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Development of a Teacher Rating Scale for Giftedness (TRSG)

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Abstract:

Introduction: Intellectual giftedness is an important student characteristic that teachers need to take into consideration when designing education programs and providing educational support to these students. Effective nomination and identification are the basis for further education. In nominating gifted students for special educational programs, teachers play an important role by providing information about superior characteristics of students. The purpose of this study is to develop a teacher rating scale (TRSG) for nominating the children to gifted education programs.

Methods: In order to develop a teacher rating scale (TRSG) for nominating the children to gifted education programs, the present study involved three stages: item generation, instrument application and validity-reliability analyses. One hundred sixty-nine teachers participated in the study. To ensure the validity of the scale, its content, construct and criterion-related validity were examined, and to ensure its reliability, its Cronbach alpha value was calculated. For content validity, three experts on gifted education examined the items and the whole scale in terms of successful intelligence theory. After their approval of the content, construct validity was examined by confirmatory factor analysis.

Results: The result of the analysis supported the three-factor structure of the scale having 17 items. According to the results of the research, it has been established that the TRSG is a valid and reliable instrument, and it may be used to nominate gifted children based on the evaluations of the teachers.

Discussion: Sternberg (2018) defined three components. According to the theory of Sternberg (2018), giftedness involves analytical, practical and creative intelligences, and they are associated not only with each other but also with a G factor. In the analysis, each item was classified under a component of successful

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intelligence theory and the statistical examinations supported the anticipated associations among the items and the factors.
Limitations: The sample size of the teachers was small. The limitations of this study are the use of convenience sampling and the inclusion of only 169 teachers in the sample. Another limitation is rating bias.
Conclusions: The results on the validity and reliability supported the notion that the scale is appropriate to be used for nomination purposes by teachers in gifted education programs. Its limited number of items, quick application, and simple scoring procedures make it advantageous for use in various contexts.

Key words: gifted children, nomination, successful intelligence, teacher rating scale, validity, reliability.

Introduction

Intellectual giftedness is an important student characteristic that teachers need to take into consideration when designing education programs and providing educational support to these students. Sternberg defined giftedness as the use of creative thinking, analytical thinking, practical thinking and wisdom-based skills for changing the world for the better (Sternberg, 2020). Effective nomination and identification are the basis for further education. Machů and Lukeš (2019) state that teachers are one of the three most important external factors in the identification of giftedness. In nominating gifted students for special educational programs, teachers play an important role by providing information about superior characteristics of students. Moreover, the support of teachers in the nomination stage is fundamental for further identification (Biber et al., 2021). Westberg (2012) explained the importance of teacher nomination when other tools of identification are not satisfactory. Westberg revealed that only using standardized tests in identification might result in wrong decisions; similarly, using multiple criteria in nomination is needed to avoid wrong decisions on gifted students. Pfeiffer and Petscher (2008) highlighted the importance of scientifically sound and standard complementary instruments of IQ tests in the evaluation of gifted children. Teacher rating scales are particularly beneficial in nomination and identification. According to Pfeiffer and Jarosewich (2003), teacher rating scales do not require extensive teacher training and are user-friendly.

There are different teacher rating scales in the related literature (Gentry, Pereira, Peters, McIntosh, & Fugate, 2021; Gilliam, Carpenter, & Christensen, 1996; McCarney & Anderson, 1998; Pfeiffer & Jarosewich, 2003; Renzulli et al., 2002; Ryser & McConnell, 2004). Pfeiffer and Jarosewich (2003) developed GRS-S (Gifted Rating Scale-School Form) in 2003. Then, Petscher and Pfeiffer (2020) investigated the validity and reliability of the GRS-S by using more

comprehensive analysis techniques in 2020. Their findings revealed that the scores given by teachers were valid and reliable. Gentry et al. (2021) also reported strong validity and reliability of scores of the teacher rating scale developed by them. Ryser and McConnell (2004) developed Scales for Identifying Gifted Students to assist teachers and schools in their decisions on gifted students. They reported acceptable levels of concurrent validity and construct validity and high level of reliability for the scores given by teachers using the scales. Renzulli et al. (2002) validated Scales for Rating the Behavioral Characteristics of Superior Student, and strong alpha reliability coefficients (ranging from 0.84 to 0.97), strong criterion-related validity and acceptable contruct validity were reported by the authors.

