



## Adaptation of the Scales of Justice in the Classroom into Turkish

Sinem Tarhan<sup>\*a</sup>,

### Article Info

DOI: 10.14686/buefad.637422

#### Article History:

Received: 23.10.2019

Accepted: 28.09.2020

Published: 05.10.2020

#### Keywords:

Distributive Justice, Procedural Justice, Interactional Justice, Justice in Classroom Scale, Adapting Scale.

Article Type: Research Article

### Abstract

This study aims to adapt Scales of Justice in the Classroom (SJC), which consists of Classroom Distributive Justice (SDJC) developed by Chory-Assad & Paulsel, Classroom Procedural Justice (SPJC) and Classroom Interactional Justice (SIJC) developed by R.M. Chory, into Turkish language and to determine their psychometric properties. The study was conducted on 494 secondary education students. Confirmatory factor analysis results show that twelve-item SDJC display a two-dimensional structure. Fifteen-item SPJC and seven-item SIJC display unidimensional structures. Internal consistency coefficients of SJC were calculated and it was found for SDJC as follows; in Existing Distributive Justice sub-dimension .79, in Expected Distributive Justice sub-dimension was .88, for the whole Distributive Justice was .91; in SPJC was .92; in SIJC was .92. As a result of test-retest analysis, the relationship between the first and last implementation was .89 for SDJC, .84 for SPJC, and .87 for SIJC. Results show that Turkish forms of scales are valid and reliable measurement tools for measuring justice perceptions of students in the classroom in secondary education. It is thought the Scales can support efforts of school psychological counselors in understanding students who experience problems like academic failure, difficulty in adaptation, withdrawal, aggressiveness and finding solutions to such students.

## Sınıfta Adalet Ölçeklerinin Türkçe'ye Uyarlanması

### Makale Bilgisi

DOI: 10.14686/buefad.637422

#### Makale Geçmişi:

Geliş: 23.10.2019

Kabul: 28.09.2020

Yayın: 05.10.2020

#### Anahtar Kelimeler:

Dağıtım Adalet, Süreç Adaleti, Etkileşim Adaleti, Sınıfta Adalet Ölçeği, Ölçek Uyarlama.

Makale Türü: Araştırma

Makalesi

### Öz

Bu çalışmanın amacı R. M. Chory-Assad ve M. Paulsel, tarafından geliştirilen Sınıfta Dağıtım Adaleti (SDA), Sınıfta Süreç Adaleti (SSA) ile R. M. Chory tarafından geliştirilen Sınıfta Etkileşim Adaleti (SEA) ölçeğinden oluşan Sınıfta Adalet Ölçekleri'nin (SAÖ) Türkçeye çevrilmesi ve psikometrik özelliklerinin belirlenmesidir. Araştırma 494 ortaöğretim öğrencisi üzerinde yürütülmüştür. Doğrulayıcı faktör analizi sonucunda; oniki maddelik SDA Ölçeğinin iki boyutlu bir yapı sergilediği gözlenmiştir. On beş maddelik SSA Ölçeği ile yedi maddelik SEA Ölçeği'nin tek boyutlu birer yapı sergilediği belirlenmiştir. Sınıfta Adalet Ölçeklerinin iç tutarlık katsayıları hesaplanmış, SDA'nın, Mevcut Dağıtım Adaleti alt boyutunda .79, Beklenen Dağıtım Adaleti alt boyutunda .88, Dağıtım Adaletinin Tamamı için .91; SSA ölçeği için .92; SEA ölçeği için .92 olarak bulunmuştur. Test tekrar test analizi sonucunda ilk ve son uygulama arasındaki ilişki SDA için .89, SSA için .84 ve SEA için .87 olarak hesaplanmıştır. Analiz sonuçları SDA, SEA ve SSA Ölçeklerinin Türkçe formlarının ortaöğretim düzeyindeki öğrencilerin sınıftaki adalet algılarını ölçmekte kullanılacak geçerli ve güvenilir birer ölçme aracı olduğunu göstermektedir. Sınıfta Adalet Ölçeklerinin, akademik başarısızlık, okula uyum güçlüğü, içe kapanma, saldırganlık gibi sorunlar yaşayan öğrencileri anlayabilmek ve çözüm yolları üretebilmek noktasında okul psikolojik danışmanlarının çalışmalarına destek sağlayacağı düşünülmektedir.

\*Corresponding Author: tarhansinem@gmail.com

<sup>a</sup> Assoc. Prof. Dr., Bartın University Faculty of Education, <http://orcid.org/0000-0001-7297-2499>

## Introduction

Justice is related to protecting rights and freedom of individuals, to provide their free-expression of ideas and to live proper to human dignity, arranging social life within an equalitarian and fair frame and assuring all of these. Justice is a one of the most basics of law and most difficult to describe at the same time (Gözler, 2008). Roman legist Ulpian described justice as consistently making effort to give one's share. Aristoteles approached the concept of justice in two dimensions; distributive and commutative justice. Distributive justice requires everybody to take their share according to their ability and social standing in sharing of honor and goods, however, commutative justice requires everybody to receive equal treatment when they are sides of a legal relationship (Güriz, 2001). Justice is an essential concept for the existence of individuals and order of societies. The state is responsible for providing justice for all citizens in public, parents are responsible for providing justice for their children at home, administrators are responsible for providing justice for their employee and teachers are responsible for providing justice for their students in the classroom.

Organizations led questioning the concept of justice, and as a result, Greenberg (1987) revealed the concept of organizational justice, which roots from social and interpersonal theories of justice. The main concepts of justice in classroom are based on organizational justice (Kepekçioğlu, 2015) and providing justice in the classroom is a concept closely related to classroom management. Classroom management is behaviors and strategies that teachers use in order to manage behaviors of students in the classroom (Evertson & Emmer, 2013). A classroom management which is a healthy and achieving objective depends on a classroom environment which is safe, supportive to learning, respectful for diversity, equalitarian, supportive to search and question (Whalen & Koernig, 2009; Yolcu, 2010). Management style of the teacher shapes the justice perceptions of students and according to Whalen and Koernig (2009), students' perception of justice towards educational environments affects their performance and attitudes towards courses and teachers.

