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International Journal of Curriculum and Instruction 13(2) (2021) 1709–1723

IJCI
International Journal of Curriculum and Instruction

A scale development study on teachers' perceptions of collective efficacy in schools

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Abstract

The aim of the study was to developed a scale assessing teachers' perceptions of collective efficacy in schools. The participants were composed of 808 teachers in five different public schools affiliated with Ministry of National Education, Turkey. Construct validity was determined using an exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). The EFA results revealed a two-factor structure that accounted for 53% of the total variance. The CFA results indicated acceptable goodness of fit indices for the two-factor Collective Efficacy Scale (CES) model. Criterion validity was determined using the scale of organizational cynicism (SOC) and the individual performance scale (IPS). The results showed that the CES was positively correlated with IPS and negatively correlated with SOC. Reliability was measured on three different samples. The CES had a Cronbach's Alpha of .85 to .88. Reliability was also analyzed using the test-retest method. The results showed that the CES had an acceptable reliability coefficient. These results of the analysis indicated that the CES was a reliable measure. The "upper and lower 27 percent rule" and corrected item-total correlation coefficients were used for item analysis. The former revealed acceptable results for all three samples, while the latter revealed significant t-test results for all items. All these results indicate that the CES is a valid and reliable measure.

Keywords: Scale development, collective efficacy, teachers' perception, factor analyses

1. Introduction

People face numerous personal or professional problems, and try to solve them by themselves, but they sometimes need to work with others. They collaborate not only to solve problems but also to achieve professional goals and secure growth and success. Collaboration is closely related to collective efficacy. One cannot isolate himself/herself in

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a group task completely because solving most problems requires a collective effort (Bandura, 2000). The power of individuals, groups, or even communities rests on their collective efficacy to live and solve problems (Düzgünoğlu, 2019). Kurt (2012) defines "collective efficacy" as people's shared belief in their ability to complete tasks, achieve goals, and solve problems (Bandura, 2000). One's belief in working with others to solve problems is about collective efficacy because it is the belief one has for one's group, team, or organization (Kılıç, 2015). People with high collective efficacy are more likely to believe in their ability to succeed in life, whereas those with low collective efficacy are less likely to believe in their ability to succeed.

Collective efficacy is closely related to self-efficacy, which is defined by Bandura (2000) as one's belief in one's ability to take necessary actions to achieve what one wants to, or is expected to, achieve. It is also defined as a mental force that provides one with the capacity to cope with problems (Hefferon & Boniwell, 2011; Luszczynska, Scholz, & Schwarzer, 2005; Kreitner & Kinichi, 2009). Bandura is known to be the first to talk about collective efficacy, which is defined as shared skills used by a group or a team to manage and display behavior to reach its goals (Kılıç, 2013; Gürçay, Yılmaz, & Ekici, 2009; Arıkan & Çalışkan, 2013). Bandura (1997) argues that efficacy is not only individual but also collective. Based on self-efficacy, collective efficacy is an important concept introduced by Social Cognitive Theory to define and predict human behavior (Demir, 2019; Duman, Göçen & Duran, 2013; Goddard, Hoy & Hoy, 2000; Lee, Zhang & Yin, 2011). In general, collective efficacy refers to people's shared belief in their ability to collaborate to achieve the goals they set (Bandura, 1994; Goddard, Hoy, & Hoy, 2004; Yılmaz & Turanlı, 2017; Yılmaz & Uslu, 2018). According to Stajkovic, Lee, and Nyberg (2009), collective efficacy affects how much effort a group should put in to fulfill its tasks and for how long (Yorulmaz & Erdem, 2017). According to Goddard, Hoy, and Hoy (2004), collective efficacy helps employees solve problems due to the level of excitement and anxiety. According to Kurt (2009), employees with high collective efficacy and experience are more likely to achieve collective or individual goals. Collective teacher efficacy is positively correlated with how much teachers help each other to solve problems. Teachers with high collective efficacy are more likely to use resources effectively and contribute to educational goals. The quality of teachers determines the quality of education. Therefore, teachers should work together to cope with stressors and problems.

