

Factor Structure, Measurement Invariance, Criterion Validity, and Reliability of the School Kindness Scale: Turkish Middle School Sample

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Abstract

The aim of the study is to adapt the School Kindness Scale (SKS) to Turkish, and to examine its psychometric properties. For this purpose, two separate samples were used. Totally, 611 middle school students (302 boys, corresponding to 49.43% and 309 girls, corresponding to 50.57%) participated in the Study 1, and 759 middle school students (369 boys, corresponding to 48.62% and 390 girls, corresponding to 51.38%) participated to Study 2. In Study 1, exploratory factor analysis suggested that the SKS has a unidimensional structure, with factor loadings varying from .64 to .72. The SKS total score appears to be reliable (Cronbach's $\alpha = .71$ in Study 1, and McDonald's $\omega = .82$ in Study 2). Using confirmatory factor analysis, the 1-factor model was found to fit the data well. The results of measurement invariance suggest that the SKS measures similar constructs for boys and girls. Significant positive correlations were found between SKS, student-rated school climate, resilience, and life satisfaction, providing further evidence of the construct validity of the Turkish version of the SKS. The evidence suggests that scores from the Turkish version of the SKS are reliable and suitable to be used to assess school kindness in Turkish middle school students.

Keywords

school kindness, factor structure, measurement invariance, validity, reliability

Introduction

Positive psychology is a scientific study field which focuses on enhancing well-being of people as well as institutions and societies. Having satisfactory relationships with others is an essential component of well-being. Among several qualities that may contribute to better relationships, kindness is considered one of the most remarkable. Baldwin and Baldwin (1970) defined kindness as a motivation that is sometimes inferred from the fact that one person benefits another, provided the circumstances are appropriate. Otake, Shimai, Tanaka-Matsumi, Otsui, and Fredrickson (2006) regarded kindness as a strength that contributes to subjective happiness. They also claimed that the motivation to be kind to others, the recognition of kindness in others, and

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the enactment of kind behavior in one's daily life are the major components of kindness. Ferrucci (2016) indicated that kindness gives meaning and value to our lives and makes us feel good about ourselves. Previous empirical research demonstrates that practicing kindness as an intentional positive activity can increase happiness and well-being (Layous, Nelson, Oberle, Schonert-Reichl, & Lyubomirsky, 2012; Lyubomirsky & Layous, 2013; Otake et al., 2006).

Kindness among students and school staff is an invaluable human strength in school environments. In addition, schools are unique settings within which children's social and emotional well-being can be promoted and critical life skills can be learnt and taught (Barry, Clarke, & Dowling, 2017). However, most of the studies focusing on school environments have focused on negative qualities such as aggressive behaviors and bullying. More recently, educators and researchers began to understand the importance of addressing positive development among students. Binfet and Gaertner (2015) reviewed the publications containing either the word "kindness" or the word "bullying" between the years of 2004 and 2014 by using database in education and psychology. They found that articles on bullying outnumber those on kindness. As a consequence, much is known about bullying, while little is known about kindness.

In an early study, Baldwin and Baldwin (1970) developed an instrument entitled Kindness Picture Story which aimed to assess judgments of kindness among a group of subjects from kindergarten to college. They based their measurement upon a model of the intuitive theory of kindness and used 10 pairs of stories, accompanied by illustrative pictures. The findings of the study showed that there is a consensus on judgments of kindness among college students, whereas children acquire an understanding of different aspects of kindness at different ages.

Binfet and Gaertner (2015) conducted a study to assess perceptions of kindness among kindergarten students. They used drawings to examine students' conceptualizations of kindness. The findings of qualitative conventional content analysis revealed that young students perceive kindness as intentional acts aimed at providing physical help to others, acts that maintain friendships, and acts that provide emotional assistance to others. In a recent study, Binfet and Passmore (2017b) examined middle school students' conceptualizations of kindness. The findings of the study revealed that students defined kindness using positive terms regardless of gender and grade. They also understood kindness mainly as helping others, being respectful, and being encouraging/advocating. In another study, Binfet and Passmore (2017a) examined teachers' perceptions of school kindness. The findings of the study indicated that they defined kindness in various forms such as caring for others, showing empathy, being respectful, helping, and encouraging.

Arguing the need for assessment of kindness as a construct in school environments, Binfet, Gademmann and Schonert-Reichl (2016) developed a brief instrument to assess students' perceptions of kindness in schools. The participants of the study were 1,753 students in Grades 4 to 8 attending public schools. The findings revealed that the School Kindness Scale (SKS) demonstrated a unidimensional factor structure. The findings of the convergent and discriminant validity analyses showed that students' scores on the SKS were positively and significantly related to classroom supportiveness, optimism, happiness, prosocial and social goals, and satisfaction with life. Moreover, the SKS was significantly and positively associated with teacher reports on students' empathy, social skills, and peer acceptance.

