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Turkish Validity and Reliability Study of the Student-Advocates Pre- and Post-Scale

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Abstract

Aim: The research was conducted to adapt the Student-Advocates Pre- and Post-Scale into Turkish.

Methods: The research was carried out as a methodological design. The population of the study consists of students of a secondary school in Ankara aged from 10 to 11 years. The sample consisted of 246 students who agreed to participate in the study and received consent from the family. Translation, expert opinion, confirmatory factor analysis, Cronbach alpha reliability analysis, and item correlation analysis were performed during the adaptation process of the scale, which was developed in English to Turkish.

Results: This study determined that the X^2/SD fit index obtained from the confirmatory factor analysis was 1.361 and that the root mean square error of approximation value was 0.038, the Goodness of Fit Index value was 0.96, Adjusted Goodness of Fit Index value was 0.94, and the Cronbach alpha coefficient was 0.86. Cronbach's alpha of bullying behavior dimension was 0.70, knowledge of stealing the show, turning it over, accompanying others, and coaching compassion strategies dimension was 0.72, and confidence intervening dimension was 0.75.

Conclusion: The Turkish version of the scale was determined to be suitable to the validity and reliability criteria. The scale can be used to determine whether children who may be bystanders in peer bullying interfere in bullying. It is recommended that the scale could be used by school health nurses in their interventions to prevent peer bullying.

Keywords: ***Bullying, nursing, validity and reliability, scale***

Introduction

Peer bullying is an important problem that negatively affects the physical and psychological health of school children. It is a behavior where one and more students commit violent and threatening behavior toward another student.[1-3] Peer bullying is a common public health problem in Turkey and in the world.[1,2] In a meta-analysis study by Pinquart and Pfeiffer[4], the incidence of peer bullying was found to be 34.6%, and in a systematic review by Maïano et al[5], this rate was found to be 36.3%. In studies conducted in Turkey, the rate of peer bullying varies between 12% and 30.5%.[6-8] Peer bullying has features such as intentionally aiming to harm and a perceived power imbalance between the bully and the victim.[7] Today, the number of interventional studies on the prevention and solution of peer bullying has increased.[10,11,15,16,18] In the literature, it has been proven that programs that involve the entire school population and support bullies and victims to exhibit positive behaviors are the most effective method in the intervention of peer bullying prevention.[3,10,11] However, in these recent attempts, it has become more common that the intervention is not sufficient to apply only to victim and/or bully students.[10,15-17]

All students at school are potential bystanders of peer bullying. While students who are bystanders of peer bullying can sometimes interfere in the situation, in some cases, they cannot find the courage to intervene in the situation. There is evidence that brief school-based interventions developed to encourage bullying students to respond to bullying are effective.[12-14] Strategies have been developed to help students recognize bullying, have sufficient knowledge, and learn to respond to bullying in an appropriate

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and self-confident way. These strategies support the bystander students to intervene in the bullying victim and the bullying student as an advocate.[10,15-17]

The basic and most effective rule in the tackle against peer bullying is to prevent bullying behaviors before they occur, to protect students from the negative effects of peer bullying, and to deal with complex problems that may arise. School health nurses have important roles in preventing this bullying.[18-21] School health nurse actively uses roles such as educator, counselor, advocate, and change agent.[20] School health nurses' support to students, who are in the position of a bystander in the intervention of peer bullying, to intervene against bullying is presented as effective evidence for the solution of the problem.[22] When the literature is examined, it is seen that scales have been developed to determine peer bullying in secondary school, high school, and university students in Turkey.[23-26] Nalbant et al[25] (2018) adapted the empathy scale toward students who were bullied into Turkish culture. In the validity and reliability study conducted by Kurt-Demirbaş and Öztemel (2019)[27], the intervention process in the "Bystander Intervention Scale" is evaluated in five dimensions as students' realizing and noticing the event, interpreting the event as an emergency, accepting responsibility for help, deciding how to intervene, and implementing the decision to intervene. However, a scale measuring the self-confidence of students who are spectators of bullying in order to be able to interfere with peer bullying could not be reached. It is thought that the Student-Advocates Pre- and Post-scale will contribute to determining the self-confidence of students who are spectators to peer bullying and to intervene against peer bullying.