School administrators, teachers, students, parents, and school settings play a key role in the educational quality that depends on school efficacy through self- or collective teacher efficacy. Only those with high self-efficacy and collective efficacy can achieve the goal of being effective schools (Uğurlu, Beycioğlu & Abdurrezzak, 2018). Teachers are affected by the work environment, colleagues, administrators, and students' parents (Duman, Göçen & Duran, 2013). Teachers under mental pressure turn to colleagues to solve their problems (Yılmaz & Turanlı, 2017). Teachers and administrators are responsible for providing students with the best educational environment and achieving learning outcomes based on

the goals of national education (Duman, Göçen & Duran, 2013). Teachers and administrators cooperating and embracing the goals of national education and sharing their experiences are more likely to provide the ideal educational environment for both themselves and students.

Student-teacher interaction, different perspectives, knowledge and experience, self-improvement, and collaboration can increase student learning (Öcal & Aydın, 2009). Collective efficacy helps teachers cope with many problems within the school context. Teachers who believe in themselves and their colleagues' ability to collaborate can achieve all the desired educational goals. There exist some scales aiming to measure collective teacher efficacy in Turkey. For example, Demir (2008), Kurt (2009), and Erdoğan and Dönmez (2015) have adapted some collective efficacy measures to Turkish culture. However, there is not a collective teacher efficacy measure that fully represents Turkish culture. Therefore, this study aimed to develop a valid and reliable measure of collective teacher efficacy in schools in Turkey.

2. Method

The study focused on developing a scale of "teachers' perceptions of collective efficacy in schools" using quantitative data based on factor analysis (EFA) and confirmatory factor analysis (CFA). Details about the study are presented below:

2.1. Participants

The participants of the study consisted of 808 teachers from different public schools in Elazig and Diyarbakir provinces of Turkey. The study was conducted in five stages in the Fall Semester of 2019-2020 academic year. First, a pilot test was performed (n=40). Second, an exploratory factor analysis (EFA) was conducted on 195 teachers from Diyarbakir. Third, a confirmatory factor analysis (CFA) was performed on 206 teachers from Elazig. Fourth, criterion validity was tested on 310 teachers randomly selected from both cities. Fifth, a test-retest was used to check for reliability (n=102). Table 1 below shows the demographic characteristics of the participants.

Table 1. Demographic Characteristics.

Variable		*Pilot Study Sample*		*EFA Sample*		*CFA Sample*		*Criterion Validity Sample*		*Test - retest Sample*	
		N	%	N	%	N	%	N	%	N	%
Gender	Male	17	42,5	95	48,7	107	48,1	138	47,9	41	40,1
	Woman	23	57,5	100	51,3	99	51,9	127	52,1	61	59,9
Marital status	Married	26	65	157	80,5	142	68,9	186	70,2	67	65,7
	Single	14	35	38	19,5	64	31,1	79	29,8	35	34,3
School Type	Primary school	12	30	73	37,4	75	36,4	77	29,1	38	37,3
	Middle School	15	37,5	82	42,1	91	44,2	119	44,9	30	29,4
	High school	13	32,5	40	20,5	40	19,4	69	26	34	33,3
Education level	License	32	80	156	65,6	160	77,5	214	80,7	92	90,2
	Post Graduate	8	20	33	24,6	37	18	40	15,1	6	5,9
	Doctorate	--	--	6	9,7	9	4,5	11	4,2	4	3,9
Branch	Social Sciences	21	52,5	128	65,6	133	64,6	159	60	63	61,8
	Science	14	35	48	24,6	54	26,2	79	29,8	31	30,4
	Other	5	12,5	19	9,8	19	9,2	27	10,2	8	7,8
seniority	1-10 Years	17	42,5	51	26,2	100	48,5	124	46,8	32	31,4
	11-20 Years	15	37,5	84	43,1	78	37,9	103	38,9	47	46,1
	21Years and Above	8	20	60	30,7	28	13,6	38	14,3	23	22,5
	TOTAL			195		206		265		102	

Include in these subsections the information essential to comprehend and replicate the study. Insufficient detail leaves the reader with questions; too much detail burdens the reader with irrelevant information. Consider using appendices and/or a supplemental website for more detailed information.

2.2. Data Collection Tools

Data were collected using a demographic characteristics questionnaire, the scale of individual performance (SIP), the scale of organizational silence (SOC), and the Collective Efficacy Scale (the CES).