The above-mentioned teacher rating scales had different theoretical foundations; however, giftedness needs to be defined in line with the needs of the society and an appropriate theoretical basis needs to be established by taking into consideration the views of the society and those reported in the literature on giftedness. Then comprehensive and detailed evidence for validation and reliability should be collected. Hence, the main purpose of this study was to develop a teacher rating scale that could appropriately nominate gifted children.

1 Theoretical framework of the study

Teachers have an important role in nominating gifted students to special programs on grounds that teachers of gifted students regularly observe, compare, record and evaluate performances of gifted students in classrooms. They provide rich and detailed information about gifted students, and they give direction to further identification processes by making holistic evaluations about the performances of gifted students. Moreover, information provided by teachers about gifted students is influential in educators' decisions in program development. Having a clearly framed scale for observing behaviours of gifted students, teachers can provide information in a more systematic way. The triarchic theory of successful intelligence, which is based on a simple but solid and comprehensive model, lists and classifies the behaviours of the gifted (Sternberg, 2018). According to Sternberg (2018), the triarchic theory of successful intelligence consists of the ability to use different sets of skills for adapting to, shaping or selecting an environment to be successful in life within a certain socio-cultural context. The theory includes three sets of skills: analytical, creative and practical (Sternberg, 1999). The first set involves five different analytical skills: Analyzing, evaluating, critiquing, comparing and contrasting things. The second set involves creative abilities associated with six different behaviours: Creating, exploring, discovering, inventing, imagining and supposing. The third set involves practical abilities associated with four behaviours: Applying, using, implementing and putting into practice (Sternberg,

1999). In Figure 1, the interaction of the three different sets of behaviours is represented. In the present study, the extended version of the model was chosen in order to consider the G factor explaining the other sets of skills not associated with the three components. G factor was added to the model since recent factor analytic evidence support the notion of the G factor (e.g. CHC theory, Schneider & McGrew, 2022).

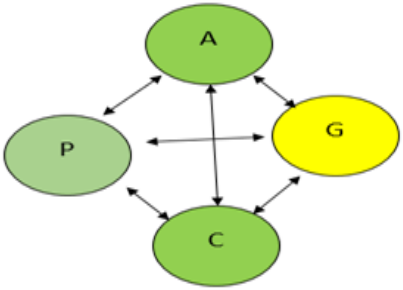

Figure 1. Extended components of the triarchic theory of successful intelligence.

The theory is comprehensive and simple; moreover, it was found effective in empirical studies on evaluation of gifted students (Nguyen, Nguyen, Dang, & Duong, 2022; Sabbah & Aldin, 2022). Some of the researchers used the theory to develop and implement successful educational programs (Sternberg, Torff, & Grigorenko, 1998; Sternberg, 2002, 2018). The extended model regarding the theory was preferred in this study because it also provided a balance between g-focused theorists and separate-abilities theorists (Sternberg, 1999). By doing so, it became possible to gain an advantage in evaluating both domain-free and domain-related behaviors of gifted children. In summary, the theory, supported by strong empirical evidence, offers a robust explanatory framework and strikes a balance between theories that focus on G and specific behaviors. Thus, considering these characteristics, the researchers based the development of the targeted instrument on this theory. The behaviors of gifted students were classified into three different components of the theory, and the items of the scale were developed based on this classification.

2 Methodology

In order to develop a teacher rating scale (TRSG) for nominating the children to gifted education programs, the present study involved three stages: item generation, instrument application and validity-reliability analyses. In the item generation stage, the existing literature was reviewed (Alma, 2015; Pfeiffer, Petscher, & Kumtepe, 2008; Jarosewich, Pfeiffer, & Morris, 2002; Pfeiffer & Jarosewich, 2003; Pilavcı, 2021; Robinson & Clinkenbeard, 2008; Frasier, 1995; Spratt, 1994; Silverman, 2003; Havigerová & Burešová, 2015; Gentry et al., 2021; Gilliam et al., 1996; Gilliam & Jerman, 2015; McCarney & Anderson, 1998; Ryser & McConnell, 2004; Renzulli et al., 2002). Following the review of the related literature, the teachers participating in the study (n=34) were asked for their opinions on the behaviors of a gifted student. Based on these two sources of data, an item pool consisting of 30 items with a Likert scale was created. Some of the items were used from a study by Pilavcı after obtaining her permission. All of the items in the pool were reviewed by three experts to ensure content validity and congruence with the Successful Intelligence Theory. They found the items appropriate for the instrument. In the instrument application stage, one professor and two junior researchers (PhD. students in a gifted education program) administered the instrument online after obtaining formal permissions and ethical consents through informed-consent forms. Subsequently, the instrument was sent to teachers to be completed for one of their gifted students. All of the items and the scale range are presented in Table 1 below.