Purpose of the Study

The aim of the present study is to adapt the SKS (Binfet et al., 2016) to Turkish and, to examine its factor structure, measurement invariance by gender, criterion validity, and reliability. For this purpose, after the translation of the scale to Turkish, two studies were performed. In Study 1, the factor structure was investigated with exploratory factor analysis (EFA), as in the original, and the reliability was identified with Cronbach's α . In Study 2, the factor structure of the SKS was

examined with confirmatory factor analysis (CFA) and measurement invariance according to gender, criterion validity, and reliability analyses were implemented. For criterion validity, Middle school student version of School Climate Scale (SCS; Emmons, Haynes, & Comer, 2002), Child and Youth Resilience Scale (RS; Liebenberg, Ungar, & Van de Vijver, 2012), and the Brief Multidimensional Students' Life Satisfaction Scale (LSS; Seligson, Huebner, & Valois, 2003) were taken as criteria. Due to the notion that students' perceptions of the prevalence of kindness within school is an important indicator of school climate (Binfet et al., 2016), we included school climate as a relevant variable in the study. Based on the literature indicating the associations between kindness and well-being (Layous et al., 2012; Lyubomirsky & Layous, 2013; Otake et al., 2006), we also included life satisfaction and resilience as the two main indicators of well-being.

Method

Turkish Translation of SKS

After consent was received from one of the authors (John Tyler Binfet), four linguists who had a good command and knowledge of Turkish and English languages and cultures, one measurement and evaluation expert, and one psychological counselor granted their assistance for the Turkish translation. Two linguists translated the scale to Turkish and the other two back to English again. Later, those linguists together with two experts came together and examined the translations and decided on the scale's Turkish final form. The applications for the adaptation studies (Study 1 and Study 2) were performed in state and private middle schools located in the rural and central parts of İzmir, a city in the western part of Turkey.

Study 1: EFA and Reliability Analysis for the Turkish Middle School Samples

Participants. In the first study, it was aimed to examine the factor structure of the SKS with EFA. Therefore, the participants were selected from state and private middle schools located in the rural and central parts of the town so that they could have a heterogeneous distribution in terms of measured trait. Selected Schools were also situated in both low- and middle-income neighborhoods. A total of 611 students, ages of whom range from 10 to 15 ($M = 12.34$, $SD = 1.29$) and grades of whom vary from 5 to 8 participated (middle school level in Turkey is 4 years, from Grades 5 to 8). The participants comprised 309 girls (50.6%) and 302 boys (49.4%).

Measure

School Kindness Scale (SKS). SKS is a 5-item measure of school-based kindness using a 5-point Likert-type type scale, from 1 (*disagree a lot*) to 5 (*agree a lot*). Items addressed students' perceptions of the frequency of kindness in their classroom and school. The scale was applied to 1,753 students (48% girls, 52% boys) studying in Grades 4 to 8 by Binfet et al. (2016) and factor structure was tested with EFA and its Cronbach's alpha value was calculated as .71. The first eigenvalue in their data was 2.57; the second eigenvalue was 0.85, confirming its unidimensional structure. Binfet et al. (2016) found that the all items showed high loadings ($>.50$), ranging between .55 and .69. The pattern of associations of the SKS to a corpus of theoretically relevant constructs obtained via student self-reports (classroom supportiveness, optimism, happiness, prosocial and social goals, satisfaction with life, and academic self-efficacy) provided evidence for convergent validity (Binfet et al., 2016).

Procedure. After consent was granted by the school administration, the scale application was performed under the supervision of school counselors. The applications were completed in the

early autumn period (October 1 to November 1) of 2016-2017 academic year. Before the SKS applications, students were announced that the aim of the study was to better understand kindness through their viewpoints. Students were told that their responses would be kept confidential and that there were no consequences for nonparticipation. Students were encouraged to ask questions when they needed to avoid any misunderstanding.

Data analyses. In Study 1, the factor structure was examined with EFA and the factorability of correlation matrix was investigated with Kaiser-Meyer-Olkin (KMO) Test of Sampling Adequacy and Bartlett's Test of Sphericity (BTS). Internal consistency reliability coefficient was calculated with Cronbach's alpha. All calculations were performed with SPSS 19.0.