Material and Methods

Research Design

The research was carried out as a methodological design.

Research Population and Participants

The population of the study consists of students of a secondary school in Ankara aged from 10 to 11 years (n=280). For the scale adaptation study, it is stated that the sample size should be at least five times larger than the number of scale expressions for factor analysis.[28] For this reason, at least 110 students should be selected for the validity and reliability study of the 11-item scale. The research was aimed to reach the whole population with the total population sampling. In the study population, which is limited and consists of a small number of units, when the boundaries are well defined, it is possible to work on the entire study universe with the "total population sampling method" without sampling restriction.[28] Since the original scale used in this study was developed for children aged 10-11 years, the study population consisted of children in this age group. The sample consisted of 246 students who agreed to participate in the study and received consent from the family. The participation rate in the study was 87.8%.

Data Collection Tools

Personal Information Form and The Student-Advocates Pre and Post-Scale were used to collect data. The personal information form consists of a total of six closed-ended questions to determine the gender of the students, the educational and working status of the parents, and their school success. The Student-Advocates Pre and Post-Scale was developed by Midgett et al[10] to measure the effectiveness of stealing the show, turning it over, accompanying others, and coaching compassion (STAC) training. Stealing the show, turning it over, accompanying others, and coaching compassion strategies consist of four basic strategies that support students who are bystanders to peer bullying to intervene in the situation.[10,15,16] Stealing the show is a distraction strategy. It is the use of humor and/or jokes to divert students' attention at the time of bullying. Turning it over is a strategy of asking for help. It involves students seeking help from a trusted adult they can seek help from at school. Accompanying others is the strategy for helping the victim. It is for students to provide peer support by talking to the bullied student about the situation. Coaching compassion is the strategy for helping the bully. It is for the educator to encourage students to empathize with the bully's behaviors. Students are taught that their friends who bully also need support.[10,16] The scale consists of three sub-dimensions determined to evaluate students' knowledge of bullying behavior identification (1st, 4th, 7th, and 10th items), knowledge of STAC strategies (2nd, 5th, 8th, and 11th items), and confidence intervening (items 3, 6, and 9). It is an 11-item 4-point Likert-type self-report scale. Scale answers are scored as "strongly disagree=1," "disagree=2," "agree=3," and "strongly agree=4." The highest total score that can be obtained from the scale is 44, and the lowest is 11. Within the scope of the validity and reliability study of the scale, the total Cronbach alpha internal consistency coefficient was determined as 0.77.[10]

Process

Before the research, permission to implement the strategies was obtained from the researchers who developed the STAC strategies, and the scale was requested to be adapted into Turkish within the scope of the process. In the adaptation of the scale to Turkish, translation, consultation with field experts for academic and cultural suitability, consultation with a Turkish language expert, and back translation methods were used. In the first stage, the scale items were translated into Turkish by the researchers using the group translation method. The Turkish version of the scale was presented to the opinion of five experts with the "expert opinion form." Necessary corrections and changes were made on the items in line with expert opinions. Draft items were presented to a Turkish language expert to evaluate their suitability for Turkish culture, Turkish grammar, and the clarity of the expressions. In line with expert opinions, second corrections and changes were made on the items. The scale was translated again from Turkish to English.

In order to test the intelligibility of the scale items, a pilot study was conducted with 20 students. The expressions that the students had difficulty in understanding were corrected and necessary arrangements were made. The final version of the scale was created by making the necessary corrections.

Translation, expert opinion, confirmatory factor analysis, Cronbach Alpha reliability analysis, and item correlation analysis were performed during the adaptation process of the scale, which was developed in English to Turkish.