Table 1

The items of the Scale and the scale range

		Analytical Intelligence								
		Below Average				*Average*			*Above Average*	
1.	Understanding the meaning of new words easily and quickly	1	2	3	4	5	6	7	8	9
2.	Understanding the meaning of numbers and what they correspond to	1	2	3	4	5	6	7	8	9
3.	Making decisions based on detailed evaluations	1	2	3	4	5	6	7	8	9
4.	Identifying the missing pieces in a whole easily and quickly	1	2	3	4	5	6	7	8	9
5.	Inferring meaning that is not explicitly stated in a sentence	1	2	3	4	5	6	7	8	9
6.	Being fast in detecting inconsistencies	1	2	3	4	5	6	7	8	9
7.	Producing effective solutions to problems	1	2	3	4	5	6	7	8	9

8.	Being able to establish cause-effect relationships	1	2	3	4	5	6	7	8	9
9.	Making necessary inferences from data and predictions	1	2	3	4	5	6	7	8	9
10.	Having advanced vocabulary	1	2	3	4	5	6	7	8	9
		Creative Intelligence								
		Below Average				*Average*			*Above Average*	
11.	Expressing him/herself by using analogies	1	2	3	4	5	6	7	8	9
12.	Using numbers differetly from the usual	1	2	3	4	5	6	7	8	9
13.	Describing shape and function of objects differently from the usual	1	2	3	4	5	6	7	8	9
14.	Having an advanced sense of imagination	1	2	3	4	5	6	7	8	9
15.	Being open to new experiences	1	2	3	4	5	6	7	8	9
16.	Being sensitive to aesthetic qualities	1	2	3	4	5	6	7	8	9
17.	Developing new ideas	1	2	3	4	5	6	7	8	9
18.	Being enthusiastic about generating and developing new ideas	1	2	3	4	5	6	7	8	9
19.	Generating many ideas about a subject	1	2	3	4	5	6	7	8	9
20.	Taking meaningful risks when faced with new situataions	1	2	3	4	5	6	7	8	9
		Practical Intelligence								
		Below Average				*Average*			*Above Average*	
21.	Idetifying effective ways to solve daily problems	1	2	3	4	5	6	7	8	9
22.	Using mathematical calculations comfortably in daily life	1	2	3	4	5	6	7	8	9
23.	Being effective in finding place, direction and space in daily life	1	2	3	4	5	6	7	8	9
24.	Having expectations for satisfactory answers in situations that affect one's daily life	1	2	3	4	5	6	7	8	9
25.	Being an entrepreneur and a quick problem solver in daily life problems	1	2	3	4	5	6	7	8	9
26.	Having the desire to understand how materials used in daily life work	1	2	3	4	5	6	7	8	9
27.	Transfering the possessed knowledge to different daily life problems easily and quickly	1	2	3	4	5	6	7	8	9
28.	Adapting to new situations easily and quickly	1	2	3	4	5	6	7	8	9

29. Reacting to illogical situations encountered in daily life	1	2	3	4	5	6	7	8	9
30. Knowing from whom to get best help when problems are encountered in daily life	1	2	3	4	5	6	7	8	9

Note: 1 point refers to "Completely Disagree", while 5 refers to "Completely Agree".

In the validity and reliability analyses of the present study, Cronbach's alpha values were initially calculated for the entire scale and its factors. Subsequently, confirmatory factor analysis was conducted to ensure the construct validity. Moreover, criterion-related validity was tested by comparison of the scores of the gifted and unidentified nominated students on the instrument. We know that all of the students rated by their teachers were suggested as gifted students in spite of the fact that only some of them were formally identified. Hence, we do not expect any difference in their scores on the instrument. Concurrent validity was examined by calculating the correlation between the scores on the scale and another screening tool used in Turkey for gifted students (a ten-item scale used for screening school-age gifted children for BİLSEM, a special gifted education program, in Turkey).