The scale of individual performance (SIP) was developed by Kirkman and Rosen (1999) and adapted to Turkish by Sulu (2010). It consists of four items scored on a five-point Likert-type scale ("1 = Strongly disagree" to "5= Strongly agree") (Kılıç, 2013). Sulu (2010) and Kılıç (2013) reported that the scale had an internal consistency coefficient [Cronbach's alpha (α)] of .87 and .84, respectively. In this study it was determined as ".86".

The scale of organizational cynicism (SOC) was developed by Vance, Brooks, and Tesluk (1995) and adapted to Turkish (α=.83) by Kalağan and Güzeller (2008). It consists of eight items scored on a five-point Likert-type scale (1= Strongly disagree, 2= Disagree, 3=

Neither agree nor disagree, 4= Agree, 5= Strongly agree). In this study, the internal consistency coefficient [Cronbach's alpha (α)] of the scale was determined as ".84".

The Collective Efficacy Scale (the CES) was the measure developed and tested by this study. The "Results" section addressed its psychometric properties.

2.3. Procedure

2.3.1. Pilot Study

The first stage of the scale development process is to review the related literature identify the main points of interest (Şeker & Gençdoğan, 2014). After we selected the topic, we did a literature review to determine the main points of interest. Afterward, we developed a pool of 45 relevant, easy-to-understand, and culturally sensitive items. Three experts in collective efficacy and assessment and evaluation checked the items for relevance and comprehensibility. We removed 23 items based on their feedback. We then consulted a linguist to check for the grammar and semantics of the remaining items (n=22). Afterward, we conducted a pilot test on 40 participants representing the target population. We told them that it was of utmost importance that they tell us about the items they had difficulty understanding or problems they encountered. We evaluated the results together with the three academics and removed three items because some participants could not understand them. We then moved onto the main study.

2.3.2. Data Collection

We informed all teachers about the research purpose, procedure, and confidentiality and obtained informed consent from volunteers. We handed them the data collection forms and asked them to complete them. We picked up some of the forms the same day and others a couple of days later and thanked them for their participation.

2.3.3. Statistical Collection

2.3.4. First, construct validity was tested. The CES factor structure was determined using an EFA (n=195), and then the resulting factor structure was verified using a CFA (n=206). The Kaiser-Meyer-Olkin (KMO) was used for sampling adequacy, and Bartlett's test of sphericity was used to determine item-item correlations for factor analysis. The KMO was .91, for which the Bartlett's test of sphericity was significant ($\chi 2=1565.935$ ($p<0.000$)), indicating sampling adequacy for principal components analysis and item-item correlation adequacy for factor analysis. The model fit was assessed using the most common goodness of fit indices; [chi-square/standard deviation ($\chi 2$/sd), Root Mean Square Error of Approximation (RMSEA), Goodness of Fit Index (GFI), Comparative Fit Index (CFI), Incremental Fit Index (IFI), and Tucker–Lewis index (TLI)]. Criterion validity was tested using SIP and SOC. Internal consistency coefficient (Cronbach's alpha) was calculated for three samples, and a test-retest was performed to determine reliability. The "upper and

lower 27 percent rule" (t scores) and corrected item-total correlation coefficients were used for item analysis. Table 2 shows the goodness of fit indices and their cut-off points.

Table 2. The goodness of Fit Indices and Cut-off Points

	χ^2/df	RMSEA	GFI	CFI	IFI	TLI
good fit/ perfect fit	≤5	≤ 0,05	≥ 0,95	≥ 0,95	≥ 0,95	≥ 0,95
acceptable fit/ weak fit,	≤3	≤ 0,08 / ≤ 0,10	≥ 0,90	≥ 0,90	≥ 0,90	≥ 0,90

(Hu & Bentler, 1999; Sümer, 2000; Tabachnick & Fidell, 2001; Kline, 2005; Savcı ve Aysan, 2016)

