School Corporate Social Responsibility Scale: A Validity and Reliability Study

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Abstract
The aim of this study is to develop a valid and reliable instrument to measure the performance of schools in relation to corporate social responsibility based on teachers' perceptions. To this end, content and construct validity and reliability studies were conducted with the participation of 521 teachers from four different study groups. As part of the related studies, a comprehensive literature review on the phenomenon was conducted and the theoretical structure was revealed through open-ended questions to the first study group of thirty teachers. An item pool was then created in accordance with the existing scope and the type of scale was determined. Eight experts were consulted for the item pool and the item pool was finalised and a draft scale form consisting of thirty-one items was produced. The draft scale, with the addition of the administration instructions, was administered to the second study group, a group of forty teachers, and thus the pre-application was realised. The scale that emerged after the pre-test was applied to a total of 451 teachers from two different study groups for exploratory and confirmatory factor analyses, and validity and reliability analyses were conducted on the data obtained from the study groups. These analyses showed that the total variance explained by the nine-item, one-factor structure that emerged from EFA was 81.8%, and the construct validity of the scale was supported by confirming the emerging structure with CFA. Reliability analyses revealed that Cronbach's α and McDonald's ω values were 0.975 and 0.976 respectively, and these values, which were quite high, proved that the scale was a reliable scale. As a result, a valid and reliable scale capable of measuring teachers' perceptions of the CSR performance of the schools where they work has been introduced to the literature.
Keywords: Corporate Social Responsibility, School, Scale Development, Validity, Reliability

Introduction

The obligation of all people living on earth and all organizations operating in both the public and private sectors to act responsibly has never been more evident. The fact that the social, economic and environmental challenges experienced all over the world require serious changes in out-dated working methods and the great damage that people's current lifestyles cause to the world are the two main factors that make this awareness compulsory. As can be understood from this, the concept of responsibility is a two-way phenomenon that requires both individual and organizational action.

From the perspective of the individual, responsibility means (1) The assumption of one's own behaviour or the consequences of any event that falls within one's jurisdiction, (2) An obligation that requires being responsible. The expansion of the phenomenon of responsibility as 'taking into account the effects of individuals' behaviors on society or the environment' (Ergül & Kurtulmuş, 2014) has led to the emergence of a different concept called 'social responsibility'. Increasing competition due to globalization and developing information technologies, changing expectations of stakeholders in terms of

whether the organization that produces these products and services has ethical values and whether it fulfils its social responsibility by serving the society, in addition to the quality and price of the products and services they receive from institutions, impose important responsibilities on institutions today (Saran et al., 2011). These responsibilities that organizations are expected to fulfil have brought a new dimension to the phenomenon of social responsibility called 'Corporate Social Responsibility (CSR)'.

Although it has been discussed since the industrial revolution, the phenomenon of CSR entered the literature with the book 'Social Responsibilities of the Businessman' written by Bowen (1953) and has been defined in many different ways on the axis of various sub-dimensions since then. In each decade, the theme of the definitions has been shaped around the relevant sub-dimensions and therefore many different definitions have emerged. While the obligation to society was the main dimension between 1950-1960, the relationship between business and society was at the forefront between 1960-1970. CSR discussions, which were shaped within the framework of stakeholder participation, welfare of society, economic, legal, ethical and voluntary responsibilities in the 1970s, continued in the 1980s with voluntary activities and expectations for economically profitable, law-abiding, ethical and socially supportive businesses. In the 1990s, stakeholder involvement, obligations to society and environmental stewardship were the main dimensions of CSR, while in the 21st century, the integration of social and environmental concerns into management activities, volunteerism, ethical behaviour, economic development, improving the quality of life of the community and employee rights are the main dimensions of CSR (Rahman, 2011). These different orientations towards specific areas of interest have led to a multitude of definitions of the phenomenon. In one of the studies on this diversity, Dahlsrud (2008) compiled thirty-seven different definitions of CSR from various sources including different global organizations and researchers. When some of these definitions are examined, it is seen that the Commission of the European Communities defines CSR as CSR is about companies having responsibilities and taking actions beyond their legal obligations and economic/commercial objectives. Another definition states that CSR is generally seen as the contribution of business to sustainable development, defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs, and is generally understood to focus on how to achieve the integration of economic, environmental and social imperatives. In this context, CSR can be seen as a reflection of how organisations treat their stakeholders, the environment and society, their approach to laws and ethical standards, and their volunteering activities. Although the above definitions are more specific to the business and financial sectors, the increasing understanding of social responsibility in today's competitive scenario imposes a mission on all organisations, including educational institutions, to be more sensitive to CSR.