2.1 Participants

The participants involved 169 teachers, 93 of whom were females and 76 were males. Out of these participants, 91 rated students who were identified as gifted for the national gifted program, while the other teachers rated unidentified but potentially gifted students. In the national educational program for gifted students, an enrichment program is offered after school hours. In this program, the gifted students are exposed to advanced learning content and engage in small-group activities and projects. The unidentified students do not participate in such a program. The majority of the teachers (n=101) had been with their nominated students over a period of 7 months, and only 10 teachers stated that they knew little about their nominated students. The other teachers claimed to have good knowledge of their nominated students.

2.2 Data analysis

The data analyses conducted at various stages of the present study included descriptive statistics involving minimum values, maximum values, means, and standard deviations, correlation analysis for concurrent validity, independent samples t-test, Cronbach's alpha calculation, and confirmatory factor analysis. To conduct the analyses, SPSS 20 and AMOS 22 were used. For reliability analysis, a Cronbach's alpha value exceeding 0.8 was considered indicative of good internal validity (George & Mallery, 2003). In the confirmatory factor analysis using the maximum likelihood approach, six different goodness-of-fit indices

(χ2/df, RMSEA, RMR, GFI, CFI and TLI) were taken into account. The first index was the chi-square/degrees of freedom (χ2/df) ratio, and the cut-off point for this index was 5 (Schumacker & Lomax, 2010). Values below 5 were considered as an indication of a good fit to the data. The root mean square error of approximation (RMSEA), the root mean square residuals (RMR), the goodness-of-fit index (GFI), the comparative fit index (CFI), and the Turker-Lewis index (TLI) were also considered in the study. The values for each index were found to be higher than 0.90 for CFI, TLI and GFI and less than 0.08 for RMSEA and RMR values (Schermelleh-Engel, Moosbrugger, & Müller, 2003; Hu & Bentler, 1999; Kline, 2015; Hair, Black, Babin, Anderson, & Tatham, 2010). At the beginning of the analysis for construct validity, the first-order model was examined, and then the second-order factor analysis was conducted because a G factor predicting the other three factors was assumed in the theoretical model. Moreover, the usability of the total score was checked via the second-order factor analysis. The same fit indices were considered in the second-order factor analysis.

3 Results

Before conducting the validity and reliability analysis, preliminary data analyses were performed to check for multivariate normality, outliers, and missing data. There were no outliers in the data (as determined by Mahalanobis distances), and the percentage of missing values was less than 2%. Missing values were replaced with the series mean before conducting further analyses. Then, the correlation matrix was checked for multicollinearity assumption. It was found that there was no multicollinearity among the variables. Moreover, it was found that the factors were statistically significantly related to each other ($p<.05$). This is also the evidence for validity. The correlation matrix is presented in Table 2 below.

Table 2

Correlation matrix table (Pearson correlation)

Factors	*Factors*		
	Analytical Intelligence	*Creative Intelligence*	*Practical Intelligence*
Analytical Intelligence	-		
Creative Intelligence	0.82*	-	
Practical Intelligence	0.89*	0.87*	-
General Intelligence (G)	0.86*	0.77*	0.84*

Note: * means significant correlation

Confirmatory factor analysis was carried out after checking the univariate normality, item 2, 4, 7, 12, 13 and 23 were excluded from the analysis due to violation of univariate normality assumption. Item 9, 10, 17, 18, 24, 26 and 28

were also excluded from the analysis due to their loading on two or more factors at the same time. After excluding the items, a correlation matrix and univariate normality were checked, and a confirmatory factor analysis with the maximum likelihood method was conducted for the three-factor solution.