Study 2: CFA, Measurement Invariance, Criterion Validity, and Reliability Analyses for the Turkish Middle School Samples

Participants. In Study 2, factor structure of SKS was examined with CFA; measurement invariance, criterion validity, and reliability analyses were studied. The same schools in Study 1 participated in this step. However, those students not involved in Study 1 were included in Study 2. Applications for the Study 2 were completed in the early spring period (April 1 to May 1) of the 2016-2017 academic year. A total of 759 students, ages of whom ranged from 10 to 16 ($M = 12.15$, $SD = 1.28$) and grades of whom varied from 5 to 8. The participants included 390 girls (51.4%) and 369 boys (48.6%).

Measure. In Study 2, the 5-item SKS was implemented, and three more scales were also used for criterion validity analysis. The additional three scales are briefed shortly below.

Middle School Student Version of School Climate Scale (SCS). SCS was developed by Emmons et al. (2002) to evaluate the general school climate and the relationships between school personnel and the students and was adapted to Turkish by Atik and Yerin Güneri (2017). The original scale consists of 37 items and six sub-dimensions. There are 36 items in the Turkish version. One item not found suitable to Turkish culture was left out. The respondents answer the items as 1 = *I don't agree*, 2 = *I am not sure*, and 3 = *I agree*. The subdimensions are (a) Fairness, (b), Order and Discipline, (c) Parent Involvement, (d) Sharing of Resources, (e) Student Interpersonal Relations, and (f) Student-Teacher Relations. The internal consistency of the scale was measured with two study groups, and Cronbach's alpha was .90 and .89, respectively. The test-retest reliability coefficient was .67.

Child and Youth Resilience Scale (RS). RS was developed by Liebenberg et al. (2012) with a social-ecological viewpoint; the scale consists of 28 items. The 12-item short form of the scale was developed by Liebenberg, Ungar, and LeBlanc (2013). The scale was adapted to Turkish by Arslan (2015). The scale has a 5-point Likert-type structure, from *do not describe me at all* (1) to *totally describes me* (5). The internal consistency coefficient of the Turkish version was .91.

The Brief Multidimensional Students' Life Satisfaction Scale (LSS). The scale was developed by Seligson et al. (2003) to measure life satisfaction in five fields (family, school, friends, individual, and an individual's connections). This 7-point Likert-type type scale was adapted to Turkish by Siyez and Kaya (2008). The test-retest reliability coefficient of the Turkish version was .82, and it has an internal consistency coefficient of .89.

Procedure. In Study 2, besides the SKS, for the sake of criterion validity, the 12-item Psychological Resilience, 36-item SCS, and 6-item LSS were given to participants. As in Study 1, after

Table 1. Factor Loadings of the Items of the School Kindness Scale.

Items	Factor 1
1. The adults in my school model kindness.	.72
2. Kindness happens regularly in my classroom.	.70
3. Kindness happens regularly in my school.	.69
4. My teacher is kind.	.66
5. At my school, I am encouraged to be kind.	.64

school administration's approval, students' were informed about the applications and counselors' assistance was called for. The applications took almost a month in all schools.

Data analyses. In Study 2, CFA was used to confirm the factor structure of the scale; Cronbach's alpha and additionally McDonald's omega was utilized for internal consistency reliability. All analyses were performed with Lisrel 8.71 (Jöreskog & Sörbom, 2004). For differential item functioning (DIF) all items were performed with jMetrik (4.0) which is a free and open-source statistical software package, and all descriptive statistics and correlations for the criterion validity were performed with SPSS 19.0. The assumption of tau-equivalence is a requirement for Cronbach's alpha reliability (Cronbach, 1951). If the assumption of tau-equivalence is violated, the true reliability value is underestimated depending on the gravity of the violation. In this case, McDonald's omega corrects the underestimation bias of Cronbach's alpha when the assumption of tau-equivalence is violated (Dunn, Baguley, & Brunson, 2014) and can be estimated with the calculation of unstandardized factor loadings obtained from CFA (Yurdabakan & Çüm, 2017). Various studies show that it is one of the best alternatives for reliability estimation (Revelle & Zinbarg, 2009; Zinbarg, Revelle, Yovel, & Li, 2005, 2006); therefore, McDonald's omega was calculated for the internal consistency reliability in Study 2.

Results

Study 1: EFA and Reliability

The aim of Study 1 was to analyze the factorial structure of SKS. Before conducting an EFA, the KMO measure of sampling adequacy and the BTS were examined to determine the appropriateness for factor analysis. Bartlett's Test was significant (BTS value = 527.891, $p < .001$), showing that the correlation matrix was significantly different from an identity matrix. Similarly, the KMO measure of sampling adequacy of 0.75 was substantial. Both revealed that it was appropriate to perform a factor analysis (Pallant, 2016). The first eigenvalue in our data was 2.33, the second eigenvalue was 0.89, suggesting unidimensionality. As shown in Table 1, all items had high loadings ($> .60$) on the first factor, ranging between .64 and .72.