Justice in the classroom includes distributive, procedural and interactional justice (Paulsel & Chory-Assad, 2005). *Distributive justice* is related to the evaluation of how fair the results (reward, punishment, opportunity, time allocated to courses) obtained (Cropanzano & Greenberg, 1997; Horan et.al, 2010). When it comes to the decisions about distributing resources, problems related to justice emerge. These problems are related to subjects like who attracts the attention of the teacher and who gets which grade. When students compare their grades with the grades of their classmates or to their expected grades, they can understand more or less whether they are fair or not (Berti et.al, 2010; Chory-Assad & Paulsel, 2004a). *Procedural justice* is related to the fairness and consistency of processes in distributing the resources and their constancy over individuals and time (Cropanzano ve Greenberg, 1997; Colquitt et. al, 2005). Procedural justice includes how the teacher follow the course schedule, how s/he manages the discussions in the class, his/her expectations from students and course program (Young et al, 2013). Paying attention to the participation of the students, to behaviors in the classroom and to examination grades when giving grades at the end of the semester is procedural justice (Chory-Assad & Paulsel, 2004). Students can perceive teachers' criteria to assess and give grades to students as fair or unfair (Berti et al., 2010). When teachers present the information clearly, provide feedback and make sure that students understood the material so that they obtain good grades, perceptions related to procedural justice become quite fair (Chesebro et al.2004, cited in Whalen & Koernig, 2009). *Interactional justice* is related to teacher's accepting the opinions of students, listening to their concerns and making contact with on an equal basis (Chory-Assad & Paulsel, 2004a; Colquitt et al. 2005). Structure of the classroom and perception of justice in the classroom depends on the communication between teacher-student, and student-student. Teachers inform students, support them and assess their knowledge and skills. In this process, teachers could act in a tough, friendly, rude, kind, hostile or empathetic style towards students. Students do not stay indifferent towards behaviors of their teachers, they can like or dislike these behaviors or can find them tough or friendly (Molinari et al., 2012). When teachers establish healthy communication with students and become consistent and fair in reward-punishment system, probability of students to perceive school environment as fair would increase.

It is asserted that there is a positive relationship among three types of justice in classroom and students' behavior of obeying the rules (Colquitt, 2001). When students find their teachers fair, their probability to perceive them as trustworthy also increase and fair behaviors of teachers positively affect their competence, efficient learning, positive attitudes towards institutions and authorities (Chory, 2007; Chory-Assad, 2002), and procosial outcomes like feeling of responsibility, inner motivation, creativeness and voluntary cooperation (Berti et al., 2010). According to Rudick (2010), students' kind behaviors show great diversity depending on their perceptions of distributive, procedural and interactional classroom. An enjoyable interaction environment positively influences

the perception of three types of justice in classroom and answering the questions of students seems important for procedural and interactional justice. When teachers make arrangements of courses and determine criteria for giving grades, students have a stronger tendency to perceive procedural and distributive justice (Young et al., 2013). There are studies demonstrating that one of the most important characteristics that students seek in teachers' behaviours is justice (Hoşgörür, 2012; 2015). Teacher implementations based on the principle of fairness protect justice by providing a frame for decisions of teachers and ensure presenting unprejudiced and consistent behaviors towards students (Reyna & Weiner, 2001). Explaining the rules of the classroom clearly, implementing the rules in an organized, consistent and objective way, creating a communication environment based on respect would strengthen the perception of justice in students.

Negative perceptions of students about classroom justice also cause them to perceive teacher-student interactions as negative (Horan et al., 2013), moreover, students can blame their teacher for their low academic success (Chowning & Campbell, 2009). When individuals get rewards lower than they think they deserved, they perceive inequality and feel anger (Töremen & Tan, 2010). Students indicate rude, insensitive, prejudiced, ostracizing or blaming behaviors they observe in their teachers as an example of unfair conditions. Additionally, students stated that they feel anger, pain, disappointment, weakness, stress, and being frustrated and cheated, and they behaviorally show being opposite, failing to act, withdrawal, expressing hostile behaviors, etc. when they experience an unfair condition in the classroom (Horan et al., 2010). Similarly, Chory-Assad (2002), Chory-Assad and Paulsel (2004b) and Paulsel & Chory-Assad (2005) found that when students perceive procedural injustice they show behaviors like indirect aggression, hostility, desire to revenge, resistance and disobedience towards teachers. In addition, unfair behaviors in the classroom result in negative outputs like decreased motivation to learn and emotionally distancing from school (Berti, et al., 2010; Chory et al., 2014).

#### **Determining the Perception of Justice in the Classroom**

When Turkish literature is reviewed, there are some measurement tools used in determining the perception of justice in educational processes. These are "Social Justice Scales in Schools" (Karacan et al., 2015) and "Social Justice Beliefs Scale in Education" (Gezer, 2017) for teachers/teacher candidates and "Scale for Causes of Experiencing Conflict in Class" (Argon, 2009) for students.

The only study focusing on the justice in the classroom within the theoretical framework of Chory-Assad and Paulsel was the research study of Kepekçioğlu (2015). In this first study focusing on adapting Justice in the Classroom scales into Turkish, the scales were valid and reliable for the level of university students. In adaptation study conducted with the sample of university students, SDJC presented a two-dimensional structure. SPJC presented a three-dimensional structure differently from the original scale and SIJC presented a 8-item unidimensional structure, which is the item number of the original scale before revision. These results brought up the idea of restudying on the SJC. Therefore, differently from Kepekçioğlu (2015), it is conceived to be important to study the concept of classroom justice in a secondary school level for the reasons listed above.