The results of the first-order confirmatory factor analysis revealed that fit and non-fit indices of $\chi 2$ /df ratio, RMSEA, RMR, CFI and TLI were within acceptable range. The values for the $\chi 2$ /df ratio, RMSEA, RMR, CFI and TLI were 1.99, 0.07, 0.06, 0.96 and 0.95, respectively, for the three-factor solution (Schermelleh-Engel et al., 2003; Hu & Bentler, 1999; Kline, 2015; Hair et al., 2010). Only the GFI value of 0.86 was below the cut-off point (.90). However, some researchers suggest that values over 0.85 are acceptable (Schermelleh-Engel et al., 2003). The factor loadings of the items ranged from 0.609 to 0.932 (see Table 3).

Table 3

Factor loadings of the items

Item Number	*Items*	*Analytical Intelligence*	*Creative Intelligence*	*Practical Intelligence*
1	a1	.793		
3	a3	.900		
5	a5	.861		
6	a6	.826		
8	a8	.932		
9	y1		.823	
14	y4		.609	
15	y5		.839	
16	y6		.625	
19	y9		.868	
20	y10		.753	
21	p1			.858
22	P2			.872
25	P5			.885
27	P7			.877
29	P9			.842
30	P10			.814

The measurement model generated from the theoretical model and the calculated regression values after the modifications are portrayed in Figure 2 below.

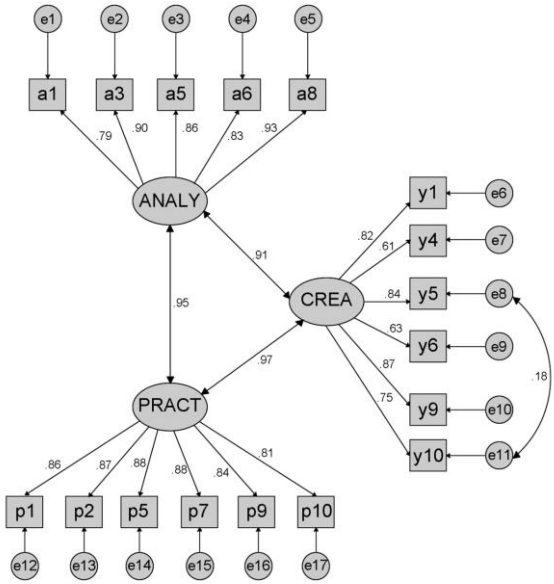

Figure 2. The tested model in the study and regression values of each item.

The findings indicated that the data of the study fit well into the anticipated model. Cronbach's alpha values for Analytical thinking, Creative thinking, Practical Thinking, and the total scale were 0.94, 0.89, 0.94, and 0.97, respectively, and they were found to be higher than the acceptable cut-off point (George & Mallery, 2003). After the first-order factor analysis, a second-order factor analysis was needed to determine whether the total scores of the factors could be used for nomination purposes. The findings of the second-order factor analysis are presented in Figure 3.

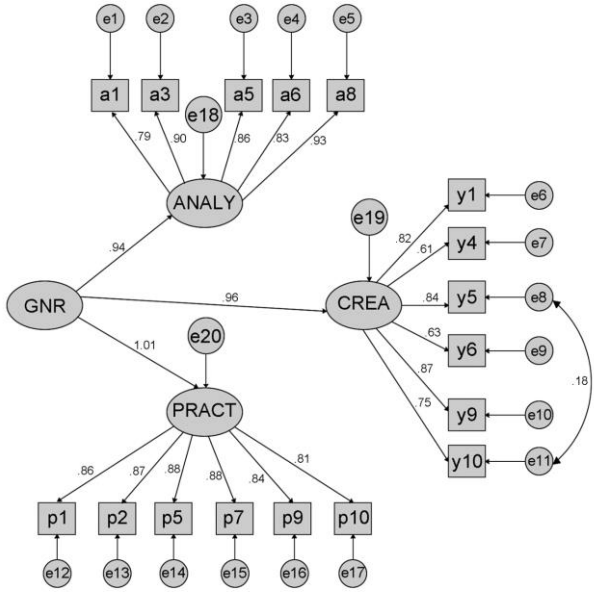

Figure 3. The tested model in the second-order factor analysis and regression values of each item.