For centuries, it is possible to trace the interaction of businesses, all organizations operating in the service sector and all profit-oriented or non-profit institutions and organizations with society. Schools, one of these institutions, take the raw material, which is the human being, as input from the society and at the end of certain education and training processes; they bring the same raw material back to the society as output. In this respect, the school is one of the organizations that interact with society the most. As an open social system, the school directs and is also influenced by all formal and informal organizations around it (Bursalıoğlu, 2015). In today's world, all such organisations are subject to constant demands from their internal and external environments to become more socially responsive and active contributors to their local and global communities (Sharma, 2019). These organisations, including schools, are facing increasing pressure from their environments to initiate change interventions for many reasons, such as social and demographic developments, new employment models, technological advances and globalisation (Beycioğlu & Kondakçı, 2021). The goals of a school system are shaped by the social, economic and political needs of its environment. Schools have to create new goals in line with these needs and new knowledge, skills and behaviours in line with these goals. It also has to adapt to a constantly changing environment (Yalçınkaya,

2002). In line with these ever-differentiating expectations, it has become necessary for schools to be organisations that are sensitive to their staff, the public, all stakeholders and the environment, as well as ensuring that students benefit from educational activities at the highest level. Schools are expected to monitor and measure their impact on economic, social and environmental issues in all areas of society and to make efforts to transform this impact into a more positive one, i.e. to engage in CSR activities.

Since schools are among the leading institutions that direct social dynamics, they are the organisations that should most integrate social responsibility activities into their structure, and in this sense they set an example for other institutions. Since schools shape social norms and values and are at the same time affected by them, and since they seek answers to the needs of society and social problems, bringing social responsibility activities to the fore will contribute to the realisation of their purpose of existence. In addition, schools are expected to set an example for all stakeholders such as students and parents by acting with the awareness of their social responsibility (Karadağ, 2017). As knowledge-generating and knowledge-transferring institutions, schools promote the internalisation of sustainable solutions by their stakeholders and thus play a crucial role in the search for solutions to the world's socio-economic and environmental problems. Rapid changes on a global scale have led schools to integrate CSR principles into their organisational structures. Schools fulfil this obligation in a number of ways. Firstly, within the framework of their existing educational programmes, schools educate their students as socially aware individuals and instil a sense of citizenship in them (Idowu & Sitnikov, 2020). They also contribute to the development of CSR skills in their graduates and other stakeholders, such as parents of students, through various trainings. Another activity carried out by schools for CSR is to serve the society and the environment through social responsibility projects carried out with the participation of their stakeholders (Saran, et al., 2011). In addition, schools ensure the advancement of knowledge in the field of CSR through practical scientific research. Finally, due to the nature of CSR, schools today are expected to be institutions that are sensitive to the society and environment in which they are located and that protect the rights of the individuals working within them, rather than just fulfilling their legal responsibilities. All these CSR-related activities carried out in schools contribute greatly to the preference and recognition of schools in today's competitive understanding.

Objective

In addition to meeting individual needs in cognitive and social contexts through knowledge transfer processes and socialisation of students, schools also provide for the development of society by addressing social needs (Özdoğru & Güçlü, 2021). The direct and indirect effects of all kinds of activities carried out in schools affect all segments of society and their results can be easily seen in the social context (Argon & Dilekçi, 2014). Schools are in constant interaction with other social systems. As mentioned earlier, CSR has a multidimensional nature in the form of economic, legal, social, environmental, etc., and in this sense it has the quality of being related to almost all segments of society, just like the school system. The fact that, until recently, the economic dimension of the phenomenon has been at the forefront of both theory and practice, with an understanding based solely on the business sector, means that the sociological basis of CSR has been largely ignored. Based on these two fundamental points, which are considered to be closely related, the fact that the phenomenon of CSR has not yet been sufficiently clarified in relation to schools, which are one of the organisations that interact most with society, and that there is no measurement tool developed in this context, although it has been intensively discussed in the business sector and various measurement tools have been developed in this direction, was the most important factor for the realisation of this study. Accordingly, the main purpose of this study is to develop a valid and reliable measurement tool that aims to determine the CSR activities of schools in terms of teachers' perceptions.

Research Design

Research Methodology

The purpose of this research is to develop a valid and reliable measurement tool to determine the

performance of schools in relation to CSR based on teachers' perceptions. The process followed for the development of the scale and the studies carried out during the process are shown in Figure 1.

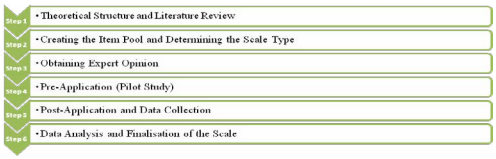

Figure 1 Scale Development Process

School Corporate Social Responsibility Scale Development Process

Step 1: Theoretical Framework and Literature Review

The first step to be followed when preparing a new and original measurement tool is to review all the theoretical literature on the structural characteristics of the phenomenon to be measured. The examination of the theoretical structure has a very important place in ensuring the definition of the empirical qualities that represent the abstract structure (Carpenter, 2018). Since the relevant research aims to determine the activities carried out in schools for the phenomenon of CSR, according to teachers' perceptions, and to introduce a new measurement tool specific to schools in the field, a detailed literature review was first carried out to determine the theoretical structure of the scale to be developed. The theoretical structure and sub-dimensions of the concept were analysed by examining many previous studies and some scales developed, especially in the business sector. As a result of the review, many definitions of CSR and various sub-dimensions related to the definitions were identified. Despite this diversity in the CSR literature, it is understood that stakeholder, economic, legal, ethical, voluntary, social and environmental dimensions are consistently found in most definitions and studies (Carroll, 1979; 1991; 1999; Dahlsrud, 2008; Rahman, 2011).

