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Student-Team Collaboration Scale in Healthcare: A Scale Development Study

Sağlık Hizmetlerinde Öğrenci-Ekip İşbirliği Ölçeği: Bir Ölçek Geliştirme Çalışması

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ABSTRACT

Aim: This study aimed to develop the Student-Team Collaboration Scale in Healthcare and to test its psychometric properties.

Material and Method: This study employed a methodological design. The study was conducted with 300 senior students studying in the field of health sciences (medicine, nursing, midwifery, physiotherapy and rehabilitation). Scale validity was tested with exploratory and confirmatory factor analysis. In the reliability study, item-total correlation, Cronbach's alpha coefficient and test-retest method were used.

Results: Factor analysis results showed that the scale consisted of three sub-dimensions and explained 79.3% of the variance. The Cronbach alpha value of the scale consisting of 25 items was found to be .94. Cronbach alpha values for the sub-dimensions were found to be .93 for professionalism and achievements, .92 for communication and .89 for the team, respectively.

Conclusion: The findings indicate that the scale is a valid and reliable instrument for assessing the level of team cooperation of students studying in the field of health sciences.

Keywords: Collaboration, Healthcare team, Students

ÖZET

Amaç: Çalışmanın amacı Sağlık Hizmetlerinde Öğrenci-Ekip İşbirliği Ölçeği'ni geliştirmek ve psikometrik özelliklerini test etmektir.

Gereç ve Yöntem: Metodolojik tipteki bu araştırma, sağlık bilimleri alanında (tıp, hemşirelik, ebelik, fizyoterapi ve rehabilitasyon) öğrenim gören 300 son sınıf öğrencisi ile yürütülmüştür. Ölçek geçerliliği, açımlayıcı ve doğrulayıcı faktör analizi ile test edilmiştir. Güvenirlik çalışmasında; madde-toplam korelasyonu, Cronbach alfa güvenirlilik katsayısı ve test-tekrar test yöntemi kullanılmıştır.

Bulgular: Faktör analizi sonuçları ölçeğin üç alt boyuttan oluştuğunu ve varyansın %79,3'ünü açıkladığını göstermiştir. 25 maddeden oluşan ölçeğin Cronbach alfa değeri .94 olarak bulunmuştur. Alt boyutlar için Cronbach alfa değerleri sırasıyla; profesyonellik ve başarılar için .93, iletişim için .92 ve ekip için .89 olarak bulunmuştur.

Sonuç: Psikometrik ölçüm sonuçlarına göre, ölçek sağlık bilimleri alanında öğrenim gören öğrencilerin ekip işbirliği düzeyini ölçmek için geçerli ve güveniliridir.

Anahtar Kelimeler: İşbirliği, Öğrenciler, Sağlık ekibi



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INTRODUCTION

Collaboration in the healthcare professions is a multidimensional process that involves collective actions planned and carried out toward a shared goal (Terlemez, Erdem, Elber Boru, & Orchard, 2022). In the literature, the concepts of collaboration, teamwork, and interprofessional team collaboration are often used interchangeably; however, although closely related, they are defined at different levels and within different contexts. Teamwork generally refers to healthcare professionals working together during clinical care processes, whereas interprofessional team collaboration (ITC) represents a more comprehensive structure that involves the integration of roles, responsibilities, and expertise of different professional groups through active participation in shared decision-making and care delivery processes (Hellman, Jensen, Orchard, & Bergström, 2016; Orchard, Mahler, & Khalili, 2021). The simultaneous involvement of multiple professional groups in healthcare delivery and the increasing complexity of healthcare systems have highlighted that healthcare is a team-based responsibility, positioning interprofessional team collaboration as a fundamental component of healthcare services.

Evidence indicates that communication and collaboration skills among interprofessional team members have a direct impact on the quality of healthcare services (AACN, 2016). Team cohesion, the quality of interpersonal relationships, and effective communication have been reported to improve the quality of patient care, reduce medical errors, and positively influence job satisfaction among healthcare professionals (Hatip, 2017; Milutinović, Lovrić, & Simin, 2018; Dellafiore et al., 2019; Wei, Corbett, Ray, & Wei, 2020). However, most existing studies in the literature have focused on interprofessional collaboration experiences of healthcare professionals working in clinical settings (Abaoglu, Cesim, Kars, & Akel, 2018; Dellafiore et al., 2019; Cakici, 2020; Bekmez & Karagözoğlu, 2021).