From the scree plot (Figure 1) and the eigenvalue in our data, factor analysis of results on the five items indicated that unidimensionality was plausible. We then examined the reliability of the SKS using Cronbach's alpha for the data of Study 1. Based on the five items, Cronbach's alpha was .71, which is considered sufficient (Yurdabakan, 2008).

Study 2: CFA, Measurement Invariance, Criterion Validity, and Reliability Analyses

CFA. In Study 2, the unidimensional structure as found in Study 1 was confirmed by CFA, and other criterion validity, and reliability analyses were performed. A covariance matrix was used as input data and Maximum Likelihood estimation was used for all CFAs reported. Univariate normality of the five SKS items was investigated in terms of skewness (.043 to -1.18 , $|M| = .48$)

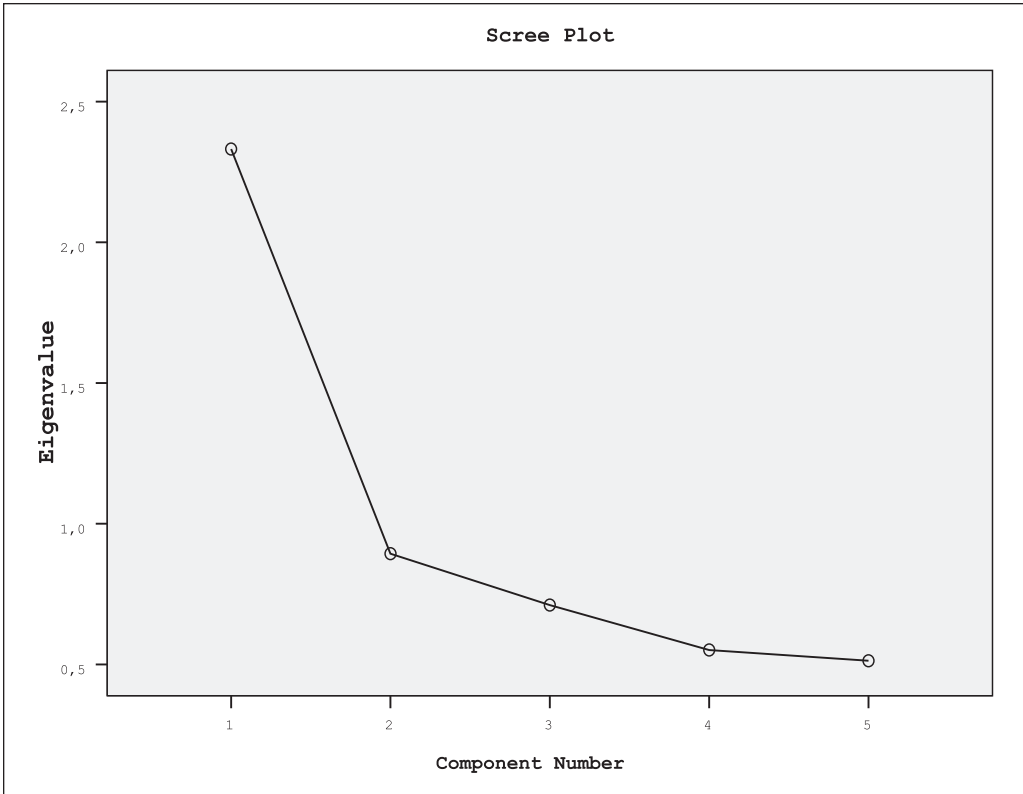


Figure 1. Scree plot diagram showing the eigenvalues of the items.

and kurtosis ($-.006$ to $-.82$, $|M| = -.66$), which were found as $-.62$ and $.28$, respectively. These values were within the limits as recommended for CFA with maximum likelihood (skew < 2 and kurtosis < 7) (West, Finch, & Curran, 1995).

Model fit for unidimensionality of the SKS was assessed with multiple fit indices (Jackson, Gillaspay, & Purc-Stephenson, 2009). The six fit indices—goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), Tucker–Lewis index (TLI), comparative fit index (CFI), standardized root mean-square residual (SRMR), and root mean-square error of approximation (RMSEA)—and relative chi-square/degree of freedom (χ^2/df) were used to test the models. According to cutoff guidelines suggested by Hu and Bentler (1999), values > 0.95 for the GFI, AGFI, TLI, and CFI; values < 0.06 for the RMSEA; and values ≤ 0.08 for the SRMR suggest a good fit. However, values of χ^2/df less than 3 to 4 and values of the smallest Akaike information criterion (AIC) and CAIC are considered to reflect a good fit of the model (Haigh, Moore, Kashdan, & Fresco, 2011). A summary of fit indices both without modification and after modification, the path diagram and standardized item loadings for the unidimensional model are given in Table 2 and Figure 2.