3. Results

3.1. Construct Validity

3.1.1. Exploratory Factor Analysis

Construct validity was determined using an EFA (n=195). This study pursued the three stages of EFA proposed by Pohlmann (2004); (1) selecting and measuring variables, (2) determining the number of factors, and (3) interpreting them. The Kaiser-Meyer-Olkin (KMO) was used for sampling adequacy, and Bartlett's test of sphericity was used to calculate item-item correlations for factor analysis. The KMO was .914, for which the Bartlett's test of sphericity was significant (χ^2 = 1016.518 ($p<0.000$)), indicating sampling adequacy for principal components analysis and adequate item-item correlations for factor analysis (Tabachnick & Fidell, 1996; Kalaycı, 2006; Field, 2009; Çokluk, Şekercioğlu, & Büyüköztürk, 2010). The EFA was performed on the 19-item CES using principal component analysis. An exploratory factor analysis aims to reveal the fewest factors that best represent item-item correlations. Therefore, items should be loaded on factors with an eigenvalue of 1 or greater (Hutcheson & Sofroniou, 1999). Moreover, an item should have a loading of greater than .40, and the difference between its load on a factor and that on another should be greater than 0.10 (Büyüköztürk, 2007). Four items (11, 12, 13, and 18) had acceptable factor loadings but were removed from the scale because they were either unsuitable to the scale structure (<0.10) or were loaded on more than one factor. Factors should explain 40%-60% of the total variance (Çokluk et al., 2010; Tavşancıl, 2010; Savcı, Ercengiz, & Aysan, 2018). The analysis showed that the CES items were loaded on two factors, which explained 52.93% of the total variance of the two-factor structure. According to the scree plot (Figure 1), there was a significant rupture after the second factor, suggesting a two-factor structure with 15 items (model). Although individual and organizational efficacy are approached from different angles, they have the same sources, functions, and processes. Collective efficacy is based on self-efficacy. What is more, collective efficacy is affected by self-efficacy resources and indicators (Bandura, 1997; Tasa, Taggar & Seijts, 2007; Tschannen & Barr, 2004). Based on a literature review and expert feedback, the CES factors were named "individual collectiveness" (nine items with factor loadings of 0.60 to 0.82 and an eigenvalue of 5.353) and "organizational collectiveness" (five

items with factor loadings of 0.63 to 0.76 and an eigenvalue of 1.528). Figure 1 and Table 3 show the scree plot and the EFA results, respectively.