The results of the second-order confirmatory factor analysis were the same as the results of the first-order factor analysis. The findings revealed that fit and non-fit indices of $\chi 2$ /df ratio, RMSEA, RMR, CFI and TLI were within acceptable range. The values for the $\chi 2$ /df ratio, RMSEA, RMR, CFI and TLI were 1.99, 0.07, 0.06, 0.96 and 0.95, respectively for a three-factor solution (Schermelleh-Engel et al., 2003; Hu & Bentler, 1999; Kline, 2016; Hair et al., 2010). Only the GFI value of.86 was below the cut-off point (.90). However, some researchers propose that all GFI values over 0.85 are acceptable (Schermelleh-Engel et al., 2003). The factor loadings of the items in the second-order factor analysis were similar to those found in the first-order factor analysis.

3.1 Criterion-related validity

The comparison between the scores assigned by the teachers for their gifted students and the unidentified students was another source of evidence for validity. At the beginning, it was expected that the teachers would select either gifted students or unidentified gifted students for evaluation. Hence, there should be no difference between the scores of the two groups of students. Independent

samples t-tests with Bonferroni adjustment (0.05/4=0.01) were used to compare the scores. Among all the participating teachers, 91 of them evaluated their gifted students, while the remaining teachers evaluated potentially gifted unidentified students. The findings revealed that there was no statistically significant difference between the scores given by the teachers in terms of analytical intelligence and practical intelligence, while there was a significant difference in terms of creative intelligence in favor of unidentified students. The comparative results are presented in Table 4 below.

Table 4

Independent t-test results for comparison of the teachers' scores on creative, analytical and practical intelligences

Factors	*Groups*	*Means (SD)*	*Levene's Test for Equality of Variances*		*t*	*df*	*p*
			F	p			
Analytical Intelligence	Gifted students (n=91)	7.77 (1.30)	7.59	0.01	2.01	138	0.03
	Unidentified students (n=78)	8.17 (.77)					
Creative Intelligence	Gifted students (n=91)	7.52 (1.28)	5.90	0.02	2.80	138	0.006*
	Unidentified students (n=78)	8.01 (0.78)					
Practical Intelligence	Gifted students (n=91)	7.74 (1.32)	5.46	0.02	2.19	138	0.03
	Unidentified students (n=78)	8.12 (.73)					
General Intelligence	Gifted students (n=91)	7.69 (1.20)	5.49	.02	2.00	138	0.05
	Unidentified students (n=78)	8.04 (.84)					

Note: * means a statistically significant difference

3.2 Concurrent validity

Concurrent validity evidence showed that the scores assigned by the teachers on the factors of the scale were found to be associated with the scores of the students on a general nominating tool. The correlation between the scores on the analytical intelligence and the scores on general-nominating tool was found to be 0.86 ($p<.05$). The relationship between the scores on creative intelligence and the scores on the general nominating tool was found to be 0.76 ($p<.05$). Finally, the correlation between the scores on practical intelligence and those on the general nominating tool was found to be significant ($r=0.83$, $p<.05$).

3.3 Descriptive findings

The descriptive statistics generated through the nomination process using the scale revealed that teachers generally assigned high scores to their students. The average of all ratings made by the teachers was 7.72. This value corresponds to "above average" on the scale. The descriptive findings of the study for each factor of the scale are presented in Table 5 below.

Table 5

Descriptive findings on the factors and general intelligence

Factors	*Min.*	*Max*	*Mean*	*SD*
Analytical intelligence	1	9	7.79	1.28
Creative intelligence	2	9	7.65	1.17
Practical intelligence	1	9	7.77	1.27
General intelligence	1	9	7.71	1.21

4 Discussion

In the present study, the aim was to develop a teacher rating scale for nominating gifted students for special gifted education programs. Both the reliability and validity of the scale, including content validity, construct validity, criterion-related validity, and concurrent validity, were ensured. The reliability coefficients were found to be 0.94, 0.89, 0.94 and 0.97 for the three factors and the entire scale. These reliability coefficients are higher than the cut-off value of 0.80 (Bracken, Keith, & Walker, 1998). This indicates a strong internal consistency of the scores on the items. It can be asserted that the scores on the scale are relatively free from measurement error and the instrument can be used for further purposes in the area of nomination.

