

## ARTICLE

# DEVELOPED SCALE OF TEACHERS' BELIEFS TOWARDS PEER MEDIATION: A VALIDITY AND RELIABILITY STUDY

Nuket Gunduz<sup>1\*</sup>, Deniz Ozcan<sup>2</sup>

<sup>1</sup>Special Education Department, Ataturk Education Faculty, Near East University, Nicosia, North Cyprus, TURKEY

<sup>2</sup>Special Education Department, Ondokuz Mayıs University Education Faculty, TURKEY

## ABSTRACT

The purpose of the present study was to develop a scale of teachers' beliefs towards peer mediation. Validity and reliability studies were conducted for the present study. The sample of the study consisted of 373 randomly selected elementary school teachers working in North Cyprus elementary schools. Within the scope of the scale's validity studies, contextual validity was determined based on specialist opinions. No item was omitted from the 24 item draft scale and the Teachers' Beliefs towards Peer Mediation Scale was formed as one dimensional according to the results of confirmatory factor analysis and exploratory factor analysis. The reliability of the scale was tested using internal consistency tests, Cronbach's alpha and the split-half method. The validity and reliability results of the scale regarding teachers' beliefs towards peer mediation" yielded satisfactory results, indicating that the scale is applicable in the field of peer mediation training.

## INTRODUCTION

School environment and education settings are the places where individuals are educated with implemented programs intending to develop students' cognitive, affective and psychomotor areas in-line with their level in education and their age. However, students' social affective developments are somehow neglected and expected to be developed with the implemented of the national education programs. Generally, most of the education systems are in favor of constructivism and develop their education programs on constructivism. Teaching with constructivist strategies is favored due to being effective in cognitive and social development. Moving from this point it is important to pinpoint the differences of cognitive constructivism and social constructivism. Construction of ideas through personal process is cognitive constructivism whereas; students' interaction with the teacher and their peers in the classroom is a process for social constructivism. According to the Vgotsky's zone of proximal development theory, this is a zone for learning where a teacher assists a student in learning [1]. Even though, cognitive constructivism has been through a journey with many theorists, knowledge construction is rather the same. Social constructivism is in-line with Piaget's theory with more dynamic and interactive environment for knowledge construction.

In order to enhance social development of the young generation it is important to have interactive as well as healthy learning settings. Academic development depend on 'healthy learning' settings [2].The development of emotional health is given a big importance and like other developed countries, British Government has also promoted and have given support to peer mediation and published standards regarding this approach [3]. However, globalization has increased the population of multicultural students in schools which is also a one of the big issues in the education environment. Therefore, education settings are in need of teachers' understanding as well as awareness towards their students' ethnic, cultural, and biological differences [4]. Furthermore, violent behavior trends as well as unacceptable manners of behaviors are seen to be escalating in the school environments. The argument of schools being the best places for the violence prevention [5] and programs like conflict resolution and peer mediation programs [6] are in need to be implemented. Even though, the implementation of peer mediation are still an argument these programs date back to 1960's [7]. According to Johnson and Johnson [7], after the implementation of these programs students socialize into standards and are seen to use conflict resolution skills. Good harmony of student-to-student can be empowered by peer mediation interventions [8]. Moreover, Bandura's [9], theory of social learning is seen to match with peer mediation in a sense that it enables opportunities for modeling positive attitudes and imitation that can alter delinquent outcomes.

Thus, teacher beliefs in teaching and learning environments are looked upon as an important issue especially for the contemporary teaching and learning settings. Pajares' [10], discussed and stressed the importance of teacher beliefs. Generally, beliefs can stem from different sources like; personal experience, knowledge, social and cultural background, and many others [11], teaching goals and the teaching practices usually reflect the particular socio-cultural contexts [12]. Teachers tend to resist to the rapid changes within the contexts and students' intrapersonal as well as interpersonal developments are not within the priority of teaching goals [13]. Instead, teachers' focus more on cognitive development and ignore the social development of the students [14]. There are also many studies arguing that, any reform in education regarding success or failure relies on teachers' beliefs and consideration [15, 16, 17, 18,19]. Since, students' take their teachers as role models and generally imitate their teachers then, teacher beliefs play an important role in the success of peer mediation programs in schools.

### KEY WORDS

Peer Mediation; Scale Validity and Reliability; Teacher Beliefs.

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\*Corresponding Author  
Email:  
nuket.gunduz@neu.edu.tr  
Tel.: +90-392-223-64-64

“Scale of Teachers Beliefs towards Peer Mediation” (STBPM) was developed aiming to measure teachers beliefs towards peer mediation. Firstly, the decision to develop the STBPM was the assumption that applying standards and principles of peer mediation in the classroom settings depend on teachers’ beliefs [20]. Secondly, such a scale did not exist in the literature.

## INSTRUMENT

The “Scale of teachers Beliefs towards Peer Mediation” (STBPM) was developed in two parts. Participants’ “demographic features”, such as gender, age, training related to dispute/conflict resolution and dispute occurrences in the teachers’ school environment in the first part and peer mediation beliefs questionnaire consisting of 24 items in the second part.