Data Analyses

In order to determine the normal distribution feature of the research data, Skewness and Kurtosis Tests and Z values of the normality tests were examined. According to the Skewness and Kurtosis values, the total score of the scale was found to have a normal distribution. In

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order to determine the validity characteristics of the scale, confirmatory factor analysis (CFA) was performed for construct validity. Within the scope of CFA analysis, the multiple fit indices Goodness of Fit Index (GFI), Comparative Fit Index (CFI), Normed Fit Index (NFI), Non-Normed Fit Index (NNFI), root mean square error of approximation (RMSEA), Adjusted Goodness of Fit Index (AGFI), and standardized root mean square (SRMR) were examined.

In order to determine the internal consistency coefficients for the reliability of the scale, Cronbach alpha reliability analyses and item correlation analyses were performed. Statistical Package for the Social Sciences 20.0 program (IBM SPSS Corp.; Armonk, NY, USA) was used for descriptive analysis such as percentage and number and item analysis studies of the research. Confirmatory factor analysis was performed with the Lisrel 8.2 program.

Ethical Dimension

In order to carry out the research, ethics committee approval was obtained from the Gazi University Ethics Commission (2019-292). Written institutional permission was obtained from the Ankara Provincial Directorate of Ministry of National Education. Informed consent and permission documents were sent to the parents, and written consent was obtained from the parents. Verbal consent was obtained from the students participating in the study. Permission was obtained by e-mail from the developers for the scale and STAC strategies to be used in the research. Permission from the developers of the scale is not required when the scale is used to measure bullying information and the self-confidence to intervene to stop the bullying. If the scale is to be used to measure the knowledge of STAC strategies, then permission must be obtained, because in order to use STAC strategies, a contract with the developers must be signed with the terms of use of the strategies.[30]

Results

Of the students, 52.8% were male, 51.6% of the students' mothers and 93.1% of the students' fathers were employed, and 55.7% of the students' mothers, 58.9% of the students' fathers graduated from university or higher, and 69.9% of students perceived their school success as good (Table 1).

Validity of the Scale

Confirmatory factor analysis was performed to examine the construct validity of the scale. This analysis was carried out to examine the factor structure of the new version of the scale. In this study, it was determined that the X^2/SD fit index obtained from the confirmatory factor analysis was 1.361 (X^2=55.80, SD=41, P = .06) and that the RMSEA value was 0.038 (Figure 1), the GFI value was 0.96, and AGFI value was 0.94. Among the fit indices, SRMR's value was 0.039, CFI's value was 0.99, while NNFI and NFI values were found to be similar to 0.97 (Table 2).

Reliability of the Scale

In order to determine the reliability of the developed measurement tool, Cronbach's alpha and item correlation analysis, which are internal consistency reliability coefficients, were examined. Cronbach alpha coefficient was 0.86. Cronbach's alpha of bullying behavior dimension was 0.70, knowledge of STAC strategies dimension was 0.72, and confidence intervening dimension was 0.75 in this study. When the correlation matrix of the items in this study is examined, the item total correlation values vary between 0.40 and 0.64.

Table 1. Socio-demographic Characteristics of the Participants (n=246)

Socio-demographic characteristics	n	%
Gender		
Girl	116	47.2
Boy	130	52.8
School success		
Good	172	69.9
Medium and Bad	74	30.1
Mother working status		
Working	127	51.6
Not working	119	48.4
Father working status		
Working	229	93.1
Not working	17	6.9
Mother's education status		
Illiterate and literate	17	6.9
Primary and high school graduate	92	37.4
University or higher graduate	137	55.7
Father's education status		
Illiterate and literate	14	5.7
Primary and high school graduate	87	35.4
University or higher graduate	145	58.9

Discussion

It is very difficult to detect peer bullying through observation. Students who bully tend to engage in bullying behavior in a hidden way, often in the absence of anyone.[31-34] The bully student can threaten the bullied student and/or the students who are the bystander to keep the

Table 2. Confirmatory Factor Analysis Fit Indexes

Fit Indexes	CFA Values	Conformity
χ^2/SD	1.361	Perfect fit
RMSEA	0.038	Perfect fit
GFI	0.96	Perfect fit
AGFI	0.94	Perfect fit
CFI	0.99	Perfect fit
SRMR	0.039	Perfect fit
NFI	0.97	Perfect fit
NNFI	0.99	Perfect fit