Focus group interviews and expert feedback are crucial in this process to ensure that the item pool for the scale to be developed is clear, authentic and fully reflects the chosen theoretical structure (DeVellis & Thorpe, 2021). In this direction, the information obtained from the literature review was shared with some academics who are experts in the field of CSR, and their opinions and suggestions on the dimensions and content of the concept were obtained. In addition, a descriptive survey consisting of open-ended questions was carried out with a group of thirty teachers in order to obtain their views on the concept of CSR, using the data obtained from the literature review, and to identify new phenomena specific to schools, if any, and the data obtained were recorded to be used in the process of creating an item pool.

Step 2: Creating the Item Pool and Determining the Scale Type

After examining the theoretical structure of CSR and determining the theoretical structure, the basic facts identified in the literature on the concept were transformed into more specific statements and the process of creating an item pool was initiated. In this process, several similar scale development studies (Türker, 2009; Sönmezoğlu et al., 2016; Tuna et al., 2019) previously conducted in the business and banking sectors and sports clubs were also examined. In creating the item pool, care was taken to ensure that the statements were appropriate for the structure to be measured, that an item did not address more than one feature, and that the items were clear and understandable (Şeker & Gençdoğan, 2020). Considering the structural features and sub-dimensions of the concept, an average of nine to ten items were written for each dimension in the literature, resulting in an item pool of 51 items. The item pool created was entered into the 'Expert Evaluation Form' created in this context in order to obtain expert opinion in the next step.

In the process of determining the type of scale, based on the opinions of experts in the field of measurement and evaluation, it was concluded that it was appropriate to use the 'Likert Scale' to measure teachers' perceptions of the concept of CSR. This is because this type of scaling is widely used in instruments designed to measure opinions, beliefs, attitudes and perceptions. In the Likert Scale, the item is expressed as a sentence, and at the end of the item there are response options indicating different degrees of agreement or disagreement (DeVellis & Thorpe, 2021). In this type of scale, participants' scale scores are the sum of their scores on the items.

Although the scores can vary between 3 and 11, the 5-point Likert type scale is most commonly used (Tavsancil, 2010, cited in Kalkan & Cemaloğlu, 2023). The rating key of the scale for the research was structured as a 5-point Likert scale as never (1), very rarely (2), sometimes (3), most of the time (4), and always (5) as a result of the feedback received from the measurement and evaluation experts.

Step 3: Obtaining Expert Opinion

In the process of obtaining expert opinion, the aim is to obtain feedback from experts on the quality of the items and how well each item represents the overall construct, i.e. content validity, using a Likert-type form or open-ended questions. The experts can consist of academics, field experts, researchers working on the concept and the intended participants (Ruel et al., 2016). The quality and quantity of experts (between 5-40) is very important in studies conducted to ensure content validity (Ayre & Scally, 2014; Lawshe, 1975; as cited in Yeşilyurt & Çapraz, 2018). In this context, the item pool was sent to 20 academics, including one from the field of business administration, field experts, and measurement and evaluation experts, and they were asked to evaluate the draft form in terms of content validity. The opinions and suggestions of the eight experts who provided feedback were analysed using Lawshe's (1975) technique, and whether each item should be included in the scale was examined one by one according to the criteria of 'Content Validity Ratios' (CVR) and 'Content Validity Index' (CVI).

Step 4: Pre-Application (Pilot Study)

By applying the scale to a small group of 30-50 people who can sample the target group, it is necessary to determine which of the items that make up the item pool measure the perception to be measured more accurately (Şeker & Gençdoğan, 2020). The aim here is to determine whether the target group can understand the scale items and whether the items fulfil the desired function (Kalkan & Cemaloğlu, 2023). For this purpose, the draft scale, which was formed as a result of expert opinions, was prepared with the application instructions and related items and applied to forty teachers working in different schools, which was determined as the sample that could best represent the target group of the research. During the applications, teachers' completion times were recorded. Practitioners were also asked if there were any items that they did not understand. In the light of the data from the pilot application and the feedback from the practitioners, firstly, the averages of the application times were taken and it was assumed that the draft scale form was completed in an average of twenty minutes. In addition, it was found that teachers had no difficulty in understanding or responding to the items in the draft form and that the scale did not need to be revised. Following the pilot application, the process of collecting data from larger study groups was initiated in order to conduct validity and reliability analyses of the scale.

Step 5: Post-Application and Data Collection

After the pilot application, the data collection process was started with the main application in order to test the construct validity of the scale to be developed. Construct validity can be described as the determination of observable behaviours related to a defined phenomenon and the development of a measurement tool that can measure these behaviours (Sönmez & Alacapınar, 2016). The purpose here is to calculate the validity and reliability statistics of the scale, examine the success of the items in measuring the phenomenon, determine the dimensions of the phenomenon and the items that make up the dimensions, collect data for exploratory factor analysis (EFA) to determine the number of factors, and confirmatory factor analysis (CFA) to verify the obtained factor structure (Özdamar, 2017). Factor analysis is a technique that requires adequate sample size, and insufficient sample size leads to variable factors and reduced generalisability (Carpenter, 2018). In the literature, there are different approaches for the ideal sample size in the data collection process to ensure construct validity. For example, (Bryman and Cramer (2001), as cited in Tosun & Çelik, 2022) suggested that the sample size should be five times the number of items (Carpenter, 2018), put forward an argument on this issue like; 50 (very poor), 100 (poor), 200 (moderate), 300 (good), 500 (very good) and 1000 (excellent). Considering all these suggestions, the data collection process for the development of the scale was carried out online

with two different study groups. First, data were collected from 286 teachers for EFA, and the new 9-item, single-dimension scale form was applied to the second study group of 165 teachers and CFA was conducted. As a result, the data obtained from a total of 451 teachers from two different groups in the process of developing the School Corporate Social Responsibility Scale were used in the process of data analysis and finalisation of the scale.