In secondary education period, seeing and questioning life and developing a philosophy of life is among developmental tasks to achieve according to Havinghurst (Erkan, 2008). In addition to knowledge gained at school, students question the moral-religious rules they obtained through their family, deal with the problems of the society and world they are in, try to lay down their personal existence, question life and try to find a meaning. It is important to have a safe classroom environment and fair teacher behaviors in experiencing and healthy process and achieving developmental tasks. Perceiving the classroom environment and implementations of the teacher as fair would make them feel valuable and this is crucial for their self-confidence, self-competency, hope, academic success and social adaptation.

In accordance with the information given, in this study, on a secondary education level, it is aimed to adapt the Scale of Justice in the Classroom, which consists of the Scale of Distributive Justice in the Classroom, the Scale of Procedural Justice in the Classroom and the Scale of Interactional Justice in the Classroom, into Turkish and to conduct reliability and validity tests. In this way, it is considered that there would be a contribution to the literature, and Turkish form of Scale of Justice in the Classroom (SJC) would be beneficial for the researchers studying with secondary education level in the field and for school psychological counselors.

## Method

### Study Group

The study was conducted with students who attending 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> grade in high schools (Anatolian high school, vocational high school, imam hatip high school, science high school, fine arts high school) in a city in Western Black Sea Region. In determining the study group, convenience and maximum diversity was taken into account. Convenience sampling is described as the sampling conducted with individuals who are in close environment, accessible and voluntarily participating (Erkuş, 2009). In maximum diversity method, some variables, like biological sex, school type, which can separate participants from each other are taken into account. By this way, different opinions are included in the research study (Creswell & Clark, 2015). Study group consists of voluntary participants. In the study, 508 students were attained, deficiently and defectively filled measurement tools and items with outliers were excluded from the study and at the end, data obtained from 494 forms was analyzed. Out of participants, 314 of them (63.6%) were females and 180 of them (36.4%) were males. Kline (2011, 12) stated that sample sizes of 200 or over is sufficient for structural equation modelling studies. In this context, in the process of scale adaptation, the study was completed with the assumption that a sample size of 494 was accepted to be sufficient.

### Data Collection Tools

#### *The Scales of Justice in the Classroom*

The Scale of Justice in the Classroom consists of three different scales; The Scale of Distributive Justice in the Classroom, The Scale of Procedural Justice in the Classroom and the Scale of Interactional Justice in the Classroom.

*The Scale of Distributive Justice in the Classroom (SDJC)*; the scale was developed by Chory-Assad (2002) with 14-items and then revised by Chory-Assad and Paulsel (2004a) and rearranged as 12-items. It aims to determine perceptions of students about fairness of grades they got, or they expected to get in a course. The minimum score to obtain from the scale is 12 and the maximum score is 60. The Cronbach Alpha coefficient of the scale ranges between .69 (Chory, 2007) and .92 (Chory-Assad & Paulsel, 2004a).

*The Scale of Procedural Justice in the Classroom (SPJC)*; Based on the studies of Thibaut and Walker (1975) and Leventhal (1980), it was developed by Chory-Assad (2002). The initial form consisted of 17 items and it was reviewed by Chory-Assad and Paulsel (2004a) and a 15-item form was created. In the scale, students are expected to evaluate a particular teacher about classroom rules, course schedule and grading criteria. The minimum score to obtain from the scale is 15 and the maximum score is 75. The Cronbach Alpha coefficient of the scale ranges between .72 (Chory, 2007) and .94 (Chory-Assad & Paulsel, 2004a).

*The Scale of Interactional Justice in the Classroom (SIJC)*; initially the scale was developed as 8-items by Chory (2007) and revised as 7 items in the final form. SIJC is based on the evaluation of students about how respectful, open and kind the behavior of a specific instructor is towards students (Chory-Assad & Paulsel, 2004b). The Cronbach Alpha coefficient of the scale is .95 (Chory, 2007). The scores to obtain from the scale range between 7 and 35.

All of SDJC, SPJC and SIJC are 5-point Likert scales [1 (never fair), 5 (completely fair)]. There is no reverse-coded item in the scales. SJC scales, which were originally developed on university students, consist of three separate scales. No total scores are obtained from the sum of these scales (Chory-Assad-Paulsel, 2004a). In order to find the perception of justice in classroom, usually these three measurement tools are used together (Chory, 2007; Paulsel, Chory- Assad & Dunleavy, 2005; Rudick, 2010).

### Translating the Scales of Justice in the Classroom into Turkish

In this study, in order to adapt SJC, which is composed of SDJC, SPJC and SIJC, into Turkish, Rebecca M. Chory were contacted for permission via e-mail (permission date March 13, 2017). In the process of adaptation of SJC, as a beginning language adaptation was conducted and then validity and reliability studies were conducted.

SJC were initially translated into Turkish by taking items and item-numbers of the original form into account. The translation was made by professionals who have a good knowledge of English and Turkish and from fields of Psychological Counseling and Guidance (PCG) and Educational Psychology. Translated scales were translated

back into English by two different PCG professionals who have a good command of English. In scale adaptation studies, issues such as on which points translations show differences, appropriateness in terms of meaning, suitability to society and culture should be taken into account (Şeker & Gençdoğan, 2014). In this direction, it was examined with a professional team of three whether there is a difference in meanings in Turkish and English translations and by detecting the points where translations differ from each other, translators were reconducted. In choosing the professionals, having at least doctorate degree and having an abroad experience was a necessity.

In the second phase, SDJC, SPJC and SIJC were applied to 17 students who are on 10th grade in an Anatolian High School foreign languages department and items of the scales were discussed with students in terms of meaning and comprehensibility and opinions and suggestions of students were obtained. In translating scale items into Turkish and as a result of research studies conducted with secondary school students, items which take place in the initial forms of original scales but excluded from the original form thereafter were seem to be difficult in terms of comprehensibility and were excluded from the scale. In this direction, SDJC includes 12 items, SPJC includes 15 items and SIJC includes 7 items and analyzed accordingly.