SD, standard deviation; GFI, Goodness of Fit Index; CFI, Comparative Fit Index; NFI, Normed Fit Index; NNFI, Non-Normed Fit Index; RMSEA, root mean square error of approximation; AGFI, Adjusted Goodness of Fit Index; SRMR, standardized root mean square.

peer bullying confidential. It can take time for teachers, school staff, and school health nurses to become aware of bullying. In such situations, it is important to develop the self-confidence of spectator students to intervene against bullying.[10,16,17] In this study, which was planned to examine the validity and reliability of the scale and which was developed to measure the self-confidence, advocacy, knowledge of peer bullying and STAC strategies, and the characteristics of the sample were defined. It is important to define the characteristics of the sample in detail for validity and reliability studies. In addition to these, the structure of the scores obtained from the scale is also important.[35,37] In this study, a minimum of 11 points and a maximum of 44 points were obtained from the scale, and it is seen that the scale covers the expected range. When the confirmatory factor analysis fit indices were examined to examine the construct validity of the scale, the obtained values were found to be in perfect agreement. In a study by Kline,[33] an X^2/SD ratio of less than 3 indicates a perfect fit. In this study, it was determined that the X^2/SD fit index obtained as a result of confirmatory factor analysis was 1.361, in perfect agreement. In the literature, an RMSEA value less than 0.08 is indicated as an indicator of good fit.[34] It can be said that the RMSEA value (0.038) obtained in this study showed a perfect fit. Similarly, GFI and AGFI fit values above 0.90 correspond to good fit.[35] In this context, as a result of the analysis, it can be stated that the GFI (0.96) and AGFI (0.94) values are in perfect agreement. According to Brown[36], SRMR of less than 0.05 is indicated as an indicator of perfect fit. As a result of this research, it was found that the SRMR showed an excellent fit. Non-Normed Fit Index and Comparative Fit Index values above 0.90 correspond to good fit.[36] In this study, it is seen that the fit indices of NNFI (0.97) and CFI (0.99) correspond to perfect fit. Finally, an NFI value above 0.90 corresponds to a good fit.[35] According to the DFA result, it is seen that the NFI (0.97) fit index corresponds to a perfect fit. According to the confirmatory factor analysis result, it was determined that the 3-factor structure of the 11-item scale was confirmed.

Cronbach's alpha, one of the internal consistency reliability coefficients, was used to determine the reliability of the measurement tool. In the literature, it is stated that the reliability level of measurement tools is at least 0.70.[37] The total Cronbach alpha internal consistency coefficient in this study was determined as 0.86. In a study of the author who developed the scale, the total Cronbach alpha internal consistency coefficient was 0.81, which is similar to this study.[17] The internal consistency coefficients of the total and sub-dimensions obtained from the scale in this study show that the scale is reliable. According to the item-total score correlation analysis, a correlation value below 0.25 may negatively affect the reliability of the scale.[38] When the correlation matrix of the items in this study was examined, it was found that the value of all items was above 0.25.

Conclusion

The study concluded that the Student-Advocates Pre- and Post-Scale, which was developed to determine the situations of intervening in peer bullying, consists of 11 items and 3 sub-dimensions, and the item correlation values met the reliability conditions of the Cronbach alpha values and the validity conditions of the confirmatory factor analysis results.

The Turkish version of the scale was determined to be suitable to validity and reliability criteria. Every student can be a potential bystander