In validity analyses, supportive evidence was found in terms of content validity, construct validity, criterion-related validity and concurrent validity. The content of the scale was matched with the content provided by a previous study (Pilavcı, 2021), and the factors and items were appropriately matched in terms of the components of the Successful Intelligence Theory. Moreover, three experts found the items appropriate in terms of representing the theory and fulfilling the purpose of the scale. Therefore, the findings supported the notion that the components of the scale are in line with the intended construct of the scale (Sireci, 1998; Sireci & Faulkner-Bond, 2014). The contruct validity for a three-factor solution was also supported by the analyses. Sternberg (2018) defined three components. According to Sternberg's (2018) theory, giftedness involves analytical, practical, and creative intelligences, and they are not only associated with each other but also with a G factor. In the analysis, each item was classified under a component of the successful intelligence theory, and the statistical

examinations supported the expected associations among the items and the factors. For the construct validity of the scale, acceptable values of fit indices were also reported in the literature for other teacher rating scales targeting gifted students, even though they were based on different theoretical models (Lee, Gentry, & Maeda, 2022; Sofologi et al., 2022). Support for construct validity could also be associated with the strength of the theoretical background. The successful intelligence theory was applied to different stages of identification and education of gifted students and is a very comprehensive and effective theory for explaining giftedness (Sternberg et al., 1998; Sternberg & Grigorenko, 2002; Sternberg, 2019). Owing to these characteristics, the generation and categorization of items under the components of the theory were systematic and obvious. Therefore, it can be asserted that the theoretical structure on which the instrument was developed was confirmed by the validity evidence gathered in this study.

In the present study, criterion-related and concurrent validities were also confirmed by the evidence. In terms of criterion-related validity, it was observed that the teachers assigned high scores to both gifted and unidentified but potentially gifted students. This finding also indicates that the teachers had assigned high scores to behaviors rather than focusing solely on the label of giftedness. Even though some teachers can identify their gifted students, they assign similar scores to those teachers who give high scores to their unidentified potentially gifted students. In terms of concurrent validity, the correlation between the scores assigned by the teachers on the scale and the general nomination scale or tool was found to be significant. Because the scores on the scale are assigned by considering detailed and specific behaviors, while the scores on the general nomination scale or tool were based on general characteristics such as “strong memory”. The common factor between the two instruments was the G factor. Therefore, they should be associated with each other as found in this study. Previous studies have shown that analytical, creative, and practical intelligences are associated with the general academic and cognitive performance of students (Ferrando, Ferrándiz, Llor, & Sainz, 2016).

The results on the validity and reliability supported the notion that the scale is appropriate to be used for nomination purposes by teachers in gifted education programs. Not only the number of items in the scale and the short application time, but also the easy scoring procedures make it advantageous for use in different contexts. The scale might also be used when multiple resources of data are required. The teachers might use it in conjunction with different tools, such as intelligence tests. Hence, the scale has the potential to be used for different purposes in gifted education programs.

Conclusion

The information provided by teachers about gifted students is effective in influencing educators' decisions in program development. Therefore, this study aims to develop a Teacher Rating Scale for Giftedness (TRSG) for nominating gifted children for special education programs. The study consists of three stages: item generation, instrument application, and validity-reliability analyses. To ensure the validity of the scale, content, structure, and criterion-related validity were examined, while Cronbach's alpha was calculated to ensure reliability. The analysis supported the three-factor structure of the 17-item scale. According to the research results, TRSG was found to be a valid and reliable tool that can be used for nominating gifted children based on teacher assessments. The relatively low number of items in the scale, a short application duration, and the ease of scoring make it advantageous for use in various contexts.

The analyses provided strong evidence for the validity and reliability of the scale; however, the sample size of the teachers was smallIn the literature, different researchers have suggested different sample sizes. Nunnally (1978) found 300 participants to be adequate for scale development studies, while MacCallum, Widaman, Zhang, and Hong (1999) considered 200 participants to be sufficient in scale development studies. In this study, the use of convenience sampling and the fact that only 169 teachers could be reached is one limitation of the study. Future studies can be conducted with larger sample sizes. Another limitation is rating bias. The teachers' rating bias should be considered when interpreting the results of the present study. In future studies, supplementary instruments should also be used to check bias in student nomination. Moreover, pre-school and adult versions of the scale are needed to make nominations effective at these levels. Furthermore, making comparisons between different groups of gifted students requires different versions for subgroups of gifted people, such as gifted students with low SES.

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