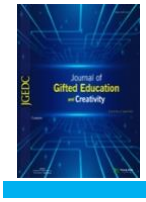

Journal of Gifted Education and Creativity,
9(1), 75-84, March 2022
e-ISSN: 2149- 1410
jgedc.org

Young Wise Publishing
youngwisepub.com

Research Article

Competition Skills and Challenge Level Scale (CCS) in gifted and talented education: development, validity and reliability

Abdullah Eker[1]*

Department of Special Education, Division of Gifted Education, Kilis 7 Aralık University, Kilis, Turkiye

Article Info

Received: 29 January 2022
Accepted: 7 March 2022
Available online: 30 March 2022

Keywords:
Gifted and Talented Education
Competitiveness
Competition Skills
Challenge Level
Underachievement
Motivation
School Environment

2149-1410/

Abstract

Competitiveness is an important factor for giving gifted students a chance to test their abilities and motivates them to bring out the best in their selves. I can say that measuring and assessing competition skills and challenging levels of their potential is very important in gifted and talented education. Therefore, the purpose of this study is to introduce competition skills and challenge level scale (CCS) which is developed for Gifted and Talented secondary school grade students. A draft structure consisting of 31 items was created in the light of expert opinions of the measurement tool to be developed. Explanatory factor analysis was applied for the construct validity of the scale. As a result of the explanatory factor analysis, it was determined that the factor load weights of 3 items were overlapping and low, and it was decided to exclude items 11, 21 and 29 from the scale. As a result of the varimax analysis, it was determined that the scale consisted of two factors. These factors were named as "Perception of Competition" and "Level of Difficulty", respectively. These two factors explain 62.06% of the variance in all scale scores. The internal consistency reliability of the entire scale was calculated as 0.95. In the light of all the analysis results, it can be said that this scale, which aims to evaluate the perceptions of gifted students' level of competition and striving, has reliable results in terms of validity and reliability tests. As such, the scale can be used to evaluate competitive environments in gifted individuals. Thus, measures can be taken to ensure that gifted students do not fail due to the educational atmosphere below their potential.

To cite this article:

Eker, A. (2022). Competition Skills and Challenge Level Scale (CCS) in gifted and talented education: development, validity and reliability. *Journal of Gifted Education and Creativity, 9*(1), 75-84.

Introduction

Competition plays an important role in the lives of gifted students. Some research suggests that schools encourage competition simply by the nature of assigning grades and that students learn very early about the winners and losers (Rizza and Reis, 2001). Gifted children may engage in competition in order to exercise their abilities and gauge, even for themselves, whether they have lived up to their own expectations. Second, it is probable that gifted children have experienced a relatively high degree of academic success in their past and might feel very differently about competition than students with a less successful school history. This relatively positive experience with competitive outcomes (i.e., winning) might lead gifted children to view competitions favorably and may lead them to seek out competitive challenges more than nongifted students (Udvari and Schneider, 2000). Riley (2011:64) indicate that competition can add an important element to gifted children's experiences: Students gain in a multitude of dimensions by participating in contests and competitions. When teams are involved cooperative learning can be strengthened. Although competitiveness is frequently packaged in positive perceptions, some research indicates negative effects of competitiveness. It can be harmful for personality when we can not balance challenge level of group. For example,

[1] Kilis 7 Aralık University, Education Faculty, Special Education Department, Division of Gifted Education, Kilis, Turkiye, E-mail: aeker38@gmail.com ORCID: 0000-0002-6409-7732

Ryckman, Thornton and Butler (1994) have discovered that hypercompetitive individuals were highly narcissistic and held an exaggerated conception of their own worth, a closer look at their opinions revealed paradoxically low levels of self-esteem in these individuals.

One of the most important goals of the gifted education discipline is to realize their potential and transform these potential to a lifespan success. Research about the issue indicates that: often gifted individuals fail to show the expected permanent success and especially in higher education level and across their lifespan. We constantly hear the complaints of individuals who are seen as gifted because of their laziness and lack of will. Also underachievement after identified as gifted causes low self-esteem, low well-being and unhappiness for gifted individuals (Siegle and Schuler, 2000, Udvari and Schneider, 2010).