The initial CFA showed that the scores from Turkish version of SKS had some low fit indices, GFI = .96, AGFI = .88, CFI = .92, TLI = .92, SRMR = .055, AIC = 96.79, CAIC = 153.11, RMSEA = .14 and $\chi^2(5, n = 759) = 72.04, p = .00, \chi^2/df = 14.41$, that is why CFA modification indices were analyzed. The result of the analysis indicated that there was a relationship between the error variances of Item 2 (Kindness happens regularly in my classroom) and Item 3 (Kindness happens regularly in my school) and that the factors were correlated. As these two items were under the same factor and tend to measure the same trait (Büyüköztürk, 2004), an error covariance was added to the model and CFA was repeated. The results of CFA, which was replicated

Table 2. Summary of Confirmatory Factor Analyses Results.

Model	χ^2	df	χ^2/df	GFI	AGFI	CFI	TLI	SRMR	RMSEA	AIC	CAIC
Unidimensional model	72.04	5	14.4	0.96	0.88	0.92	0.92	0.055	0.14	96.79	153.11
Unidimensional model (Modification of Item 2-Item 3)	15.38	4	3.845	0.99	0.97	0.99	0.98	0.026	0.061	37.38	99.33

Note. GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; CFI = comparative fit index; TLI = Tucker–Lewis index; SRMR = standardized root mean-square residual; RMSEA = root mean-square error of approximation; AIC = Akaike information criterion. CAIC = Consistent Akaike information criterion.

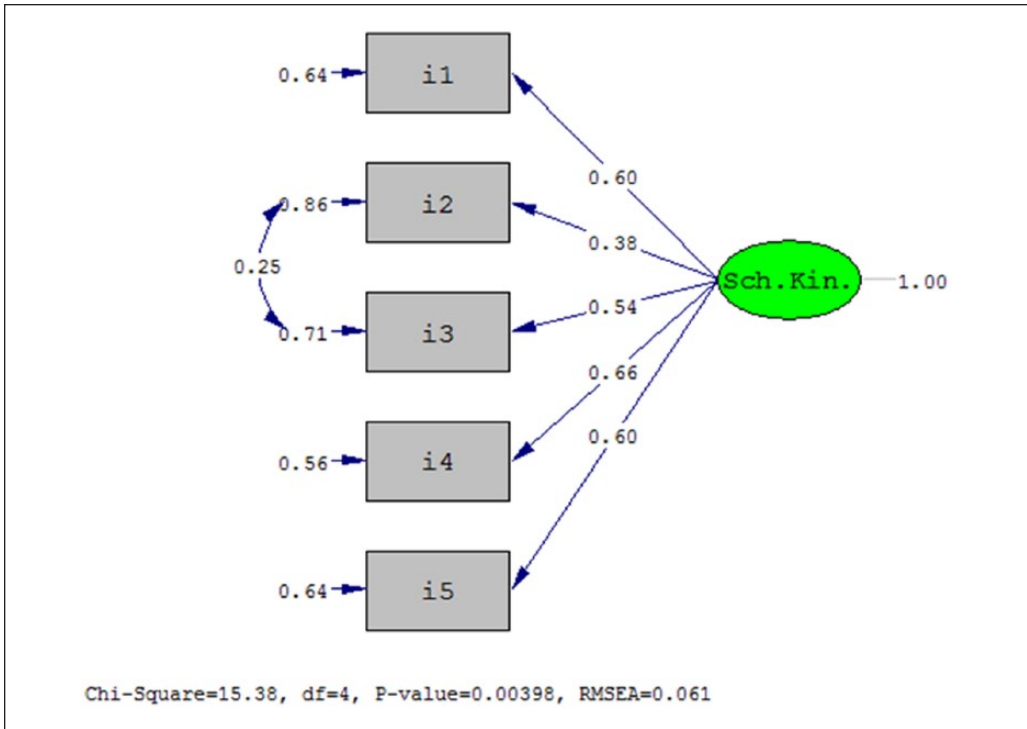


Figure 2. Standardized item loadings related to unidimensional structure of SKS.

Note. SKS = School Kindness Scale.

after the modification between Item 2 and Item 3, showed that all fit indices were superior for the one-dimensional model. The model provided satisfactory fit indices: GFI = 0.99, AGFI = 0.97, CFI = 0.99, TLI = .98, SRMR = .026, AIC = 37.38, CAIC = 99.33, RMSEA = .061, and $\chi^2(4, n = 759) = 15.38, p = .05, \chi^2/df = 3.845$. In addition, the AIC and CAIC indices were recounted after modification and obtained smaller values than the former values. The modified model gave better fit indices. All the paths from the constructs to the item *t* values were statistically significant at 5% level. The standardized path coefficients ranged from .38 to .66, and *t* values ranged from 8.71 ($p < .01$) to 16.20 ($p < .01$), suggesting that the items were good indicators of the unidimensional construct.