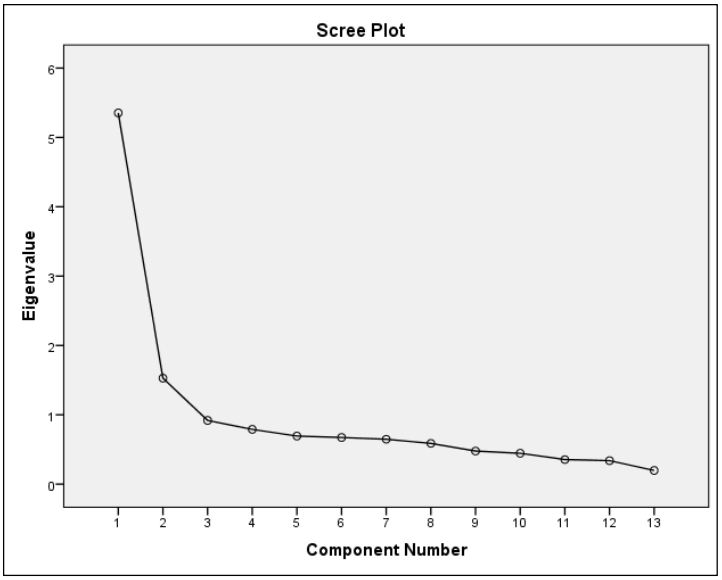


Figure 1: Scree Plot

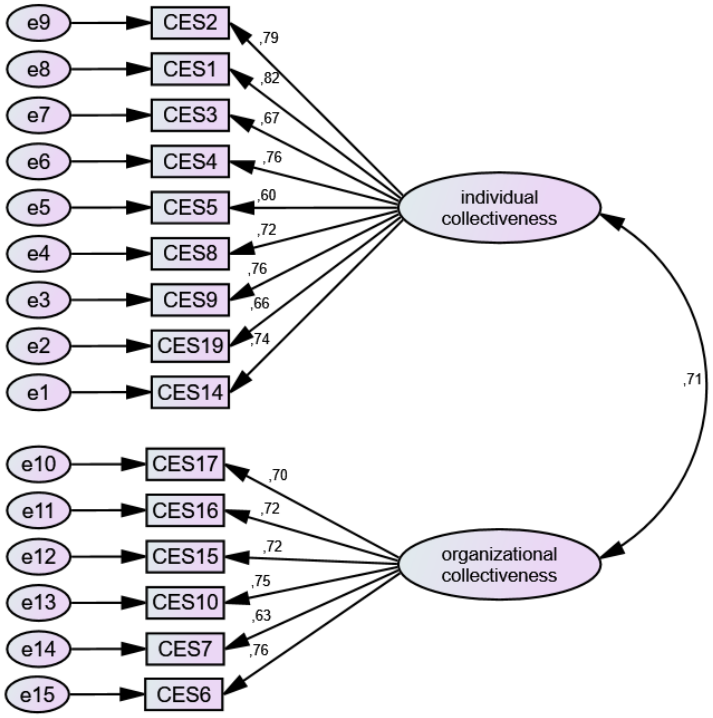
Table 3. Exploratory Factor Analysis for the CES

	Item	Factor load Value	Explained variance	Eigenvalue
individual collectiveness	2	0,84	31,17	5,353
	1	0,83		
	3	0,74		
	4	0,71		
	5	0,64		
	8	0,63		
	9	0,57		
	19	0,56		
	14	0,49		
organizational collectiveness	17	0,79	21,75	1,528
	16	0,73		
	15	0,72		
	10	0,64		
	6	0,54		
	7	0,46		

3.1.2. Confirmatory Factor Analysis

The two-factor, 15-items of CES (model) was examined using a CFA (n=206). The results showed that model had acceptable goodness of fit indices [(χ2= 98.135, df= 47, χ2/df= 2.087, RMSEA= 0.073, GFI= 0.93, AGFI= 0.90, CFI= 0.94, IFI= 0.93 and TLI= 0.94]. The items had factor loadings of 0.60 to 0.82. Figure 2 shows the path diagram for the CES.

Figure 2. Path Diagram for the CES



The model was also tested using criterion validity (n=310). The results showed that the model had acceptable goodness of fit indices [(χ^2= 86.625, df= 36, χ^2/df= 2.406, RMSEA= 0.086, GFI= 0.91, AGFI= 0.90, CFI= 0.92, IFI= 0.91 and TLI= 0.90]. The items had factor loadings of .57 to .79.

3.2. Criterion Validity

Criterion validity was tested using SIP and SOC (n=265). The Pearson correlation coefficient was used to determine the correlation between the CES and the SOS and POFS scores. The results indicated that the CES scores were positively correlated with the SIP scores (r= 0.54, p< 0.01) and negatively correlated with the SOC scores (r= -0.28, p< 0.01). the CES "individual collectiveness" subscale scores were positively correlated with the SIP scores (r= 0.53, p< 0.01) and negatively correlated with the SOC scores (r= -0.21, p< 0.01). the CES "organizational collectiveness" subscale scores were positively correlated with the

SIP scores (r= 0.46, p< 0.01) and negatively correlated with the SOC scores (r= -0.25, p< 0.01). Table 4 shows the results.

Table 4. Correlations for Criterion Validity

	İndividual performance	Organizational cynicism
Collective efficacy	0,54**	-0,28**
İndividual collectiveness	0,53**	-0,21**
Organizational collectiveness	0,46**	-0,25**

**p< ,01

3.3. Reliability

Reliability was determined using a test-retest and Cronbach's alpha (α). The CES had a Cronbach's alpha of .86, .88, and .85 for the EFA, CFA, and criterion validity samples, respectively. The results indicated that the scale had high reliability. The test-retest method was used to assess whether the scale yielded consistent results when repeated over time. A sample of 102 teachers was drawn from the CFA sample and tested again three weeks after the initial test. The results showed a test-retest reliability of .83.*Baseline data*