Health sciences students constitute one of the groups most frequently involved in clinical practice and are expected to adopt effective collaborative approaches. As future healthcare professionals, the collaboration they establish with healthcare teams throughout their

educational processes plays a critical role in professional identity development, role awareness, and the formation of future team-based practice competencies. In the present study, interprofessional collaboration is conceptualized as a process in which health sciences students interact collaboratively with healthcare team members during clinical practice, encompassing communication, interaction, role negotiation, and shared responsibility for patient care. Nevertheless, the literature reveals that studies directly addressing collaboration between health sciences students and healthcare teams are quite limited (Zechariah, Ansa, Johnson, Gates, & Leo, 2019) and that only one measurement instrument exists to assess this construct (Orchard et al., 2021). The scarcity of standardized measurement tools restricts quantitative comparisons and hinders the evaluation of outcomes across educational programs and clinical contexts. Given this methodological gap in the literature, the present study aims to develop a valid and reliable measurement instrument to assess collaboration between health sciences students and healthcare teams and to contribute data to the literature regarding the levels of team collaboration between health sciences students and healthcare teams.

MATERIAL AND METHODS

Research Type

The study, which has a methodological research design, was conducted following the steps and employing the methods of statistical analysis (content validity index, factor analyses, and reliability tests) involved in methodological research to develop the Student-Team Collaboration Scale in the Healthcare (STCS-H) and to test its psychometric properties.

Study Population and Sample

Drawing upon the suggestion in the literature that the sample size for methodological studies should ideally be 5–10 times the number of scale items (Tavsancil, 2014), the present study aimed to reach at least 10 participants per scale item. The study was conducted at a state university located in the western region of Türkiye. The study sample consisted of 300 final-year students studying in the health sciences field (medicine, nursing, midwifery, physiotherapy and rehabilitation) during the spring semester of the 2022-2023 academic year at the university where

the study was conducted. The period when students in the field of healthcare are most involved in clinical practice and have the most contact with the clinical team is the final year. Thus, final-year students were included in the sample of the present study. The sample group was selected using the purposive sampling method and considering the following inclusion criteria: being enrolled in the departments of medicine, nursing, midwifery, physiotherapy and rehabilitation of the university where the study was conducted, being a final year student, and agreeing to participate in the study.

During the data collection phase, the participant information form and the STCS-H draft form were used. The research was conducted with senior students studying in the medical and health sciences departments of a state university in Türkiye between March-June 2023.

Data Collection Tools

Participant Information Form: The form consists of nine questions regarding the demographic characteristics of the participants (department, age, gender, intention to choose the department, satisfaction with the department, level of success, cooperation in practice).

Students-Team Collaboration Scale in Healthcare:

The scale was developed following the steps below:

Generating an Item Pool: At this step, a comprehensive literature review was conducted on collaboration, and the items that could measure all the dimensions of the variable to be measured were listed (Hellman et al., 2016; Terlemez et al., 2022; Orchard et al., 2021). The data obtained through the experience of the researchers were brought together and a 37-item pool was generated.

Reviewing Pool Items and Drafting the Scale: Content validity was tested using the Davis techniques, the items were presented to the opinion of 11 experts who were asked to assess the items on a 4-point Likert type rating scale (Davis, 1992). The experts were also asked to provide suggestions next to the item if needed. Three of the specialists were expert physicians, five were academic nurses, two were physiotherapists, and one was a nurse. One of the experts specialized in nursing management, and the other in nursing education. One of the academic nurses worked in the midwifery

department. In this context, the content validity index (CVI) was calculated for the scale items, and corrections were made to some of the items based on the feedback received from the experts. Eight items were excluded from the scale due to low I-CVI values at this step. Consequently, a 29-item five-point Likert-type scale was created.

Pretesting: In order to evaluate the readability and comprehensibility of the items in the pool, the scale was piloted with 20 students (10 female, 10 male) for face validity. In the pilot study, it was determined that the readability and comprehensibility of the items were good. No changes were made to the scale items at this stage. The students included in this stage were excluded from the sample group.

Data Collection

A link to the participant information form and the STCS-H draft form was sent to the students by the first researcher and the data were collected online in the classroom before the students' theoretical classes. Each participant was allowed to log in only once. Each data collection session lasted approximately 7-10 minutes.