Step 6: Analysing the Data and Finalising the Scale

In order to prepare the data set generated from the study groups for EFA and CFA analyses, missing value and multivariate outlier controls were first performed, and data found to be multivariate outliers were removed from the data set. The multivariate normality of the data set, which was found to have no missing values, was also tested. The Lawshe (1975) technique was used to analyse the content validity of the scale. Bartlett's sphericity test and Kaiser-Meyer-Olkin (KMO) values were analysed for item correlation values and sample size adequacy, and EFA was applied to test construct validity. CFA was used to confirm the factor model obtained by EFA and the scale was finalised at the end of the analysis process. Cronbach's α, McDonald's ω and item reliability values were considered for reliability analyses. Jamovi 2.3.21 was used to carry out all the analyses.

Findings

Findings on Content Validity

Content validity is the presence of all observable and measurable features of the phenomenon to be measured in a measurement tool, that is, the extent to which the scale and all items in the scale serve their purpose (Karakoç & Dönmez, 2014; Sönmez & Alacapınar, 2016). In this direction, the expert evaluation form, which was designed to obtain the opinions of experts, was graded as 'appropriate', 'partially appropriate', and 'not appropriate' so that the experts could express their opinions on each of the fifty-one items in the form, and scored as 'appropriate' 3 points, 'partially appropriate' 2 points, and 'not appropriate' 1 point to calculate the content validity. In addition, the experts were asked to write their suggestions for the items that they considered to be partially appropriate or inappropriate. In the following process, the qualitative data obtained from the eight experts who provided feedback were converted into quantitative data, and the CVR and CVI data for the content validity of the scale were calculated.

CVR is an item statistic that is performed to decide whether the item should be included in the scale for content validity and is expressed with a value between -1 (absolute rejection) and +1 (absolute acceptance) (Lawshe, 1975, as cited in Yeşilyurt & Çapraz, 2018). According to Lawshe (1975), for each item with a positive value, the content validity criterion should be considered at a significance level of $\alpha=0.05$. In the literature, as a result of various studies conducted for this ratio (Ayre & Scally, 2014, cited in Yeşilyurt & Çapraz, 2018), some criteria for the minimum value of the CVR at the significance level of $\alpha=0.05$ have been proposed according to the number of experts, and it was understood that the minimum value of the CVR at the significance level of $\alpha=0.05$ for eight experts in this study was 0.750. After calculating the CVR separately for all items and deciding whether or not to include the items in the scale, the CVI is calculated for the entire scale. This is obtained by calculating the average of the CVR scores. The CVI value calculated for this study was calculated by taking the average for the whole scale and was found to be 0.892.

As a result of the CVR and CVI values obtained, thirteen items with a CVR value of zero or less than zero out of the fifty-one items in the draft scale form were removed directly from the scale. From the remaining thirty-eight items, it was agreed that a further twelve items with a CVR value below the scale's minimum CVR value of 0.750 should be removed from the scale to be developed, but it was felt that two of these items should remain in the scale for content validity reasons. DeVellis and Thorpe (2021) stated that 'the final decision to accept or reject expert recommendations is the responsibility of the scale developer'. Accordingly, twenty-eight items remained after twenty-three items were removed from the scale. After removing the items from the scale, the CVI value of the remaining twenty-eight items was calculated to be 0.892, and this value

was greater than the minimum CVI value of 0.750; therefore, as a result of the expert evaluations, it was assumed that the content validity of the remaining items in the scale was at a statistically significant level. In addition to this statistical study, three new items were added to the scale to strengthen the content validity of the scale in accordance with the suggestions of the experts involved in the evaluation. Finally, the new scale form was submitted to a Turkish and a Turkish Language and Literature teacher for linguistic and comprehension evaluation, and the items were finalised. Thus, the draft scale form consisting of thirty-one items was prepared for the pre-application.

Findings on Construct Validity

Construct validity can be characterised as the arrangement of a measurement tool that can measure these behaviours by finding behaviours that can be observed for a defined phenomenon (Sönmez & Alacapınar, 2016). Construct validity identifies the result obtained from the scale and explains what this result is related to. It is related to the extent to which the items in the scale measure the behaviours that are being measured. One of the criteria for testing construct validity is factor analysis (Karakoç & Dönmez, 2014). Through factor analysis to determine the shared variance between variables, the aim is to create fewer variables by bringing together a large number of variables that are related to each other (Carpenter, 2018). There are two types of factor analysis: Exploratory Factor Analysis and Confirmatory Factor Analysis. EFA is used to determine how many factors the items in the measurement tool to be developed will be collected under. CFA is used to determine whether the model obtained as a result of EFA is confirmed or not (Sönmez & Alacapınar, 2016). The extent to which the items of the scale, which were created as a result of the examination of the theoretical structure and whose content validity was tested, measure the perception to be measured was tested by factor analysis. For this purpose, EFA and CFA were used to test the construct validity of the 'School Corporate Social Responsibility Scale'.