3.4. Item Analysis

Item analysis is used to determine item validity. According to Tezbaşaran (1997), corrected item-total correlation coefficients and the difference between the upper and lower 27 percent should be calculated for item analysis (t scores). Şencan (2005) and Büyüköztürk (2007) argue that each item should have an item-total correlation of greater than .30. Item analysis was also performed on three different samples (EFA, CFA, and criterion validity). The "upper and lower 27 percent rule" and corrected item-total correlation coefficients were used to determine the discriminatory power of the CES items. For the EFA sample, the corrected item-total correlation coefficients ranged from 0.47 to 0.64, while the difference between the upper and lower 27 percent ranged from 10.34 to 6.23 (t scores; $p < 0.001$). For the CFA sample, the corrected item-total correlation coefficients ranged from 0.49 to 0.62, while the difference between the upper and lower 27 percent ranged from 10.28 to 6.83 (t scores; $p < 0.001$). For the criterion validity sample, the corrected item-total correlation coefficients ranged from 0.42 to 0.62, while the difference between the upper and lower 27 percent ranged from 11.85 to 8.74 (t scores; $p < 0.001$). Table 5 below shows the obtained results.

Table 5. Item Analysis

	EFA Sample			**CFA Sample**			**Criterion Validity Sample**		
	Item	*Rjx*	*T*	**Item**	*rjx*	*t*	**Item**	*rjx*	*t*
individual collectiveness	**1**	,59	8,75***	**1**	,61	9,58***	**1**	,58	10,51***
	2	,60	6,98***	**2**	,62	7,64***	**2**	,62	8,74***
	3	,64	8,63***	**3**	,62	7,76***	**3**	,65	9,29***
	4	,58	6,74***	**4**	,59	6,96***	**4**	,56	11,85***
	5	,59	9,52***	**5**	,57	8,34***	**5**	,57	9,81***
	8	,59	7,65***	**8**	,63	7,39***	**8**	,58	11,98***
	9	,57	6,69***	**9**	,60	7,46***	**9**	,54	9,80***
	19	,64	6,23***	**19**	61	7,41***	**19**	,62	9,28***
	14	,55	9,08***	**14**	,59	8,12***	**14**	,54	9,29***
organizational collectiveness	**17**	,55	10,34***	**17**	57	9,64***	**17**	,57	9,92***
	16	,47	8,65***	**16**	,53	10,28***	**16**	,45	10,37***
	12	,57	8,02***	**12**	,57	6,83***	**12**	,59	10,15***
	10	,47	10,23***	**10**	,51	9,34***	**10**	,46	11,21***
	6	,55	9,74***	**6**	,58	10,19***	**6**	,54	11,32***
	7	,43	8,41***	**7**	,49	7,51***	**7**	,42	9,74***

4. Discussion

We developed a scale (Collective Efficacy Scale) to assess collective teacher efficacy in schools in Turkey. First, we conducted a literature review and developed a pool of 45 items. We consulted three experts for the relevance and comprehensibility of the items. We removed 23 items based on their feedback. We then conducted a pilot study and removed three more items based on its results. Lastly, we checked the construct validity of the 19-item Collective Efficacy Scale (the CES) on three different samples. We performed an EFA to determine the construct validity of the CES. The EFA factor structure was verified using a CFA. We also looked into the correlation between the CES and SIP and SOC scores to check for the CES criterion validity. We calculated Cronbach's alpha (α) values on each sample and then employed test-retest to determine the reliability of the CES. We calculated the corrected item-total correlation coefficients for each item and the difference between the upper and lower 27 percent (t scores).

First, we used an EFA to determine the construct validity of the CES. The EFA results revealed a two-factor structure consisting of items with eigenvalues of greater than 1 (model). Factors should explain 30%-60% of the total variance (Çokluk et al., 2010; Tavşancıl, 2010). The EFA results showed that the two-factor structure explained more than half the total variance. Each item should have a factor loading of greater than .30 (Şencan, 2005; Büyüköztürk, 2007; Sipahi, Yurtkoru & Çinko, 2008). The results showed that the CES items had adequate factor loadings. We employed the CFA on two different samples to test the model. The CFA results showed that the model had acceptable goodness

of fit indices on both samples and that the items had acceptable factor loadings (Çokluk et al., 2010; Büyüköztürk, 2007).