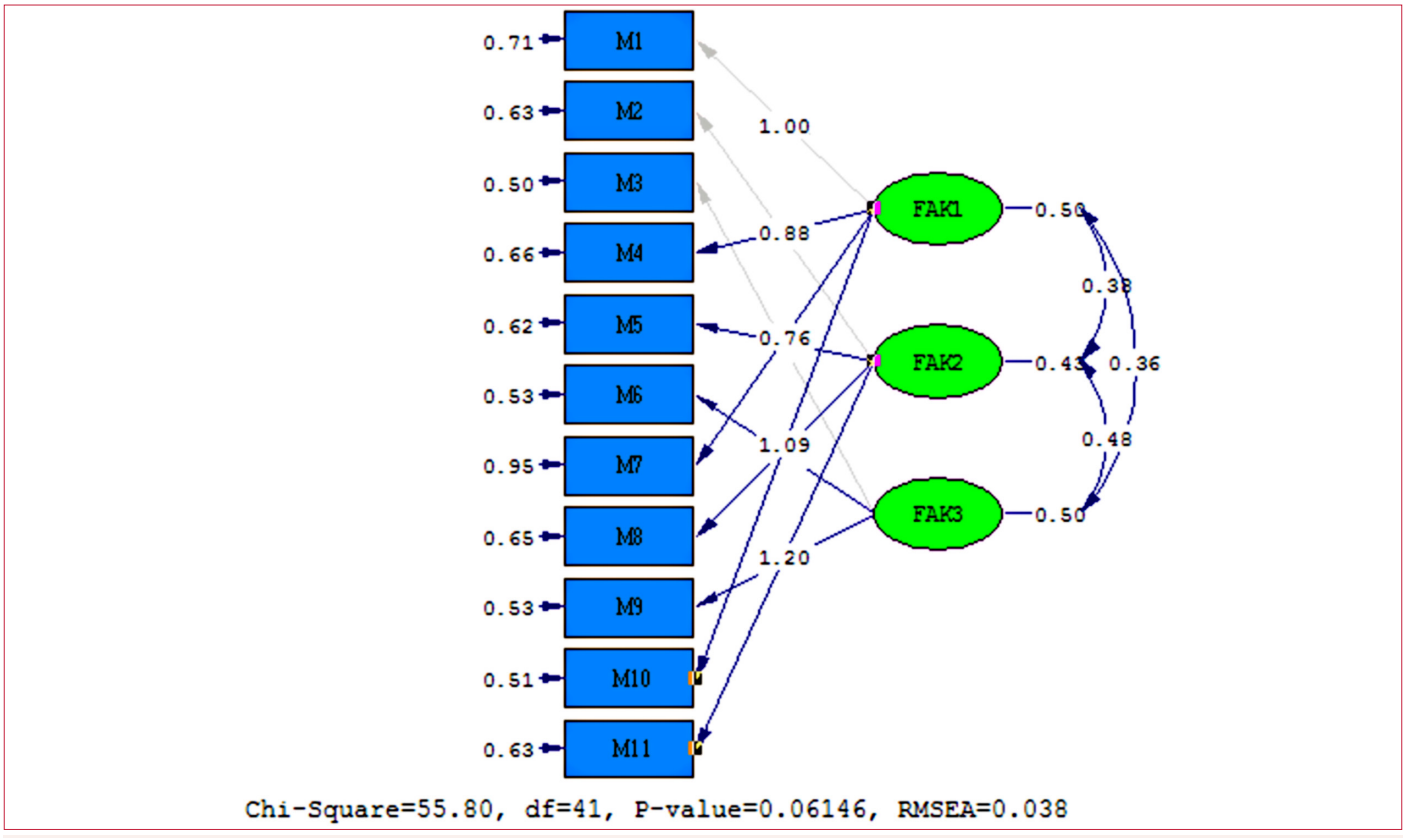

Figure 1. Factor distributions and load values of items according to confirmatory factor analysis.

in peer bullying. For this reason, the scale can be used to determine whether children who may be a bystander in peer bullying interfere in bullying. In addition, it is recommended that school health nurses in their interventions to prevent peer bullying could use the scale. The scale was also applied in different age groups, including primary, secondary, and high school.[10,15,16] It is recommended that the reliability of the Turkish version of the scale can be performed in different age groups.

Ethics Committee Approval: Ethical committee approval was received from Gazi University Ethics Commission (2019-292).

Informed Consent: Informed consent was obtained from the parents of all participants who participated in this study.

Peer-review: Externally peer-reviewed.

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