Ethical Consideration

The research was approved by the Local Ethics Committee of a public university (Date: 11.05.2022, Number: 20.478.486-1335). The Declaration of Helsinki was taken as basis in the conduct of the study. Confidentiality, privacy, participant well-being, and human rights were protected throughout the study. All the participants were informed about the details of the study. The information form explaining the purpose of the study was shared with the participants and they were asked to sign the consent form before data collection. Participation was voluntary and the participants were told that they were free to withdraw from the study at any time.

Data Analysis

SPSS (Version 21) and IBM AMOS 21.0 software programs were used in data evaluation. Numbers, percentages, means, and standard deviation were utilized for the evaluation of the students' demographic characteristics. The data were tested for normal distribution applying skewness and kurtosis. The Kaiser-Meyer-Olkin (KMO) coefficient was used to assess the adequacy of the sample size, and the Bartlett test of sphericity was used to assess the suitability of the data for factor analysis. In evaluating the content validity of the

draft form, expert opinion was taken. I-CVI and S-CVI values were calculated.

The number of factors in the scale was determined based on eigenvalues greater than 1 and inspection of the scree plot. Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted to assess construct validity. EFA was conducted using the Maximum Likelihood extraction method with Promax (oblique) rotation. Items that had a factor loading above .40 were retained in EFA. In addition, items that had parts in different dimensions but exhibited close values to each other were excluded. EFA was repeated until appropriate values were obtained. Model fit indices and factor loadings of the items were examined in CFA. The reliability of the scale was evaluated using item-total correlations, Cronbach's Alpha internal consistency coefficient, and test-retest reliability. Item total correlation was tested using Pearson correlation analysis. The scale was administered to the same sample group (N=30) in two weeks for test-retest

reliability. These students were not included in the sample. The difference between the two measures was determined using the dependent group's t-test and the intraclass correlation coefficient (ICC). The Tukey additivity test was applied to see if a total score could be derived from the scale. The data were presented as means, standard deviation, frequencies, and percentages, with a significance level of $p < .05$ for all tests.

RESULTS

The findings are presented in the form of the participant's demographic characteristics, validity analyses (content/construct validity), and reliability analyses (item-total correlation, Cronbach's Alpha, test-retest).

The mean age of the participants was 22.31 ± 2.02 , 65.3% were females and 31.3% were students at the Department of physiotherapy. Demographic characteristics of the participants are presented in Table 1.

Table 1. Demographic Characteristics of the Participants (n=300)

Variables		X $\pm$ SD	Min-Max
Age		22.31 $\pm$ 2.02	19-38
		n	%
Gender	Female	196	65.3
	Male	104	34.7
Department	Medicine	52	17.3
	Nursing	92	30.7
	Physiotherapy and rehabilitation	94	31.3
	Midwifery	62	20.7
Do you like your department?	Yes	257	85.7
	No	43	14.3
Did you choose your department willingly?	Yes	230	76.7
	No	70	23.3
Your level of success?	Very good	51	17.0
	Good	146	48.7
	Middle	93	31.0
	Weak	10	3.3
Do you collaborate with other team members on the implementation?	Yes	268	89.3
	No	32	10.7
Which professional group do you collaborate with most often?	Doctor	91	30.3
	Nurse	103	34.3
	Midwife	42	14.1
	Physiotherapist	37	12.2
	Other	27	9.1
Do you think there is enough team collaboration in the application area?	Yes	87	29.0
	Partially	48	16.0
	No	165	55.0

Table 2. Factor Structure and Reliability Analyses of STCS-H (n=300)

Factor	Item Number	Items	Factor Load	Eigen values	Explained Variance (%)	Item - Total Score Correlation (r)	Cronbach's Alpha when item is deleted	Cronbach's Alpha Coefficient
F1	I1 (25)	The collaborations I do with the team during clinical practice are instructive for me.	0.842	15.402	62.726	0.853***	0.946	0.938
	I2 (22)	Working collaboratively with a team yields more successful results than working alone.	0.837			0.766***	0.946	
	I3 (21)	Teamwork collaboration improves the quality of health services.	0.834			0.800***	0.946	
	I4 (26)	The collaboration I do with the team during clinical practice helps me understand my professional roles within the team.	0.848			0.857***	0.946	
	I5 (24)	The collaboration I do with the team during clinical practice contributes to my profession.	0.834			0.883***	0.947	
	I6 (27)	During clinical practice, the collaboration I do with the team helps me discover the aspects in which I need to improve myself.	0.851			0.866***	0.945	
	I7 (20)	Team collaboration should be included in the training of all disciplines in the health field.	0.826			0.785***	0.946	
	I8 (28)	During clinical practice, the collaboration I do with the team helps me respect the professional roles of the team members.	0.781			0.857***	0.947	
	I9 (29)	Collaboration with the team regarding patient care/treatment process increases my professional satisfaction during clinical practice.	0.778			0.783***	0.947	
	I10 (17)	During clinical practice, I find it instructive to work with team members.	0.738			0.887***	0.945	
	I11 (23)	Team members approach disagreements that arise during team collaboration in a professional manner.	0.657			0.833***	0.946	0.947