In the original form of the Scale of Justice in the Classroom, the fairness of only one instructor was measured. However, in this research study, students were asked to evaluate their perception of general justice for all of their instructors. As a result, singular statements in the original form were transformed into plural statements in the translated scale.

### **Data Collection**

First of all, permissions were obtained from Provincial Directorate of National Education to collect data from schools. Secondly, administrators and teachers at schools were informed and an implementation plan was prepared. Afterwards classrooms were visited, students were informed about the objective of the study and researcher and the study was conducted with the students who accepted voluntary participation. No personal data was asked to students except school, class and gender variables. They were encouraged to read informed consents, which were placed in the first sheet of the measurement tools and includes information that their decision to participate or not will not affect their school grades, collected data will be used only for this study, etc. data was collected by the researcher.

### **Data Analysis**

After completion of Turkish translation, content and construct validity of the scales were investigated. One of the methods used in determining the content validity is getting an expert opinion (Büyüköztürk et al., 2010). SJC were examined by two academicians, one of whom is from the field of PCG and the other is from the field of Turkish Language and Literature, and they were investigated in terms of expression, meaning, comprehensibility, and appropriateness to Turkish culture. In the direction of suggestions from professionals, measurement tools were put into the final forms. By this way, content validity of SDJC, SPJC and SIJC was provided.

In order to ensure validity and reliability study of the Scales of Justice in the Classroom, data was transferred to SPSS 22.00 program. For validity analysis, AMOS 21.0 program was used and confirmatory factor analysis was conducted, also correlations among SDJC, SPJC and SIJC were calculated. Confirmatory factor analysis is based on the testing of a prediction that specific variables, on the basis of a theory, will mainly take place on predetermined factors (Sümer, 2000). When an intercultural scale adaptation study is being conducted, it is suggested to start from a confirmatory factor analysis of the tool for factor design of the target culture. As factor design of the measurement tool in question in the original culture is revealed with several qualitative and quantitative studies and by this way, experimental proofs were presented related to structural validity of the tool. Confirmatory factor analysis is a technique which is used to test or confirm the theoretical structure of the measured property (Tabachnick & Fidell, 2001). As a result of confirmatory factor analysis, if the model related to original factor design of the measurement tool is not confirmed or it does not give high fit indices, by using exploratory factor analysis, it could be tried to discover factor design of the target culture (Çokluk et al, 2010). In order to make reliability analysis, inner consistency coefficients of sub-dimensions of SDJC and the whole scale and whole scales of SPJC and SIJC were examined. In addition, test-retest method was implemented with a two-week interval and relationship between two implementations were examined.

### **Research Ethics**

Permission was obtained from Provincial Directorate of National Education, dated 31.05.2017, numbered 64441482-605.01-E.7989707, regarding the adaptation of the scales of Justice in Classroom to Turkish and

carrying out the validity and reliability studies. After preparing the necessary documents regarding the research and ethics committee approval obligation was imposed on all articles, including the research process and publication process, the research measurement tools, research data and all processes were submitted to the Bartın University Ethical Committee and the ethics committee approval was obtained with the protocol number 2020-34, dated 06.03.2020.

## Findings

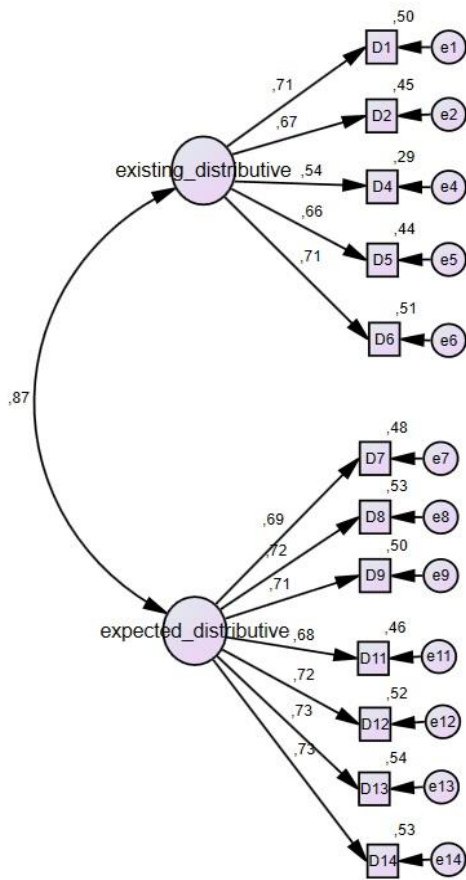
### Validity

Confirmatory factor analysis (CFA) was conducted in order to confirm the factors existing in the original form of the scale. For construct validity of the SJC, comprised of SDJC, SPJC and SIJC. Before starting the analysis, by examining the data set, appropriateness of the data, data accuracy, sample size, missing values, missing data, outliers, normality, linearity, and multilinearity assumptions were checked and provided. Another assumption of the confirmatory factor analysis is about missing data. For each factor, after making missing data analysis, it was found that items with missing data were found to be less than 5%. In order to provide this assumption, data imputation operation to data set was applied through EM method.

Multivariate normality assumption was examined by using Multivariate Kurtosis Coefficient of Mardia (1970). In order to correspond to multivariate normality, it was expected to find coefficients below 5 (Byrne, 2009). In this study, it was found that Mardia's 102.098 coefficient, presenting multivariate normality assumption, did not meet this assumption. On the other hand, result of Kaiser-Meyer-Olkin (KMO) Test and Bartlett Test show that data provide multivariate normality ( $p < .05$ ). Depending on these findings, assuming a normal distribution of data, confirmatory factor analysis was conducted (Can, 2014, p. 303).

