix

	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18
Q4	1,000	,666	,655	,725	,560	,670	,631	,603	,203	,543	,479	,544	,314	,544	,595
Q5	,666	1,000	,760	,659	,495	,606	,544	,648	,262	,553	,606	,538	,444	,560	,620
Q6	,655	,760	1,000	,606	,496	,525	,523	,573	,176	,576	,572	,445	,498	,559	,528
Q7	,725	,659	,606	1,000	,616	,634	,610	,747	,287	,531	,528	,572	,396	,571	,660
Q8	,560	,495	,496	,616	1,000	,599	,506	,589	,297	,557	,508	,465	,385	,524	,586
Q9	,670	,606	,525	,634	,599	1,000	,615	,688	,230	,545	,603	,651	,290	,550	,569
Q10	,631	,544	,523	,610	,506	,615	1,000	,584	,229	,430	,515	,526	,427	,487	,541
Q11	,603	,648	,573	,747	,589	,688	,584	1,000	,278	,632	,554	,613	,380	,584	,619
Q12	,203	,262	,176	,287	,297	,230	,229	,278	1,000	,283	,120	,301	,303	,292	,209
Q13	,543	,553	,576	,531	,557	,545	,430	,632	,283	1,000	,481	,548	,369	,490	,569
Q14	,479	,606	,572	,528	,508	,603	,515	,554	,120	,481	1,000	,566	,416	,428	,577
Q15	,544	,538	,445	,572	,465	,651	,526	,613	,301	,548	,566	1,000	,388	,549	,573
Q16	,314	,444	,498	,396	,385	,290	,427	,380	,303	,369	,416	,388	1,000	,469	,421
Q17	,544	,560	,559	,571	,524	,550	,487	,584	,292	,490	,428	,549	,469	1,000	,552
Q18	,595	,620	,528	,660	,586	,569	,541	,619	,209	,569	,577	,573	,421	,552	1,000

Table 11. Item-total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	SquaredMultiple Correlation	Cronbach's Alpha if Item Deleted
Q4	36,8440	174,003	,752	,692	,933
Q5	36,4679	174,955	,778	,700	,933
Q6	36,3945	175,648	,730	,692	,934
Q7	36,9633	175,036	,796	,715	,932
Q8	36,4954	177,826	,697	,541	,935
Q9	36,6972	175,176	,758	,674	,933
Q10	36,6881	176,957	,696	,537	,935
Q11	36,9633	173,739	,791	,698	,932
Q12	36,1284	189,372	,325	,213	,944
Q13	36,4220	176,413	,689	,545	,935
Q14	36,5413	175,547	,674	,560	,935
Q15	36,5229	175,252	,708	,575	,934
Q16	36,1193	180,587	,526	,408	,939
Q17	36,3945	175,500	,694	,517	,935
Q18	36,4128	172,726	,742	,595	,933

Table 10 and 11 present Item-Total Statistics. The column on the right (Cronbach's Alpha if Item Deleted) is very important as if any item is removed in this column, a new Alpha value will be shown. In this way, if any item affects the value of alpha, that item can be removed until the value is more than 0.70 or the scales can be reordered.

DISCUSSION

According to SPSS results, there was internal consistency among the 15 questions and all their answers from each participant to which the reliability analysis was applied on. The alpha value was determined as 0.939 and this value is more than 70%. Hence, the reliability analysis result is considered highly reliable. On the other hand, if the alpha value is less than 70%, there might be a negative value in Inter-Item Correlation Matrix. Solving the problem would be by deleting the item that affects Cronbach's Alpha value, and this can be noticed in the rightmost column (Cronbach's Alpha if item deleted) from items total statistics table. As shown in Figure 2 above, the percentages of the first part which were 3 demographic information questions answers, 80% of the participants' ages were between 21 to 25, 79.8% of the participants were male and 20.2% were male, and 92.7% of the participants were students who already started the university and 7.3% of the participants were language preparation students.

The second part of the questions in the survey was about the student association representatives. The answers of the participants were analyzed to determine whether they had internal consistency or not, and how much the reliability ratio was. This was obtained by reliability analysis. The second part of the questions was randomly analyzed and as shown in Figure 3, the percentages answers for question 8 (Do you think that the various activities in the past by YSA in Karabük were sufficient?) strongly agree (16.5%), agree (36.7%), disagree (22.0%), strongly disagree (14.7%), and undecided (10.1%). In Figure 4, the participants' answers percentages for question 13 (Do you think that the supervision and inspection committees of YSA in Karabük did fully perform their duties?) were strongly agree (18.3%), agree (31.2%), disagree (24.8%), strongly disagree (11.0%), and undecided (14.7%).

CONCLUSION

The evaluation of foreign student associations mainly determines whether there is a relationship between the answers of active students in the foreign student association or not. This relationship could be observed by testing participants' answers with reliability analysis. The survey was shared with active students by using Google Forms. The answers of the participants were collected and prepared using Excel, and the reliability analysis was applied using the Cronbach Alpha method to determine whether there was a correlation between the answersof the participants using the SPSS program. Besides, the application results of reliability analysis reveal the internal consistency and impartiality among the answers per participant.

Reliability analysis using the Cronbach Alpha method could be applied to many different applications. In this paper, the application was to evaluate the consistency of the question. For the same reason, reliability analysis could be applied to different numbers of questions and participants not only in a small specific branch of any association butalso in a general association by using Cronbach Alpha or another method in SPSS such as Omega, Guttman ..etc. Reliability analysis applications on such association evaluation might be useful for eachof the association representatives and the members of the association.

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