Measurement invariance in term of gender. After confirming the unidimensional structure of the SKS for the total sample, multigroup CFA was conducted to determine whether the unidimensional model was invariant across gender groups. In addition, Cochran–Mantel–Haenszel

Table 3. Summary of Confirmatory Factor Analysis Results Across Gender.

Unidimensional model	χ^2	df	χ^2/df	GFI	AGFI	CFI	TLI	SRMR	RMSEA	AIC	CAIC
Girls	7.64	4	1.91	0.99	0.97	0.99	0.98	0.026	0.048	29.64	84.27
Boys	7.46	4	1.87	0.99	0.97	0.99	0.98	0.026	0.048	29.46	83.47

Note. GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; CFI = comparative fit index; TLI = Tucker–Lewis index; SRMR = standardized root mean-square residual; RMSEA = root mean-square error of approximation; AIC = Akaike information criterion.

Table 4. DIF Analysis Results According to Gender.

SKS items	Mantel χ^2	p value	Effect size ^a	95% CI	DIF class ^b
Item 1	0.14	.71	.03	[-.11, .16]	AA
Item 2	5.29	.06	-.17	[-.30, -.03]	AA
Item 3	0.01	.94	-.01	[-.12, .11]	AA
Item 4	0.67	.41	.06	[-.06, .17]	AA
Item 5	0.07	.79	.03	[-.10, .16]	AA

Note. Focal group: Girls ($n = 390$). Reference group: Boys ($n = 369$). DIF = differential item functioning; SKS = School Kindness Scale; CI = Confidence Interval.

^aThe effect size for the standardized mean difference is computed by dividing the standardized mean difference by the total group-item standard deviation.

^bDIF class indicate whether the DIF is negligible (AA), intermediate (BB), or large (CC).

(CMH) Chi-square Statistic (Meyer, 2014) for the detection of the DIF values was utilized. Boys were the reference group while girls were the focal group. Besides, McDonald's omega, as calculated according to factor loadings, was examined. CFA results obtained for boys and girls are presented in Table 3 and DIF results are given in Table 4. McDonald's omega for girls and boys was .83 and .81, respectively. CFA Results indicated that the unidimensional model provided equal fit to the data for both girls and boys. Moreover, there was no significant difference ($t = 1.51, p > .05$) between SKS mean scores of girls ($M = 17.32, SD = 4.15$) and boys ($M = 16.86, SD = 4.17$).

According to some authors (Dorans & Holland, 1993; Holland & Thayer, 1988; Meyer, 2014), an item falls into Class AA and shows no DIF (or negligible) in favor of any groups if that item's absolute value of the effect size is less than or equal to 0.17. The DIF results obtained in the present study showed that all the items for boys and girls fell into Class AA. In short, the results of McDonald's omega, CFAs and DIF analyses for both boys and girls showed that the SKS items worked at the same level for different groups (gender). Hence, the scale could be reliably used for individuals in different gender groups.

Criterion validity. Middle School Student Version of School Climate Scale, Child and Youth Resilience Scale and The Brief Multidimensional Students' Life Satisfaction Scale were used to test the criterion validity of SKS. For this purpose, the correlations between SKS scores and the scores obtained from these scales and their subscales were calculated and are presented in Table 5.

The SKS total score was found to be significantly and positively correlated with SCS total score ($r = .46, p < .01$), Fairness subscale of SCS ($r = .42, p < .01$), Parent Involvement subscale of SCS ($r = .19, p < .01$), Student Interpersonal Relations subscale of SCS ($r = .39, p < .01$), SCS_STR subscale ($r = .47, p < .01$), RS total score ($r = .54, p < .01$), and LSS total score ($r = .40, p < .01$). However, there was no significant correlation between SKS total score and

Table 5. Bivariate Correlations Between SKS and Other Target Variables.

	SKS	SCS total	F	OD	PI	SR	SIR	STR	RS	LSS
SKS	—	.46**	.42**	.09	.19**	.03	.39**	.47**	.54**	.40**
SCS total		—	.72**	.49**	.49**	.37**	.73**	.79**	.48**	.49**
F			—	.15**	.23**	.14**	.51**	.59**	.46**	.39**
OD				—	.05	.28**	.26**	.12*	-.01	.18**
PI					—	.03	.28**	.29**	.23**	.19**
SR						—	.02	.10*	.05	.12*
SIR							—	.48**	.29**	.32**
STR								—	.59**	.48**
RS									—	.54**
M	17.10	78.84	9.51	13.28	10.54	8.15	14.75	22.60	49.50	32.79
SD	4.16	10.52	2.12	2.79	2.31	2.19	3.13	4.32	8.92	7.49

Note. SKS = School Kindles Scale; SCS = School Climate Scale; F = Fairness subscale of SCS; OD = Order and Discipline of SCS; PI = Parent Involvement of SCS; SR = Sharing of Resources of SCS; SIR = Student Interpersonal Relations of SCS; STR = Student-teacher Relations of SCS; RS = Child and Youth Resilience Scale; LSS = Life Satisfaction Scale.