Findings on EFA

EFA, which is used to reveal the sub-dimensions and components of the phenomenon to be measured, aims to reduce the number of variables and reveal new structures, i.e. factors, through the relationships between variables (Özdamar, 2017). In EFA, the number of sub-dimensions of the items in the draft scale and the relationship between these sub-dimensions are determined. Thus, the structure obtained as a result of the literature review and the structure obtained as a result of the measurement can be compared (Tosun & Çelik, 2022). The relationship between the factors determined by EFA should be minimal, and the relationship between the items within the factors should be maximal. EFA selects the items that best measure the construct by analysing the participants' responses to the scale items, thus enabling the final form of the scale to be achieved (Şengül Avşar, 2021). To this end, missing value and multivariate outlier checks were first carried out to determine whether the data set formed by the data obtained from the 286 teachers met the assumptions for EFA, and it was understood that the data of 24 participants were multivariate outliers and these data were removed from the data set. As a result of the analysis, it was understood that there were no missing values in the data set. Multivariate normality was also tested and it was found that the data set did not have a multivariate normal distribution. As a result, the dataset consisting of data from 286 participants was prepared for EFA with clean data from 262 participants.

The next step was to check whether the data set met the requirements for factor analysis. The first step was to check whether the sample size was sufficient. In order to check whether the sample size is sufficient, the KMO value is taken into account. This value is a correlation value and is expressed as a value between zero and one. Although it is stated that the KMO value should be at least 0.50, it is characterised as moderate between 0.50-0.70, good between 0.70-0.80, very good between 0.80-0.90 and excellent between 0.90-1.00 (Field, 2009, cited in Şengül Avşar, 2021). As a result of the analysis, the KMO value of the scale was found to be 0.95 and it was understood that the sample was sufficient for EFA. One of the analyses that should be carried out on the

basis of the correlation is Barlett's Test of Sphericity, expressed by X^2 (chi-square statistic). If the p-value of this test is less than the statistical significance level (0.05) determined in the research, it is accepted as an indicator that the variables are suitable for factor analysis (Şengül Avşar, 2021). In the analysis, it was found that the p-value was statistically significant (p=.001<.05). This led to the conclusion that the data set was suitable for EFA and that factors could be extracted from the scale items. An important aspect of factor analysis is the examination of correlation values between items. In the literature, this value is generally expected to be at least 0.30, and a value of 0.90 and above is not appropriate because they cause multicollinearity problems (Şengül Avşar, 2021). When the correlation matrix between the items of the scale was examined, it was understood that all the correlation values were higher than 0.30, which is accepted in the literature, and in this regard, the dataset was suitable for factor analysis. It was found that the correlation value between the ten items in the scale was greater than 0.90, and five of these items were removed from the scale in order to eliminate the problem of multicollinearity by applying expert opinion and considering content validity. Thus, after all the assumptions required for factor analysis were met, the EFA application was started.

In the EFA application process, since the data set did not provide multivariate normality, one of the most commonly used factor extraction techniques in factor analysis, principal axis factoring was chosen. The main purpose of this technique is to reproduce the correlation matrix with a smaller number of orthogonal factors from the data set (Tabachnick & Fidell, 2014). As a result of the factor analysis, the aim is to identify the factors that reflect the commonality of the variables. The direct oblimin technique, one of the oblique rotation techniques, was used to facilitate the interpretation of the analysis results. The analysis process began by examining the variances of the items that were not shared with other items. This ratio, which is unique to the item and not explained by the factors, is called uniqueness (Şengül Avşar, 2021). When the results of the analysis were examined, it was found that the variances shared by the items with other items were high. The next step was to analyse whether there were any overlapping items in the scale. In factor analysis, items can load on more than one factor. If the difference between the factor loadings of such items in different factors is 0.10 and below, this item is called 'overlapping item' (Büyüköztürk, 2002) and this item should be removed from the scale and the analysis process should be repeated. According to the results of the analyses, six items were found to have overlapping loadings and the corresponding items were removed from the scale one by one and the whole analysis process was repeated. After the overlapping items were removed from the scale, the factor loadings of the remaining items were analysed. Factor loading values are the relationship of the item to the factor and are used to decide whether or not the item should be dropped from the scale. If the factor loading of an item is between 0.30-0.59, it is considered moderately high and if it is 0.60 and above, it is considered very high (Şengül Avşar, 2021). Although there are various discussions in the literature that the factor loading values of the items should be at least 0.30-0.60 (Çokluk et al., 2016; Bernard, 2013), the value of 0.40 (Çokluk et al., 2016) was considered in this study. When the repeated analysis results were examined, it was found that the factor loadings of eleven items were lower than 0.40, and these items were removed from the scale one by one and the analysis process was repeated each time. As a result of both overlapping items and factor loadings, expert opinion was sought to ensure that the items removed from the scale did not compromise content validity. After the final analysis it was found that the factor loadings of the remaining nine items ranged between 0.80 and 0.95 and were quite high. Furthermore, the one-factor structure of the scale was found to explain 81.80% of the total variance. The results of the EFA are presented in Table 1.