The process of the peer mediation belief scale (STBPM) development started with a literature review within the scope of “principles of peer mediation”, “peer mediation programs in schools”, “dispute/conflict resolution”, “standards of peer mediation”, “peer mediation projects” “teacher beliefs”. This literature review aimed to diagnose the problem and develop the study’s aim accordingly. Furthermore, discussions with elementary school teachers and academics were realized aiming to collect information about “peer mediation beliefs”. The item pool was constructed following the literature review and the discussions with teachers and academics. The specialists (n=25) examined the constructed item pool and their views on each item considered for the construction. Turkish language experts (n=15) also examined the comprehension of the items and their feedback on the expression of each item was considered and re-structure. Reliability assessment of the questionnaire procedure, specialists was consulted regarding the answers to each question. Only the questions that achieved a 90% consensus were included into the questionnaire. The first draft version consisted of 30 items, however, six items were omitted and final version consisted of 24 items.

## DATA ANALYSIS AND PROCEDURE

Researchers from different social science disciplines have debated factor analysis approaches, applications and recommendations for their most appropriate use [21, 22, 23, 24]. Thus, when researchers develop a new instrument certain order among participants’ responses is one of the important issues to consider. Therefore, factor analysis is used for this purpose in the present study and it is one of the multivariate analysis techniques approved to be applied in social sciences.

The normal distribution fit of the data set was examined using the Shapiro-Wilk test before the explanatory factor analysis of the scale was conducted, which found that the normal distribution was consistent. The suitability of the data for factor analysis can be examined using the Kaiser-Diener-Olkin (KMO) coefficient and the Barlett sphericity test. The KMO coefficient provides information about whether the data matrix is suitable for factor analysis and whether the data structure is suitable for factoring. For factorability, it is expected that the KMO will be higher than .60. The Barlett test examines whether there is a relationship among variables on the basis of partial collaterals [25]. The KMO coefficient of the STBPM scale was 0.96 and the chi-square value of Bartlett’s test of sphericity was found to be 14709,28. This meant that explanatory factor analysis would be appropriate for the STBPM scale.

## FINDINGS

### Validity and reliability analysis

The results of the explanatory factor analysis, which analyses basic components and varimax transformation, the variances explained by the factors were examined and it was decided that the scale had a one-factor structure larger than the eigen value 1. And the total variance was calculated as %80.19. It was determined that the factor loadings of the items in the scale changed between 0.75 and 0.94 and no item were removed from the scale [Table 1].

**Table 1:** Explanatory factor analysis results for STABM

Item	Factor loading
Solution for disputes’ must provide benefit for both parties.	0,92
Peer mediation should be an alternative method for school discipline.	0,84
The origin of the dispute should be evaluated and positive response should be given.	0,92
Disputes’ are transformed into creative opportunities.	0,75
Effective communication can be obtained by using appropriate words no matter what the personal character is.	0,91
Effective listening is associated with healthy communication.	0.88

Instructions given at the beginning of the activity story effects focusing on the whole story.	0.87
Disputes' are minimized through empathy.	0.94
Approaches with tolerance reduce disputes'.	0.94
Usage of "I" statement is important while expressing feelings.	0.92
Anger control deficiency increases disputes.	0.92
There are applicable conflict resolution techniques to all disputes'.	0.88
Displayed attitudes towards the dispute are important	0.88
Body language is effective in resolving disputes	0.91
Active listening is important for effective communication.	0.90
Prejudices are effective in dispute resolution.	0.94
It is important to transform negative emotions into positive emotions.	0.88
The fundamental needs for each individual are different.	0.93
It is important to live in peaceful environments.	0.92
The habit of peer mediation application towards resolving disputes' continues within the family communication.	0.79
Peer mediation training evokes the reduction of violence in the society.	0.93
Peer mediation training will contribute to developing youth as responsible patriotic young individuals.	0.88
Peer mediation training develops progress in the society and contributes to social peace	0.88
Peer mediation reduces tensions faced with generation gap conflicts.	0.93

Reliability of the scale was tested by the internal consistency tests Cronbach alpha and split-half method. In addition, item-total score analysis based on correlation was also performed.

As a result of the analysis conducted by the researcher, the Spearman Brown coefficient was calculated as 0.98 and the Guttman Split-Half coefficient as 0.98.

In addition to the split-half and Cronbach alpha tests, the item-total correlations were sufficient and no items were removed from the scale and the scale was found to be reliable. As for the Cronbach alpha test on the reliability of the general scale and its subscales, the coefficient of reliability of the scale Cronbach alpha was calculated as 0.99.