Table 2. (Continued.) Factor Structure and Reliability Analyses of STCS-H (n=300)

Factor	Item Number	Items	Factor Load	Eigen values	Explained Variance (%)	Item - Total Score Correlation (r)	Cronbach's Alpha when item is deleted	Cronbach's Alpha Coefficient
F2	I12 (15)	Team members care about me during clinical practice.	0.837	2.634	11.382	0.821***	0.946	0.925
	I13 (6)	Team members are willing to cooperate with me during clinical practice.	0.806			0.769***	0.947	
	I14 (14)	During clinical practice, I feel that team members trust me.	0.792			0.844***	0.946	
	I15 (9)	During clinical practice, team members include me in solving a problem related to patient care.	0.816			0.797***	0.946	
	I16 (2)	During clinical practice, team members see me as part of the team.	0.782			0.759***	0.946	
	I17 (16)	During clinical practice, I can easily share my solution suggestions for the patient's current problems with the team members.	0.764			0.853***	0.946	
	I18 (4)	In collaborative work, team members' ideas and wishes are at least as important as mine.	0.754			0.659***	0.946	
	I19 (19)	All members of the healthcare team actively participate in making decisions about patient-related issues.	0.745			0.820***	0.943	
	I20 (1)	During clinical practice, I feel like a member of the team.	0.713			0.755***	0.947	
	I21 (18)	During clinical practice, team members share with me the written protocols used in the clinic during the patient's care/treatment process.	0.698			0.811***	0.947	
	I22 (11)	During clinical practice, I can easily ask questions to team members about patient-related issues.	0.611			0.826***	0.946	
F3	I23 (5)	In collaborative work, team members must have a belief in unity.	0.667	1.132	5.218	0.742***	0.946	0.896
	I24 (3)	During clinical practice, I feel responsible for patient-related issues.	0.643			0.766***	0.945	
	I25 (7)	During clinical practice, I voluntarily participate in work that requires cooperation.	0.609			0.754***	0.947	

Validity Analysis: The scale items were presented to 11 experts and the experts were asked to evaluate the items on a four-point Likert-type scale. According to these evaluations, the scale CVI values were calculated. The experts were also requested to provide their suggestions next to the item if needed. Necessary corrections were made based on the feedback received from the experts. Expert opinions were evaluated using the I-CVI and S-CVI, and the S-CVI value was calculated as .86.

Construct validity of the scale was examined using both EFA and CFA. Prior to factor analysis, the suitability of the data set for factor extraction was assessed. The KMO measure of sampling adequacy was .96, indicating excellent sampling adequacy. Bartlett's Test of Sphericity was statistically significant ($\chi^2 = 10162.312$, $df = 300$, $p < .001$), demonstrating that the correlation matrix was appropriate for factor analysis. These results confirmed the factoriability of the data. EFA was conducted using the Maximum Likelihood extraction method, which allows for the estimation of model fit and accounts for measurement error. Given the theoretical assumption that the underlying constructs are likely to be interrelated, an oblique rotation method (Promax) was preferred. The number of factors was determined based on eigenvalues greater than 1 and supported by inspection of the scree plot. EFA results indicated a three-factor structure, which explained 79.3% of the total variance. Factor loadings ranged between .60 and .85, and no item had a loading below the recommended threshold of .40. However, four items (I8, I10, I12, and I13), which exhibited cross-loadings across multiple factors, were excluded from the scale. The resulting three-factor structure was labeled as F1: Professionalism and Achievements, F2: Communication, and F3: Teamwork. In addition, factor correlations obtained from the oblique rotation were examined

and found to be at acceptable levels, supporting the appropriateness of the correlated factor structure.