According to the criterion validity analysis, participants' CES subscales (individual and organizational collectiveness) were positively correlated with their SIP scores, suggesting that the higher the individual and organizational collectiveness, the higher the individual performance. The participants' CES subscales were negatively correlated with their SOC scores, suggesting that the higher the individual and organizational collectiveness, the lower the organizational cynicism. We calculated Cronbach's alpha values and conducted a test-retest to determine the reliability of the CES. Psychometric studies suggest that Cronbach's alpha should be greater than 0.70 (Büyüköztürk, 2007; Çokluk et al., 2010; Tavşancıl, 2010). The results showed that the CES had adequate Cronbach's alpha values on three different samples (EFA, CFA, and criterion validity), which was also confirmed by the test-retest reliability results. Item analysis was also performed on the three samples. The results suggested that the CES had acceptable corrected item-total correlation coefficients. There was a statistically significant difference between the upper and lower 27 percent groups on all samples. These results indicated that all the CES items were reliable. The validity analysis also showed that all items measured what they were intended to measure (Çokluk et al., 2010). The results indicate that the CES is a valid and reliable measure of collective teacher efficacy in schools in Turkey.

5. Conclusions

Improving and assuring educational quality has always been a top concern for governments and educators. Teachers have a great responsibility in achieving that goal. Teachers' performance and productivity are affected by their perceptions, one of which is collective efficacy. Teachers with high collective efficacy are more likely to devote themselves to educational pursuits, whereas low collective efficacy triggers disengagement from educational goals. The more the teachers believe in the benefits of collaboration, the more contribution they make to educational quality. Therefore, it is crucial to determine collective teacher self-efficacy. We followed all scale development steps and established the validity and reliability, and goodness of fit values of the Collective Efficacy Scale (the CES). We believe that our results are robust as we recruited five different samples for all the steps of scale development. The CES consists of items on self-efficacy and organizational efficacy. The results indicate that the CES is a valid and reliable measure of collective teacher efficacy in schools in Turkey. Future studies should adapt the scale to different cultures. For further research, we can recruit people from different backgrounds to see how different groups perceive collective efficacy.

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Appendix A. The Collective Efficacy Scale

Boyutlar		**Kolektif Yeterlik Ölçeği** Lütfen aşağıdaki ifadeleri dikkatlice okuyunuz. Daha sonra ifadenin sağ tarafında verilen seçeneklerden size uygun olanı işaretleyiniz. ① Hiç Katılmıyorum ② Katılmıyorum ③ Kararsızım ④ Katılıyorum ⑤ Tamamen Katılıyorum					
Bireysel Kolektiflik	1	Öğretmenler ile iş birliği yaparak çalışmak motivasyon düzeyimi arttırır.	①	②	③	④	⑤
	2	Öğretmenlerle iş birliği yapmak eğitsel amaçlara ulaşmayı kolaylaştırır.	①	②	③	④	⑤
	3	Okulda iş birliği halinde çalışılması iş yükümü azaltır.	①	②	③	④	⑤
	4	Öğretmen arkadaşlarımla birlikte yaptığım çalışmalar okulun başarısını arttırır.	①	②	③	④	⑤
	5	Mesleki idealleri olan öğretmenlerle çalışmak çalışma şevkimi arttırır.	①	②	③	④	⑤
	6	İş birliği halinde çalışmak, problemleri çözmemi olumlu etkiler.	①	②	③	④	⑤
	7	İş birliği halinde hazırlanan eğitsel etkinlikler mesleki doyuma ulaşmama katkı sağlar.	①	②	③	④	⑤
	8	Farklı branşlardan olan öğretmenlerle çalışmak motivasyonumu arttırır.	①	②	③	④	⑤
	9	Meslektaşlarımla beraber çalıştıkça mesleki yeterliliğim artar.	①	②	③	④	⑤
Örgütsel Kolektiflik	10	Okulda öğretmen arkadaşlarım ile birlikte alınan kararların uygulanabilirliği yüksektir.	①	②	③	④	⑤
	11	Öğretmen arkadaşlarım birlikte çalışmaya isteklidirler.	①	②	③	④	⑤
	12	Birlikte çalıştığım öğretmen arkadaşlarımı alanlarında yetkin bulurum.	①	②	③	④	⑤
	13	Görev yaptığım okul birlikte çalışmak için uygun koşullara sahiptir.	①	②	③	④	⑤
	14	Okulumdaki öğretmenler kişisel gelişime açıktır.	①	②	③	④	⑤
	15	Toplantılarda oy birliği ile alınan kararlar eğitimin etkinliğini arttırır.	①	②	③	④	⑤

* There is no item to be scored in reverse in the scale.
**This scale can be used by indicating the reference source.