Table 1 School Corporate Social Responsibility Scale Principal Axis Factor Analysis Results and Item Factor Loadings

	Factor	
	1	Uniqueness
i24	0.950	0.0976
i25	0.946	0.1048
i28	0.933	0.1290
i12	0.908	0.1762

i21	0.907	0.1776
i29	0.905	0.1804
i7	0.895	0.1994
i17	0.883	0.2209
i1	0.805	0.3524
Eigen value		7.361
Variance Explained		81.8
Total Variance		81.8

As a result of EFA, a one-factor structure consisting of nine items was obtained for the School Corporate Social Responsibility Scale. The factor loadings of the items in the scale vary between 0.80 and 0.95. The total variance explained by this one-factor structure is 81.8%. This value is above the lower limit of 52% accepted in the literature (Tosun & Çelik, 2022) and it can be said that the scale has a very good value in this sense. In scale development studies, it is also necessary to examine the scree plot, which provides visual convenience in determining the number of factors. Figure 2 shows the scree plot of the scale.

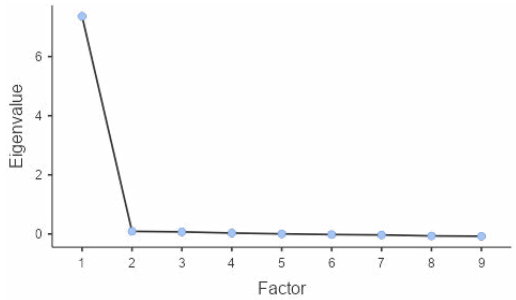

Figure 2 School Corporate Social Responsibility Scale Factor Analysis Scree Plot

The scree plot is a visual representation of the eigenvalues. When interpreting this plot, it is important to identify the factors with eigenvalues greater than 1 and the point at which the plot begins to flatten, i.e. the cut-off point. The fact that the points begin to lie sharply in the same plane means that the contributions of the items to the variance are small and similar (Şengül Avşar, 2021). When analysing Figure 2, it can be seen that the contribution to the variance after the second point is small. Accordingly, it can be seen that a single-factor structure has been achieved for the School Corporate Social Responsibility Scale. With the interpretation of the scree plot, the EFA process in the scale development study was completed and in the next step the CFA process was started to determine whether or not the nine items that emerged as a result of the EFA and the single-factor structure were confirmed.

Findings on CFA

CFA is applied after EFA in scale development studies and shows whether a structure determined according to the results of EFA sufficiently fits the data. CFA is used to verify the model of which scale items measure which factors. The CFA result supports the construct validity of the model obtained with EFA. In the EFA and CFA processes, the collection of data on different samples from the same population is important in order to reveal the stability of the model whose validity is to be determined across samples (Karadavut, 2021). For this purpose, the CFA process was initiated by collecting data from 165 teachers in the second study group to support the construct validity of the nine-item, single-factor model of the School Corporate Social Responsibility Scale.

The CFA process first started by checking the assumptions in order to make the data set ready. For this purpose, outliers, missing values and multivariate normality were checked. As a result of the control, it was understood that the data of 16 participants were multivariate outliers and these data were removed from the data set. As a result of the analysis, it was seen that the data set did not show multivariate normal distribution. It was also found that there were no missing values in the data set. As a result, the data set obtained from 165 participants was made ready for CFA with clean data belonging to 149 participants and the CFA application was started.

As the dataset does not provide multivariate normality, the Robust Maximum Likelihood (MLM) method was used to estimate the CFA model because in cases where normality is not provided, it is recommended to use robust estimation methods that are less affected by deviations from normality to estimate goodness of fit values and standard errors of the model (Karadavut, 2021). After the CFA model is estimated as predicted, the acceptability of the model is assessed using general goodness

of fit indices. The general goodness of fit indices obtained for the model as a result of the CFA performed with the relevant estimation method, and the reference ranges described in the literature as acceptable goodness of fit indices, are given in Table 2.

Table 2 School Corporate Social Responsibility Scale General Goodness of Fit Indices

General Goodness of Fit Index	Value	Acceptable Goodness of Fit Indices (Karadavut, 2021)
SRMR	.016	<0.08
RMSEA	.080	<0.08
CFI	.097	greater than 0.95
TLI	.096	greater than 0.95
GFI	.098	0.85-1
AGFI	.096	0.85-1
NFI	.096	0.85-1
IFI	.097	0.85-1

Looking at the general goodness of fit indices for the model in Table 3, it can be seen that all the values of the scale are in line with the reference values accepted in the literature. The model defined in CFA can be visualised with a graph. This graph of the factor structure is shown in Figure 3.