### Confirmatory Factor Analysis Results of the Scale for Distributive Justice in Classroom

In order to determine that the original structure of SDJC is confirmed with the sample of Turkish participants, construct validity of the scale is examined using confirmatory factor analysis. As a result of analysis, it was found that the model presents an acceptable level of fit ( $\chi^2=204,762$ ;  $p=.000$ ;  $sd=.53$ ;  $X^2/df= 3.86$ ;  $RMSEA=.076$ ;  $SRMR=.039$ ;  $CFI=.94$ ;  $GFI=.93$ ;  $TLI=.93$ ). Confirmatory factor analysis for SDJC is given in Figure 1.



**Figure 1.** *Confirmatory Factor Analysis Results of the SDJC*

As a result of confirmatory factor analysis, results related to standardized factor loads of items are given in Table 1.

**Table 1.** Results Related to Standardized Factor Loads of Items

Factor	Item	Standardized Factor Load	<i>t</i>	R <sup>2</sup>
MDA	D1	.71		.50
	D2	.67	13.38	.45
	D4	.54	10.89	.29
	D5	.66	13.17	.44
	D6	.71	14.11	.51
	BDA	D7	.69	
D8		.72	14.67	.53
D9		.71	14.31	.50
D11		.68	13.79	.46
D12		.72	14.64	.52
D13		.73		.54
D14		.73		.53

D13	.73	14.84	.54
D14	.73	14.75	.53

\* $p < .001$ , D= Item

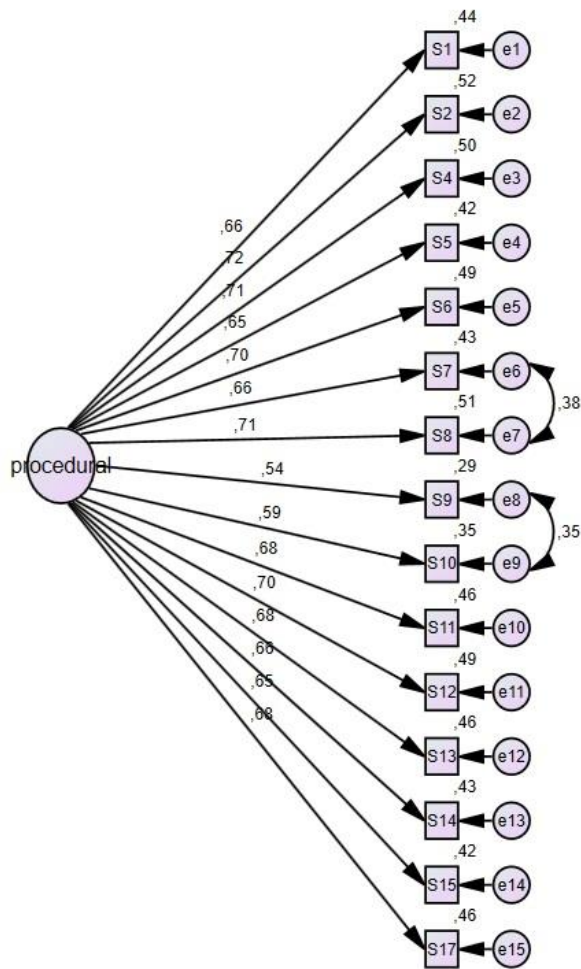
When the results of analyses are reviewed, it can be observed that distributive justice scale present a two-factor structure. It was found that items 1, 2, 4, 5, and 6 fall under one factor and in accordance with item contents, this 1<sup>st</sup> factor is named as “Existing Distributive Justice”. Items 7, 8, 9, 11, 12, 13 and 14 fall under the 2<sup>nd</sup> factor and in accordance with its content, this factor is named “Expected Distributive Justice”. Standardized factor loads range between .54 and .73.

### Confirmatory Factor Analysis Results for the Scale of Procedural Justice in the Classroom

In order to find that the original structure of the SPJC is confirmed with the sample including Turkish participants, construct validity of the scale is investigated with confirmatory factor analysis. As a result of analysis, it is found that the model is out of acceptable limits ( $c^2 = 490,562$ ;  $p = .000$ ;  $sd = 90$ ;  $\chi^2/df = 5,45$ ;  $GFI = .87$ ;  $CFI = .89$ ;  $TLI = .87$ ;  $RMSEA = .095$  ve  $SRMR = .053$ ).

Modification suggestions were reviewed and by making covariance between error variances of item 7 and 8, the model was reanalyzed. Results of analyses revealed that a single-factor model structure is maintained for the scale, however model data fit is not at an acceptable level ( $c^2 = 421.797$ ;  $p = .000$ ;  $sd = 89$ ;  $\chi^2/df = 4,74$ ;  $GFI = .89$ ;  $CFI = .91$ ;  $TLI = .89$ ;  $RMSEA = .087$  ve  $SRMR = .050$ ). As a result of analyses, modification suggestions were reviewed and by making a covariance between error variances of item 9 and 10, model was reanalyzed. After modification, results showed that fit indices are acceptable ( $c^2 = 361.966$ ;  $p = .000$ ;  $sd = 88$ ;  $\chi^2/df = 4,11$ ;  $GFI = .91$ ;  $CFI = .92$ ;  $TLI = .91$ ;  $RMSEA = .079$  ve  $SRMR = .046$ ). CFA results related to the scale of procedural justice in the classroom are given in Figure 2.





**Figure 2.** Confirmatory Factor Analysis Results for the SPJC

As a result of confirmatory factor analysis, results related to standardized factor loads of items are given in Table 2.