* $p < .05$. ** $p < .01$.

Order and Discipline subscale of SCS ($r = .09$, $p > .05$) and Sharing of Resources subscale of SCS ($r = .03$, $p > .05$) scores.

Reliability analyses. In Study 2, Cronbach's alpha and McDonald's omega were utilized to test the reliability of the scores of SKS. As McDonald's omega is calculated based on nonstandardized item loadings, it gives higher and more realistic results from the Cronbach's alpha (Zinbarg et al., 2005). Accordingly, Cronbach's alpha coefficients of the scores of SKS for the total, female, and male sample were found .71, .73, and .70, respectively. However, McDonald's omega of the SKS for the total, girls, and boys were calculated as .82, .83, and .81, respectively. It may be asserted that the reliability coefficients for the 5-items SKS were at sufficient levels (Yurdabakan & Çüm, 2017).

Discussion

The aim of the present study was to execute the Turkish adaptation of the SKS, developed by Binfet et al. (2016) for students in Grades 4 to 8, to examine the factorial structure (EFA and CFA) and criterion validity of the scale and to obtain additional evidence for its reliability. For this purpose, two studies were conducted. In Study 1, the factorial structure of the SKS was examined with EFA. In Study 2, factorial structure was confirmed with CFA, measurement invariance based on gender and criterion validity was investigated and internal consistency reliability indices were calculated.

The EFA findings in Study 1 were similar to the results obtained by Binfet et al. (2016) in the original study. In Study 2, the factorial structure of the scale was examined with CFA and measurement invariance based on gender was determined. After the modification between Item 2 and Item 3, CFA gave strong fit indices. Measurement invariance results showed that all items were in Class A, so the scale could be suitably used with both boys and girls. However, the obtained stronger values after modification may stem from the similarity between the contents of Item 2 and Item 3. In fact, Item 2 assesses regular kindness acts in the class and Item 3 assesses regular kindness acts in the school. While Item 3 has a higher factor loading than Item 2, it has a lower

error variance. Therefore, further research on SKS would examine the psychometric qualities of the scale by using only Item 3 which has higher factor loading.

As previous research on school climate, resilience and life satisfaction in children and adolescents have indicated that these variables can affect students' perceptions of kindness (Binfet et al., 2016; Otake et al., 2006; Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013), middle school student version of SCS (Emmons et al., 2002), RS (Liebenberg et al., 2012) and the Brief Multidimensional Students' LSS (Seligson et al., 2003) were utilized for the criterion validity of the Turkish version of the SKS.

As seen in Table 5, except for the Order and Discipline and Sharing of Resources subscales of SCS, significant relationships were identified between SKS and SCS, RS, LSS total scores, and also between SKS and Fairness subscale, Parent Involvement subscale, Student Interpersonal Relations subscale, and Student–Teacher Relations subscales of SCS. These relationships ranged from .45 (between SKS and RS) to .19 (between SKS and Parent Involvement subscale of SCS).

Overall, the findings of the present study are consistent with the findings of the original study indicating meaningful associations between school kindness and school climate (Binfet et al., 2016). Similarly, findings of a recent review study on school climate research showed that a positive school climate was a significant predictor of psychological well-being in early adolescence (Thapa et al., 2013). Teacher–student relationships as one of the major components of school climate have a powerful effect on students' experiences within a school (Aldridge & Ala'i, 2013). Teachers are role models who encourage their students to engage in prosocial behaviors such as kindness (Bricheno & Thornton, 2007; Dar, 2015).

In addition, life satisfaction and resilience are two major indicators of psychological well-being. Previous research highlighted the importance of kindness on psychological well-being (Otake et al., 2006). Consistent with the previous research, the findings of the present study revealed that school kindness was associated with life satisfaction among middle school students. The students who perceive more prevalent acts of kindness within their schools tend to be more satisfied with life than those who perceive acts of kindness less frequently.

School kindness was also found to be associated with resilience. The strong relation between school kindness and resilience confirms the notion that social and emotional well-being is an important determinant of students' positive development and can lead to positive outcomes in different life areas such as school and work (Durlak, Domitrovich, Weissberg, & Gullotta, 2015). In other words, it can be speculated that school settings that encourage kindness would help students to be resilient people.