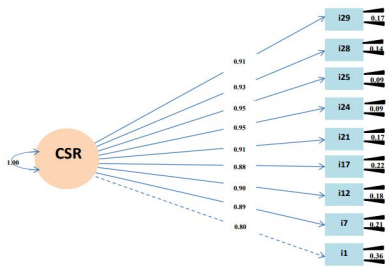

Figure 3 School Corporate Social Responsibility Scale Path Diagram

When examining the path diagram of the single-factor model measured by the nine items in Figure 3, it can be seen that the factor loading values of all the items are greater than 0.40 (Brown, 2015), which is accepted as the lower limit in the literature. As a result of CFA, it can be said that the model provided a reasonable fit to the data, the nine-item single-factor structure of the scale was confirmed, and the construct validity of the model obtained as a result of EFA was supported.

Findings on Reliability

In measurement tool development studies, it is important to use factor analysis to test the validity of the scores obtained from the scale. Another important point in related studies is reliability studies, which are an integral part of scale studies. The methods commonly used in reliability studies, which are defined as the stability of test scores, are the calculation of Cronbach's Alpha (Cronbach's α) and McDonald's Omega (McDonald's ω) coefficients of the scale to be developed. Cronbach's α is the most commonly used reliability coefficient in calculating the reliability of scores obtained from measurement tools consisting of Likert-type items. It takes values between 0 and 1 and it is accepted in the literature that it should be at least 0.70 to obtain reliable results (Field, 2009, as cited in Şengül Avşar, 2021). McDonald's ω is another reliability coefficient used in reliability studies and also takes values between 0 and 1. Values close to 1 indicate that the results obtained from the measurement tool are reliable (Şengül Avşar, 2021). Following the completion of the validity study of the School Corporate Social Responsibility Scale, a reliability analysis of the scale was conducted and the results are reported in Table 3 and Table 4.

Table 3 School Corporate Social Responsibility Scale Reliability Coefficients

	Cronbach's α	McDonald's ω
Scale (Total)	0.975	0.976

Examining Table 3, it can be seen that the Cronbach's α coefficient, which is one of the estimated reliability values of the scale, is above the lower limit of 0.70 accepted in the literature, and the McDonald's ω coefficient is very close to 1. Both coefficients are quite high. In addition, the item reliability statistics are also an important indicator of the reliability of the scale. Table 4 shows the results of the item reliability analysis of the scale.

Table 4 School Corporate Social Responsibility Scale Item Reliability Statistics

If item dropped		
	Cronbach's α	McDonald's ω
i1	0.976	0.977
i7	0.973	0.973
i12	0.972	0.973

i17	0.973	0.974
i21	0.972	0.973
i24	0.970	0.971
i25	0.970	0.971
i28	0.971	0.972
i29	0.972	0.973

Table 4 shows the change in the estimated reliability value when an item is removed. It can be seen that there is no increase in the reliability of the scores obtained from the scale when an item is removed from the scale. All of these reliability analysis results indicate that the scores obtained from the scale are reliable.

Conclusion and Discussion

The research attempted to develop a scale to measure teachers' perceptions of schools' CSR activities, and developed a valid and reliable 'School Corporate Social Responsibility Scale' consisting of nine items and one factor. In the process of developing the scale, the steps accepted in the literature (Oppenheim, 2000; Carpenter, 2018; DeVellis & Thorpe, 2021) were followed and the research carried out in each step was explained in detail. In this context, firstly, a comprehensive literature review on the phenomenon of CSR was conducted and the theoretical structure was presented. In addition, in the process of revealing the theoretical structure, it was supported by taking the opinions of a group of thirty teachers on the phenomenon through open-ended questions. As a result of the literature review and the teachers' opinions, an item pool for the scale to be developed was created and the scale type was determined in accordance with the opinions of measurement and evaluation experts. In the third step, the CVR and the CVI were analysed according to Lawshe's (1975) technique, taking into account the opinions of eight experts, consisting of field experts and measurement and evaluation experts, and a draft scale form with thirty-one items was produced. In the next step, the draft scale, which was prepared by adding the instructions for use, was applied to forty teachers working in different schools, which was considered to be the sample that could best represent the target group of the research, and thus a pre-application of the scale was carried out. As a result of the application, the thirty-one item draft form of the scale did not need to be revised and the data collection process for validity and reliability analyses was started. In the fifth step, in order to ensure the construct validity of the scale, data were collected from a total of 451 teachers from two different study groups for EFA and CFA applications. Thus, a total of 521 teachers from four different study groups contributed to the development of the scale from the beginning of the process. In the final step, EFA and CFA were applied to the data obtained from the study groups, and the construct validity of the single-factor, nine-item scale that emerged from EFA was confirmed by CFA. Finally, reliability analyses were carried out on the scale and as a result of the whole process and related analyses, the 'School Corporate Social Responsibility Scale' was developed with validity and reliability.

All the analyses carried out during the development process of the scale show that the scale is a valid and reliable measurement tool for measuring teachers' perceptions of their schools' CSR. It can be seen that the factor loading values of the items in the scale vary between 0.80-0.95 and the total variance explained by the one-factor structure is 81.8%. Considering that this value is considered sufficient in the literature to be between 40% and 60% (Tosun & Çelik, 2022), it is understood that the value of the scale is quite high and the relevant structure is measured at a very good level. In addition, the Cronbach's α and McDonald's ω values of the scale were 0.975 and 0.976, respectively, and these values, which are quite high, proving that the scale is a reliable scale. According to these results, it can be said that this scale, which aims to measure teachers' perceptions of the CSR of the schools where they work, is a valid and reliable measurement tool.