**Table 2.** Results Related to Standardized Factor Loads of Items

Item	Standardized Factor Load	<i>t</i>	R <sup>2</sup>
S1	.66		.44
S2	.72	14.19	.52
S4	.71	13.99	.50
S5	.65	12.91	.42
S6	.70	13.80	.49
S7	.66	13.10	.43
S8	.71	14.03	.51
S9	.54	10.96	.29

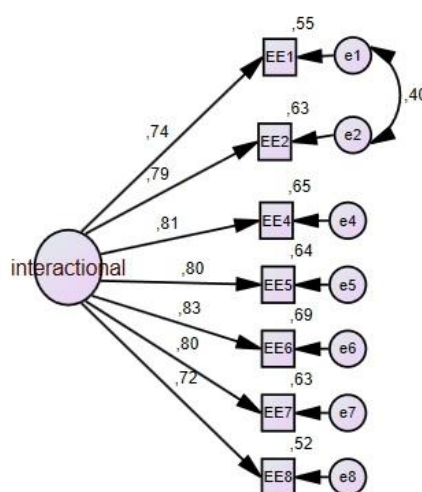
S10	.59	11.92	.35
S11	.68	13.45	.46
S12	.70	13.80	.49
S13	.68	13.47	.46
S14	.66	13.14	.43
S15	.65	12.92	.42
S17	.68	13.44	.46

\* $p < .001$ , S= Item

When Table 2 is examined, standardized factor loads of SCPJ range between .54 and .72.

### Confirmatory Factor Analysis Results for the Scale of Interactional Justice in the Classroom

In order to determine that original structure of SIJC is confirmed with the sample of Turkish participants, construct validity of the scale is investigated with confirmatory factor analysis. As a result of analysis, it was found that the model is out of acceptable limits ( $\chi^2 = 99,919$ ;  $p = .000$ ;  $sd = 14$ ;  $\chi^2/df = 7,13$ ;  $GFI = .95$ ;  $CFI = .96$ ;  $TLI = .94$ ;  $RMSEA = .112$  ve  $SRMR = .031$ ). Modification suggestions were examined and the model was reanalyzed by establishing a covariance between error variances of item 1 and 2. When fit of indices after modification is examined, it was found that the model obtain good fit values ( $\chi^2 = 36.024$ ;  $p = .001$ ;  $sd = 13$ ;  $\chi^2/df = 2,77$ ;  $GFI = .98$ ;  $CFI = .99$ ;  $TLI = .99$ ;  $RMSEA = .060$ ,  $SRMR = .019$ ). CFA results about SIJC are given in Figure 3.



**Figure 3.** Results of Confirmatory Factor Analysis for the SIJC.

As a result of confirmatory factor analysis, results related to standardized factor loads of items are given in Table 3.

**Table 3.** Results Related to Standardized Factor Loads of Items

Item	Standardized Factor Load	<i>t</i>	R <sup>2</sup>
EE1	.74		.55
EE2	.79	22.76	.63
EE4	.81	17.88	.65

EE5	.80	17.80	.64
EE6	.83	18.47	.69
EE7	.80	17.64	.63
EE8	.72	15.93	.52

\* $p < .001$ , EE= Item

When Table 3 is examined, it is found that standardized factor loads of SIJC range between .74 and .83. After evaluating all results of analyses and taking fit of indices into account, it can be stated that Turkish forms of SDJC, SCPJ and SIJC present a good fit.

Correlations among SJC are investigated and results are given in Table 4.

**Table 4.** Correlations among Distributive Justice, Procedural Justice and Interactional Justice Scales in the Classroom

	Interactional	Procedural	Distributive
Interactional	1		
Procedural	.69***	1	
Distributive	.39***	.52***	1

\*\*\*  $p < .001$

When the Table 4 is examined, correlation between SDJC and SPJC is found  $r = .52$ ; correlation between SDJC and SIJC is found  $r = .39$  and correlation between SPJC and SIJC is found  $r = .69$ .

In the development phase of SJC (Chory, 2007), the correlation between SDJC and SPJC is ( $r = .65, p < .001$ ), correlation between SDJC and SIJC is ( $r = .41, p < .001$ ), and correlation between SPJC and SIJC is ( $r = .70, p < .001$ ). Similarly, in the study conducted by Kepekçioğlu (2015) on university students, the correlation between SDJC and SPJC is ( $r = .53, p < .01$ ), correlation between SDJC and SIJC is ( $r = .44, p < .01$ ), and correlation between SPJC and SIJC is ( $r = .68, p < .01$ ).

When results of correlations are examined, it was found that there is a strong connection between distribution of resources deservedly and clear and consistent rules in this distribution process. In addition, it can be asserted that there is a strong relationship between clear rules about distribution of resources, perception of their consistency over individuals, places or time and an equalitarian communication style with individuals.

### Reliability

Reliability analyses of The Scales of Justice in the Classroom are calculated by using Cronbach Alpha inner consistency coefficients. Cronbach Alpha inner consistency coefficients are calculated for existing distributive justice and expected distributive justice sub-dimensions of distributive justice scale and for the whole distributive justice scale and for SPJC and SIJC. Reliability coefficients of SJC are given in Table 5.

**Table 5.** Reliability Coefficients of SJC

Scale / Name of sub-dimension	Cronbach Alpha Value	
	Turkish	Original
Distributive Justice Scale in the Classroom (SDJC)	.91	.69
SDJC, Existing Justice Sub-Dimension	.79	-
SDJC, Expected Justice Sub-dimension	.88	-
Procedural Justice Scale in the Classroom (SPJC)	.92	.72
Interactional Justice Scale in the Classroom (SIJC)	.93	.95

When Table 5 is reviewed, Cronbach Alpha coefficient is found .91 for SDJC, .92 for SPJC and .92 for SIJC. In other words, inner consistency coefficients of all scales are over .80. In accordance with this information, it can be said that reliability coefficients of adapted SDJC and adapted SPJC are higher than the original scale and reliability coefficient of the SIJC is high and close to the original scale.