Following EFA, CFA was performed to test the validity of the factor structure. Model fit was evaluated using multiple goodness-of-fit indices, including chi-square (χ^2), chi-square/degrees of freedom (χ^2/df), the Root Mean Square Error of Approximation (RMSEA), the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), the Goodness-of-Fit Index (GFI), the Adjusted Goodness-of-Fit Index (AGFI), the Normed Fit Index (NFI), the Root Mean Square Residual (RMR), and the Standardized Root Mean Square Residual (SRMR). CFA results demonstrated an acceptable to good model fit ($\chi^2/df = 2.672$, $GFI = .952$, $AGFI = .913$, $CFI = .971$, $NFI = .954$, $RMSEA = .040$, $RMR = .037$, $SRMR = .0741$). These indices indicate that the three-factor model demonstrates an acceptable to good fit with the observed data, supporting the construct validity of the scale.

Reliability Analyses: In order to calculate the test-retest reliability, the scale was re-administered to the same sample group ($N=30$) two weeks later. These students were not included in the sample. The difference between the two measurements was evaluated using the dependent groups t-test and the agreement between scale scores was estimated with the ICC. It was determined that there was no statistically significant difference between the mean scores of the two measurements ($t = .571$, $p > .05$). In addition, the intraclass correlation coefficient for the total scale was found as .91, which was highly significant ($p < .05$).

The Tukey additivity test was applied to see if a total score could be derived from the scale ($p < .001$). Since the Tukey additivity test generated a significance level of $p < .05$, it was concluded that the scale was suitable and feasible for obtaining a total scale score.

Table 3. Comparison and Correlation of Test-Retest Score Averages (n=30)

Scale and Sub-Scale	First Scores X $\pm$ SS	Second Scores X $\pm$ SS	t	p	ICC	p
F1	38.26 $\pm$ 5.27	38.23 $\pm$ 5.12	0.942	0.265	0.918	0.000
F2	35.90 $\pm$ 7.63	36.25 $\pm$ 7.28	0.881	0.243	0.924	0.000
F3	11.40 $\pm$ 1.83	11.89 $\pm$ 2.05	1.254	0.089	0.925	0.000
Total scale	85.56 $\pm$ 9.95	85.53 $\pm$ 9.82	0.571	0.612	0.916	0.000

DISCUSSION

This study, conducted to test the psychometric properties of the student-team collaboration scale in healthcare, followed the steps recommended in the literature. Accordingly, I-CVI and S-CVI values were calculated to assess content validity. The literature suggests that the CVI should be above .80 to achieve consensus among expert opinions (Sencan, 2005). Therefore, eight items with low I-CVI values were removed from the scale. The S-CVI value, calculated as .86, indicates that consensus was reached among experts and content validity was achieved.

The literature recommends conducting a pilot study before starting a research project (Sencan, 2005). While there are differing opinions in the literature regarding the sample size for a pilot study, it is reported that a sample size of 10-30 is sufficient (Johanson et al., 2010). For this purpose, the scale was administered to 20 students who possessed the appropriate characteristics for the sample group but were not included in the sample, and their feedback was obtained. The scale was finalised after considering the participants' suggestions regarding the comprehensibility of the scale and making the necessary adjustments.

In this study, to evaluate construct validity, the adequacy and appropriateness of the sample size for analysis were examined using KMO and Bartlett's Sphericity Test. The literature indicates that the KMO value should be between 0 and 1, and that the closer the value is to 1, the more suitable the data is for factor analysis (Alpar, 2025). In this study, Bartlett's sphericity test and KMO were found to be $p < .001$ and .96, respectively. A $p < .05$ value for Bartlett's sphericity test and a value $> .60$ for KMO indicate that the data set is sufficient for factor analysis. EFA showed that the three-factor structure explained 79.3% of the total variance, indicating a very high total variance for the scale (Tavsancil, 2014). Item factor loadings were above .40, but four items were removed from the scale due to cross-loading. These results indicate that the scale has a robust factor structure.