In the literature, there are several scales that have been developed on the phenomenon of CSR. Most of these scales are developed in the field of business (Latif & Sajjad, 2018). At the national level, there are three scales developed on the phenomenon. It is important to examine the related scales in terms of content in order to identify the differences between the School Corporate Social Responsibility Scale and these scales, and the purpose and need for developing this scale in terms of these differences. The first scale

developed in the national literature in this sense is the Corporate Social Responsibility Scale, which was introduced to the literature by Türker (2006). The scale, which consists of eighteen items and seven dimensions, aims to measure employees' perceptions of the CSR activities of companies operating in the business sector. Sönmezoğlu et al. (2016) adapted the corporate social responsibility scale for sports clubs (CSRS) developed by Jung in 2012 into Turkish. The purpose of the scale, which consists of 16 items and is four-dimensional, is to measure sports club spectators' perceptions of sports clubs' CSR activities. Finally, Tuna et al, (2019) introduced the stakeholder-based corporate social responsibility scale developed by Perez to the national literature through a Turkish adaptation study. The scale, which consists of twenty-two items and five factors, aims to measure banks' CSR activities through bank customers' perceptions. Like these three scales, the School Corporate Social Responsibility Scale measures the CSR performance of the organisation in question through the perceptions of the participants, but one of the strengths of this scale is that it is a school-based scale and in this sense it is the first in both the national and international literature. When reviewing the international literature, scales developed for universities, hospitals, hotels and non-profit organisations, especially in the business sector, stand out (Latif & Sajjad, 2018), but no scale has been found for the CSR activities of schools, which are among the organisations that interact most with society.

It can be seen that the scales developed in the literature are multidimensional scales. In contrast to the CSR literature, the School Corporate Social Responsibility Scale is a one-dimensional scale. This may be perceived as a limitation of the scale, but each of the items in the scale separately addresses all the sub-dimensions accepted in the literature. In addition, unlike other scales, the developed scale includes an item on school disaster preparedness. The fact that the scale includes such an item in the context of schools, which are considered to be the most vulnerable areas during disasters, is another strength of the scale, especially in light of the recent major earthquake disaster in Turkey. In the light of all these data, it can be said that the School Corporate Social Responsibility Scale is a valid and reliable scale for measuring teachers' perceptions of CSR towards their schools.

Recommendations

The scope of the scale developed in this study is limited to measuring the performance of schools towards their CSR through teachers' perceptions. Given this limited scope, several suggestions can be made for future studies in the CSR literature. First, the development of new scales that can measure the CSR performance of schools through the perceptions of students and parents, who are the main stakeholders of schools, can provide a different perspective and contribution to the field. The study area of this scale consists of schools including all levels such as primary, secondary and high schools. Scales can also be developed to measure the CSR performance of universities, which have been heavily involved in CSR activities in recent years. In such scales to be developed, support can be obtained from university students and academics as a study group. In the CSR literature, there are various inventories that measure the CSR performance of companies operating in the business sector. Various audit mechanisms such as the SA8000 audit conducted by the International Social Responsibility Organisation, the WRAP audit conducted by the American Apparel and Footwear Association, the Amfori audit conducted by AMFORI BSCI and the SEDEX audit conducted by the Ethical Trading Initiative are carried out with the voluntary participation of companies. These audits have many benefits such as customer satisfaction and competitive advantage. The Ministry of National Education, like these examples in the business sector, can develop various audit mechanisms that can directly measure the CSR performance of schools, rather than the perceptions of stakeholders. A similar inventory can be integrated into the accreditation programmes of universities by Higher Education Institution to measure their CSR performance.

Note: Researchers can use the 'School Corporate Social Responsibility Scale' in scientific studies provided that they refer to this article. It is not necessary to obtain permission from the authors. The scale is presented in the appendix.

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Appendix 1 School Corporate Social Responsibility Scale (English Version)

	School Corporate Social Responsibility Scale	Never (1)	Very Rare (2)	Sometimes (3)	Most of the Time (4)	All the time (5)
Please tick the items in the scale considering to what extent they represent the characteristics of the school where you work.						
1	This school creates a strong corporate culture with the active participation of all stakeholders.					
2	This school shares information among stakeholders based on the principle of honesty and transparency.					
3	A better society and social concerns are important values for this school.					
4	This school carries out activities to protect and enrich the natural environment with the participation of all stakeholders.					
5	This school encourages all its stakeholders to become law-abiding corporate citizens.					
6	This school operates in accordance with social expectations and universal ethical norms to achieve organisational goals.					
7	This school encourages all stakeholders to behave in accordance with the ethical/moral norms adopted by society.					
8	This school adopts an educational approach to educating students in the context of moral and civic responsibilities.					
9	This school provides educational support to inform and raise awareness of its stakeholders and the community about disaster preparedness.					

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