**Table 2:** Item-total correlations of the scale

Items	Items-Total Correlations
Solution for disputes' must provide benefit for both parties	0.91*
Peer mediation should be an alternative method for school discipline.	0.83*
The origin of the dispute should be evaluated and positive response should be given.	0.91*
Disputes' are transformed into creative opportunities.	0.73*
Effective communication can be obtained by using appropriate words no matter what the personal character is.	0.91*
Effective listening is associated with healthy communication.	0.87*
Instructions given at the beginning of the activity story effects focusing on the whole story.	0.86*
Disputes' are minimized through empathy.	0.93*
Approaches with tolerance reduce disputes.	0.94*
Usage of "I" statement is important while expressing feelings.	0.91*
Anger control deficiency increases disputes.	0.91*
There are applicable conflict resolution techniques to all disputes.	0.87*
Displayed attitudes towards the dispute are important.	0.87*
Body language is effective in resolving disputes.	0.90*
Active listening is important for effective communication.	0.89*
Prejudices are effective in dispute resolution.	0.94*
It is important to transform negative emotions into positive emotions.	0.86*
The fundamental needs for each individual are different.	0.92*

It is important to live in peaceful environments.	0.91*
The habit of peer mediation application towards resolving disputes continues within the family communication	0.79*
Peer mediation training evokes the reduction of violence in the society.	0.93*
Peer mediation training will contribute to developing youth as responsible patriotic young individuals	0.88*
Peer mediation training develops progress in the society and contributes to social peace	0.88*
Peer mediation reduces tensions faced with generation gap conflicts	0.93*

\* $p < 0,05$ 

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As a result of the analysis conducted by the researcher, the Spearman Brown coefficient was calculated as 0.98 and the Gutt man Split-Half coefficient as 0.98.

In addition to the split-half and Croanbach alpha tests, the item-total correlations were sufficient and no items were removed from the scale and the scale was found to be reliable. As for the Croanbach alpha test on the reliability of the general scale and its subscales, the coefficient of reliability of the scale Croanbach alpha was calculated as 0.99.

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Peer mediation training develops progress in the society and contributes to social peace	0.88*
Peer mediation reduces tensions faced with generation gap conflicts	0.93*

\* $p < 0,05$ 

[Table 2] shows that the item-total correlation coefficients are between 0.73 and 0.94 and it is statistically significant ( $p < 0,05$ ). As a result of the split-half and Croanbach alpha tests, no item was removed from the developed scale as the item-total item correlations were sufficient and the scale was found to be reliable.

## CONCLUSION

Schools are places where teachers work for the academic, emotional and social skills development of their students. However, some national education policies concentrate more on the academic development than the emotional and social skill development. Peer mediation is alternative approach applied for solving disputes/conflicts in schools and empowers social development of students. Present study targeted to map features of teacher beliefs towards peer mediation aiming to construct and validate a new scale for measuring beliefs regarding peer mediation. Even though, teachers' professional development dominates the way they apply the necessary education contexts, their beliefs are also reflected in their classes. The study of Tobin and McRobbie [26], revealed that teachers' beliefs have the greatest impact on the operational curriculum (28). Some researchers underline that the reforms or new applications depend on teachers' beliefs and the result is either successful or unsuccessful [15, 17, 18, 20].

The results of the developed scales KMO coefficient was 0.96 and the chi-square value of Bartlett's test of sphericity was found to be 14709.28. Bartlett's Test of Sphericity and the Kaiser-Meyer-Olkin Test of Sampling Adequacy (KMO) are commonly used to provide more complex measures for assessing the strength of the relationships and suggesting factorability of the variables [27]. This meant that explanatory factor analysis would be appropriate for the STBPM scale. Many researchers from different social science disciplines have debated that factor analysis approach, and application is appropriate to use in social sciences disciplines [21, 22, 23].

The results of the explanatory factor analysis were examined and it was decided that the scale had a one-factor structure larger than the eigen value 1. And the total variance was calculated as %80.19. It was determined that the factor loadings of the items in the scale changed between 0.75 and 0.94 and no items were removed from the scale and the scale consisted of 24 items. Item 8 "Disputes' are minimized through empathy" and item 9 "Approaches with tolerance reduce disputes" highest factor loadings as 0.94. and the lowest factor loading was item 4 "Disputes' are transformed into creative opportunities" with factor loading 0,75.

Reliability of the scale was tested and the Spearman Brown coefficient and was calculated as 0.98 and the Guttman Split- Half coefficient as 0.98. The item-total correlations were sufficient and no items were removed from the scale and the scale was found to be reliable. As for the Croanbach alpha test on the reliability of the general scale and its subscales, the coefficient of reliability of the scale Croanbach alpha was calculated as 0.99.

As for the item-total correlation coefficients resulted to be between 0.73 and 0.94 and indicated to be statistically significant ( $p < 0,05$ ). According to the split-half and Croanbach alpha tests, no item was removed from the developed scale as the item-total item correlations were sufficient and the scale was found to be reliable.

The validity and reliability results of the scale regarding teachers' beliefs towards peer mediation" yielded satisfactory results, indicating that the scale is applicable in the field of peer mediation training. It is recommended for future studies too b serve and evaluate teachers beliefs in their in classroom activities.

### CONFLICT OF INTEREST

None

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### FINANCIAL DISCLOSURE

None

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