Additionally, in order to statistically test stability of Turkish forms of Scales of Justice in the Classroom, in terms of the properties it measures, Test-Retest method was used. In order to determine test-retest reliability coefficient of the scales, the scales were applied to 47 students studying in 11<sup>th</sup> and 12<sup>th</sup> grades of an Anatolian High School with a two-week interval. In order to test stability of scores obtained from two implementations, Pearson Product-Moment Correlation Coefficient was examined. According to this, a positive and significant relationship was determined between both implementations of SJC. This relationship was found as  $[r(47) = .89, p < 0.01]$  for SDJC,  $[r(47) = .84, p < 0.01]$  for SPJC and  $[r(47) = .87, p < 0.01]$  for SIJC.

### Discussion and Conclusion

In this study, validity and reliability study of the Turkish versions of The Scales of Justice in the Classroom, which is composed of the scales of Distributive Justice in the Classroom (Chory-Assad and Paulsel (2004), The Procedural Justice in the Classroom (Chory-Assad & Paulsel, 2004) and The Interactional Justice in the Classroom (Chory, 2007) was conducted on students at the high school.

Two-dimensional structure of the Distributive Justice in the Classroom is consistent with the literature. According to Adams (1965; cited in Greenberg et al., 2007), who propounded the equality theory, the nature of justice is comparative. The individual compares the rewards s/he gets related to own contributions with what other equals get (Ashton-James & Ashkanasy, 2007). As an example, students who spend more time and effort for examinations and expect to get high grades but could get low grades when other students spend less time and effort but get higher grades, regard their grades as unfair (Tata, 1999). According to Greenberg (1987), conformable to prejudices in distributive justice, individuals expect their performances or the consequence of their performances to be higher from others. In addition, individuals perceive their high outcomes to be fairer from the low outcomes of others. For this reason, individuals may have different expectations related to justice about the rewards they get and they expect.

Confirmatory factor analysis and Cronbach Alpha internal consistency coefficient sign a good fit and it was claimed that SDJC, SPJC and SIJC can be used as valid and reliable measurement tools for Turkish culture. It is thought that SJC could help professionals obtain valid and reliable data in fields of psychological counseling and guidance, education, psychology, social services, child development, that work with adolescents. It is known that students show reactions like anger, disappointment and failing to act, when they face with unfair attitudes of teachers (Horan et al, 2010). In this direction, it is thought that SJC could be used in providing data in guidance and psychological counseling studies conducted to understand whether there are unfair situations behind the antisocial behaviors of students (Chory-Assad & Paulsel, 2004b, Horan et al., 2010) or behaviors like distancing from school, becoming withdrawn, academic failure, being amotivational, etc. (Chory-Assad, 2002).

### Suggestions

This study is conducted with students studying in different high school in a city in Western Black Sea Region. Additional studies could be organized to include bigger samples all across Turkey and by comparing obtained outcomes with the findings of this study, validity and reliability of the scale could be strengthened. Similar and discriminant scale validity can be tested for SJC.

It is thought that Scales of Justice at School will contribute to the studies of school psychological counselors and researchers in order to understand negative behaviors like absenteeism, failure, aggressiveness, introversion. In addition, it is assumed that the study will empower studies on school atmosphere and culture.

## References

- Argon, T. (2009). Üniversite öğrencilerinin sınıf içi çatışma yaşama nedenlerinin ölçülmesine yönelik bir ölçek geliştirme çalışması. *Kuram ve Uygulamada Eğitim Bilimleri*, 9(3),1001-1041.
- Berti, C., Molinari, L.& Speltini, G. (2010). Classroom justice and psychological engagement: students' and teachers' representations. *Soc Psychol Educ*, 13, 541–556. DOI 10.1007/s11218-010-9128-9
- Can, A. (2014). *SPSS ile bilimsel araştırma sürecinde nicel veri analizi*. Ankara: Pegem .
- Chory-Assad, R. M. (2002). Classroom justice: Perceptions of fairness as a predictor of student motivation, learning, and aggression. *Communication Quarterly*, 50, 58–77.
- Chory, R. M. (2007). Enhancing student perceptions of fairness: The relationship between instructor credibility and classroom justice. *Communication Education*, 56, 89–105.
- Chory- Assad, R.M. & Paulsel, M.L. (2004a) . Classroom Justice: Student Aggression and Resistance as Reactions to Perceived Unfairness. *Communication Education*, 53 (3), 253–273.
- Chory-Assad, R. M., & Paulsel, M. L. (2004b). Antisocial classroom communication: Instructor influence and interactional justice as predictors of student aggression. *Communication Quarterly*, 52, 98-114.
- Chory, R.M., Horan, S.H., Carton ,S.T.& Houser, M.L.(2014). Toward a further understanding of students' emotional responses to classroom injustice. *Communication Education*, 63(1), 41–62.
- Chowning, K., & Campbell, N. J. (2009). Development and validation of a measure of academic entitlement: Individual differences in students' externalized responsibility and entitled expectations. *Journal of Educational Psychology*, 101, 982–997. doi:10.1037/a0016351
- Creswell, J.W. & Plano Clark, V.L. (2015). *Karma yöntem araştırmaları tasarımı ve yürütülmesi* (Çev.Edts. Y. Dede ve S. Beşir Demir), Ankara : Anı.
- Cropanzano, R., & Greenberg, J. (1997). Progress in organizational justice: Tunneling through the maze. In C. L. Cooper & I. T. Robertson (Eds.), *International Review of Industrial and Organizational Psychology*, 12, ( pp. 317–372). London: Wiley.
- Colquitt, J. A. (2001). On the dimensionality of organizational justice: A construct validation of a measure. *Journal of Applied Psychology*, 86, 424- 445.
- Çokluk, Ö., Şekercioğlu, G. ve Büyüköztürk, Ş. (2010). Sosyal bilimler için çok değişkenli istatistik: SPSS ve lisrel uygulamaları. Ankara: Pegem.
- Erkan, S. (2008). Gelişim psikolojisinde temel kavramlar. İçinde Y. Özbay ve S. Erkan (Edts.), *Eğitim Psikolojisi*, ( 27-49) Ankara: Pegem.
- Erkuş, A. (2009). *Davranış bilimleri için bilimsel araştırma süreci* (2. basım). Ankara: Seçkin.
- Evertson, C.M. & Emmer, E.T. (2013). *İlkokul öğretmenleri için sınıf yönetimi* (Çev. Edt. Ahmet Aypay). Ankara: Nobel.
- Gezer, M. (2017). Öğretimde Sosyal Adalet İnançları Ölçeği'nin Türkçe Uyarlaması. *Sakarya University Journal of Education*, 7(2), 295-309.
- Gözler, K. (2008). Tabii hukuk ve hukuki pozitivizme göre adalet kavramı. *Muhafazakar Düşünce*, 4 (15), 77-90.
- Greenberg, J. (1987). Reactions to procedural justice in payment decisions: Do the means justify the ends? *Journal of Applied Psychology*, 72, 55-61.
- Greenberg, J., Ashton-James, C. E. & Ashkanasy, N. M. (2007). Social comparison processes in organizations. *Organizational Behavior and Human Decision Processes*, 102(1), 22-41.
- Güriz, A. (2001). Adalet kavramının belirsizliği. İçinde Betül Çotuksöken (Edt.) *Cumhuriyet Döneminde Türkiye'de Öğretim ve Araştırma Alanı Olarak Felsefe*, (315-330). Ankara : Türkiye Felsefe Kurumu.
- Hoşgörür, T. (2012). A Discussion of what makes a good teacher: Opinions of pre-service primary school teachers. *Procedia-Social and Behavioral Sciences*, 55, 451-460.
- Hoşgörür, T. (2015). According to former school students' viewpoints, what aspects turn a bad teacher into a good teacher? *Anthropologist*, 19(3), 819-828.