These results were parallel with the previous findings indicating that students' perception of the prevalence of kindness within school is an important indicator of school climate (Binfet et al., 2016). Similarly, Aldridge and Ala'i (2013) stated that teacher–student relationships is a crucial aspect of any school environment and have a powerful influence on students' experience of school. Binfet and Passmore (2017a) suggested that teachers, especially, serve as behavioral models for students and hold potential to encourage prosocial behaviors such as kindness through their modeling of acts of kindness. Social and emotional well-being of children and adolescents is an important predictor of their positive development; thus, they can achieve positive outcomes in school, work, and life more generally (Durlak et al., 2015).

Finally, SCS, RS, and LSS were used to test the concurrent validity of the scale. The findings indicate valid evidence for the validity of the scores of SKS with Turkish middle school students. The scale may be useful for especially school counselors in terms of encouraging students to engage in respectful peer relations and prosocial behaviors in school settings. School counselors may also provide consultation services to teachers to promote positive teacher–student

relationships. Positive and respectful relationships are essential for both social and emotional well-being and effective learning.

Conclusion

In this research, we studied the Turkish adaptation of the SKS developed by Binfet et al. (2016). We had two different studies for this purpose. In Study 1, the factor structure was investigated with EFA and the reliability was examined with Cronbach's alpha coefficient. In Study 2, the factor structure of the SKS was examined with CFA and the criterion validity was tested with middle school student version of *SCS* (Emmons et al., 2002), *RS* (Liebenberg et al., 2012) and *The Brief Multidimensional Students' LSS* (Seligson et al., 2003). In addition, measurement invariance according to gender was identified and reliability was investigated with Cronbach's alpha and McDonald's omega.

The results of Study 1 were approximately similar to the ones obtained by Binfet et al. (2016). In addition to this, in Study 2, we found strong fit indices (after the modification between Item 2 and Item 3) confirming factorial structure of the SKS. The DIF values based on gender were in Class AA. Positive significant correlations were identified between SKS and other scales of *SCS*, *RS*, and *LSS*. The McDonald's omega, calculated from unstandardized factor loadings, was higher than Cronbach's alpha.

As a result, the findings of both Study 1 and Study 2 have indicated that SKS is suitable to collect 10- to 16-year-old male and female Turkish middle school students' views on school kindness. The Turkish adaptation of the SKS is expected to contribute to researchers, educators, and school counselors both in theoretical and practice. Also, the Turkish final form of SKS is given in Appendix.

Limitations and Directions for Future Research

The Turkish version of SKS could be used to collect middle school students' opinions on kindness in their own schools. In the future studies on kindness (e.g., measuring students' self-perceived kindness), different data collection methods could be utilized or other suitable measurement tools could be developed. In this adaptation study, the correlations between SKS and *SCS*, *RS*, *LSS* were computed for the criterion validity of the SKS. Therefore, these correlations should be handled cautiously and judgments should be made accordingly. However, the reliability of SKS was investigated with Cronbach's alpha and McDonald's omega in this study. Future research might include test-retest reliability method in the examination of the reliability of SKS.

Appendix

The Turkish Version of the SKS

OKUL NEZAKET ÖLÇEĞİ

Lütfen okulunuzdaki nezaket (nazik, kibar, saygılı olma) davranışlarını göz önünde bulundurarak, aşağıdaki maddeleri dikkatlice okuyunuz ve sağdaki size en uygun düşen seçeneği işaretleyerek maddeleri yanıtlayınız. Yanıtlarınız sadece bilimsel bir çalışma için kullanılacak olup, sonuçları kimseyle paylaşılmayacaktır. Araştırmanın güvenilirliği için gerçek düşüncelerinizi yansıtın seçeneği işaretlemeniz çok önemlidir.

Katkılarınız için çok teşekkür ederiz

Maddeler	Hiç		Biraz		Tamamen
	Katılmıyorum	Katılmıyorum	Katılıyorum	Katılıyorum	Katılıyorum
1. Okulumuzdaki yetişkinler nazik davranışlar konusunda bize örnek olurlar.	(1)	(2)	(3)	(4)	(5)
2. Sınıfımda her zaman nazik davranışlar sergilenir.	(1)	(2)	(3)	(4)	(5)
3. Okulumda her zaman nazik davranışlar sergilenir.	(1)	(2)	(3)	(4)	(5)
4. Öğretmenlerimiz naziktir.	(1)	(2)	(3)	(4)	(5)
5. Okulumda nazik bir insan olmaya özendirilirim.	(1)	(2)	(3)	(4)	(5)

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