The model presented by EFA must be validated by CFA. The model obtained in CFA is evaluated based on multiple fit index results (Alpar, 2025). In the literature, the following values have been reported for model fit indices: $2 \leq \chi^2/df \leq 3$ acceptable fit, $0.95 \leq GFI \leq 1.00$ good fit, $0.97 \leq CFI \leq 1.00$ good fit, $0.90 \leq AGFI \leq 1.00$ good

fit, $0.95 \leq NFI \leq 1.00$ good fit, $0 \leq SRMR \leq 0.05$ good fit, $0 \leq RMSEA \leq 0.05$ good fit (Erkorkmaz et al., 2013). The CFA results obtained in this study showed that the factor loadings of the three subscales were above .40, the model fit indices (GFI, CFI, AGFI, and TLI) were greater than .90, and the RMSEA was less than .080. The chi-square divided by degrees of freedom is < 3 , indicating a strong relationship between the scale and subscales. These findings demonstrate that the CFA results obtained in this study meet the criteria specified in the literature. The CFA results show that the data fit the model and confirm the three-factor structure.

If the measurement tool has a Likert-type structure, Cronbach's Alpha coefficient is used in reliability analyses. Cronbach's Alpha indicates whether the scale items measure the same characteristic and whether they are related to what is being measured. The higher the Cronbach's Alpha coefficient (close to 1), the more consistent the items in that scale are with each other and the more they predict the same characteristic. Furthermore, a Cronbach's Alpha coefficient between .80 and 1.00 is considered highly reliable (Sencan, 2005; Polit & Beck, 2006). In this study, the Cronbach's Alpha coefficient for the total scale was found to be .94. The Cronbach's Alpha coefficients for the subscales were calculated as .93, .92, and .89 for professionalism and achievements, communication, and teamwork, respectively. These findings indicate that the items in the scale are homogeneous and that the scale consists of consistent items measuring the components of the same characteristic.

Positive and high item-total correlation values indicate that the items exemplify similar behaviours and that the scale has high internal consistency. The literature indicates that items with item-total correlation values of .30 or higher can effectively distinguish between individuals (Büyüköztürk, 2014). In our study, the scale's item-total correlation was found to be between .65 and .88. Based on this finding, it can be argued that the items have a good level of internal consistency.

The test-retest method, applied to assess the stability of the test over time, was administered to the same sample group ($N=30$) at two-week intervals. While there is no definitive consensus in the literature regarding sample size in test-retest studies, a minimum of 30 participants is generally considered acceptable (Terwee et al., 2007). The difference between the two measurements was

determined using the dependent groups t-test, and the consistency between scale scores was estimated using the ICC. The correlation coefficient calculated between the measurements obtained twice at specific intervals in the same group was examined to determine the degree of stability of the test over time. A correlation coefficient between 0.70 and 0.89 indicates a high correlation, while a coefficient between 0.90 and 1.0 indicates a very high correlation. In our study, the difference between the mean scores of the measurements was found to be statistically insignificant ($t = .571$, $p > .05$). Furthermore, the intraclass correlation coefficient for the total score was .91, which is highly significant ($p < .05$). Based on these findings, it can be stated that the scale is a reliable measurement tool.

Limitation

Like all research, this study has limitations. The scale is suitable for assessing interdisciplinary teamwork among students studying in the health sciences. The results cannot be generalized to students studying in other fields. Another limitation of the study is that criterion validity has not been established and the research was conducted in a single center. It is thought that repeating the research with a larger sample and in multiple centers would be beneficial.

CONCLUSION

In conclusion, the present study demonstrated that the STCS-H is a five-point Likert-type scale comprising 25 items and three subscales. The findings indicate that the scale is a valid and reliable instrument for assessing student-team collaboration among health sciences students. It is anticipated that the STCS-H will serve as a valuable tool in future research by contributing to the measurement of team collaboration within health sciences education and enriching the existing literature. Moreover, administering the scale to larger and more diverse samples may yield more robust and generalizable evidence regarding its validity and reliability. Therefore, it is recommended that the STCS-H be applied across different student populations within medicine and health sciences.

Araştırmanın Etik Yönü / Ethics Committee Approval

Ethics committee approval was received for this study from the Manisa Celal Bayar University Faculty of

Medicine Health Sciences Ethics Committee (Date: 11.05.2022, and Approval Number: 20.478.486 / 1335).

Author Contributions

Idea/Concept: D.D.A., S.S.; Design: D.D.A., S.S., E.B.; Supervision/Consulting: S.S., E.B.; Analysis and/or Interpretation: D.D.A.; Literature Search: D.D.A.; Writing the Article: D.D.A., E.B.; Critical Review: E.B., S.S.

Peer-review

Externally peer-reviewed.

Conflict of Interest

The authors have no conflict of interest to declare.

Financial Disclosure

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