- Horan, S.M., Chory, R.M. & Goodboy, A.K. (2010). Understanding students' classroom justice experiences and responses. *Communication Education*, 59 (4), 453- 474.
- Horan, S. M., Chory, R. M., Carton, S., Miller, E., & Raposo, P. (2013). Testing leader-member exchange theory as a lens to understand students' classroom justice perceptions and antisocial communication. *Communication Quarterly*, 61, 497-518.
- Karacan, H., Bağlıbel, M. ve Bindak , R. (2015). Okullarda Sosyal Adalet Ölçeğinin geliştirilmesi. *Mustafa Kemal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 12 (31), 54-68.
- Kepekçioğlu, E. S. (2015). *Üniversite öğrencilerinin öğretim elemanlarının inanırlığı algısı ve sınıfta adalet algısı arasındaki ilişki* (Yayınlanmamış doktora tezi, Abant İzzet Baysal Üniversitesi Eğitim Bilimleri Enstitüsü, Bolu).
- Kline , R. B. (2011). *Principle and practice of structural equation modeling*. New York: The Guilford Press
- Kim, C., Damewood, E. & Hodge, N. (2000). Professor attitude: Its effect on teaching evaluations. *Journal of Management Education*, 24(4), 458-473. DOI: 10.1177/105256290002400405.
- Molinari, L., Speltini, G. & Passini, S. (2012). Do perceptions of being treated fairly increase students' outcomes? Teacher-student interactions and classroom justice in Italian adolescents. *Educational Research and Evaluation: An International Journal on Theory and Practice*, 19 (1), 58-76 <http://dx.doi.org/10.1080/13803611.2012.748254>
- Paulsel ,M.L. & Chory Assad, R.M. (2005). Perceptions of instructor interactional justice as a predictor of student resistance. *Communication Research Reports*, 22 (4), 283 - 291.
- Paulsel, M.L., Chory-Assad, R.M. & Dunleavy, K.N. (2005) The Relationship between Student Perceptions of Instructor Power and Classroom Justice. *Communication Research Reports*, 22 (3), 207 -215.
- Reyna, C. & Weiner, B. (2001). Justice and utility in the classroom: an attributional analysis of the goals of teachers' punishment and intervention strategies. *Journal of Educational Psychology*, 93(2), 309-319
- Rudick, C.K. (2010). *Students' perceptions of classroom justice and their use of politeness strategies*. (Master thesis) Eberly College of Arts and Sciences at West Virginia University
- Sümer, N. (2000). Yapısal eşitlik modelleri: Temel kavramlar ve örnek uygulamalar. *Türk Psikoloji Yazıları*, 3 (6), 49-74.
- Şeker, H ve Gençdoğan, B. (2014). *Psikolojide ve eğitimde ölçme aracı geliştirme*. Ankara: Nobel.
- Tabachnick, G. B. & Fidell, S. L. (2001). *Using multivariate statistics*. (Fourth Edition) Boston, U.S.A.: Allyn and Bacon, A Pearson Education Company.
- Tata, J. (1999) Grade distributions, grading procedures, and students' evaluations of instructors: a justice perspective, *The Journal of Psychology*, 133 (3), 263-271.  
DOI:10.1080/00223989909599739 <https://doi.org/10.1080/00223989909599739>
- Töremen, F. ve Tan,Ç. (2010). Eğitim örgütlerinde adalet: kavramsal bir çözümleme. *Dicle Üniversitesi Ziya Gökalp Eğitim Fakültesi Dergisi*, 14, 58-70
- Whalen, D. J., & Koernig, S. K. (2009). Maintaining fairness when a student goes afoul of classroom rules: a procedural justice model. *Marketing Education Review*, 19(2), 27-33.
- Yolcu, H. (2010). Sınıf yönetimini etkileyen etkenler (1. bs.). Ed. C. Gülşen. *Kuram ve uygulamada sınıf yönetimi içinde* (s. 23-62). Ankara: Anı Yayıncılık.
- Young, I.,E. Horan, S.M. ve Frisby,B.N.(2013). Fair and Square? An Examination of Classroom Justice and Relational Teaching Messages. *Communication Education*, 62(4), 333-351, DOI: 10.1080/03634523.2013.800216