It is observed that the parents do not understand that their children who have a high grade point average fall in grades over time and fail to achieve the expected success. Failing the university entrance exams or leaving the school life of a student who started his education life with brilliant success causes great disappointment for both the individual and his environment. This situation can be caused by many individual and environmental factors. Unsuccessful gifted people are a very heterogeneous group, and they may fail due to different external factors and individual characteristics (Reis and McCoach, 2000). However, one of the most important factors causing this situation is; the individual's inability to gain a self-discipline and competitive ability that will force him to transform his potential into success and face the challenges of life (Feldhusen, 2005). Every individual has to have the motivation and the will to work in order to face the difficulties of life and be successful. On the other hand, working discipline should be gained to individuals during their education life, especially in primary and secondary education (Rimm, 2002).

In this context, one of the most important reasons why gifted education is a sub-discipline of special education is that these individuals cannot receive an education at a level that challenges their abilities in the normal education environment. A training program that imposes the same curriculum on every level of intelligence and ability does not need to strive for success because the gifted individuals remain below their level, and this may cause them to lose interest in school and education over time, or to lack the skills of work discipline. At this point, it would be useful to clarify that equal educational opportunities are not the same educational opportunities, because gifted students have different characteristics in terms of education and learning, and they need a differentiated curriculum (Chan, 2000).

Unfortunately, gifted children often lose their motivation due to their needs that are generally not met in schools. As a result, such children may become problematic children in traditional schools and regular classrooms, as they ask a lot of questions, question rules, methods, and finish their studies before anyone else (Yılmaz and Tortop, 2018).

The negative effects of gifted students not having a competitive environment and a compelling education level at primary school level are not visible in the short term and therefore are ignored (Ford, 2003). It is common for parents to justify their gifted children not to challenge as: they reach the goals of lessons at the classroom; so they do not feel necessary to study more. However, standardized educational goals that are very easy to achieve for gifted students cannot predict a real success, even if they are realized. It can be said that: if students' educational competition enviroment below their intelligence and ability potential, they can easily have high academic scores. But these high academic scores can be the biggest obstacle on their talent development. Especially at primary and secondary grades, which are the most critical period for students to earn a working discipline, it may result to a lifelong failure.

In this context we can say that; it will be a critical intervention for gifted individuals to compete and challenge them with their own ability level peers and educate them with an enriched curriculum, to enforce them to high motivation for lifespan success. Otherwise, when these students can't reach competitive educational environment which requires higher performance of study effort and discipline, they are under risk to fail about overcoming the difficulties they faced in their adult life.

Therefore existing various scale that will determine the competition perception at economics and marketing, there are very limited study in educational sciences. Especially for regular classroom environments not existing yet any scale to measure competition and challenge level of gifted students. Due to that necessary it is aimed to contribute an important requirement about gifted education.

The Relationship between Competition, Success and Motivation in Gifted Education

In the literature, the failure of gifted individuals is defined as underachievement. It has been found that approximately 37% to 50% of gifted students show unexpected failures permanently or periodically (Peterson and Colangelo, 1995; Renzulli and Park, 2002). In fact, it can be said that gifted students show unexpected failures more often than normal students (Sak, 2012). The unexpected failure of the gifted briefly; It can be defined as an individual's performance in contradiction with the results of the applied ability and intelligence scales (Baum, Renzulli and Hébert 1995).

According to literature it can be said that one of the most important factor underlying unexpected achievement is low motivation (Yılmaz and Tortop, 2018). For this reason; the triple ring theory (Renzulli, 1986) and successful intelligence theory (Sternberg, 1997) provided. These are among the most important theories defining giftedness which are assuming motivational ability as one of the components of giftedness. Renzulli (1986) sees motivation as an intelligence factor and does not consider individuals whose motivational ability is lower than 85% of their peers as gifted.

Motivation is the power behind the individual's actions, called motive in the language of psychology. It is defined as the forces within the organism and the environment that provide energy to behavior. Motivation is classifying to two parts as: internal and external (Kazdin, 2000).

Most successful gifted students are highly motivated students. According to Siegle (2000), motivation stems from three important factors. These factors are; value, self-efficacy and environmental perceptions. In this context, the school environment; it is an environmental factor that directly affects the student's motivation. We can say that one of the most important factors of extrinsic motivation is that there is a highly competitive and compelling classroom education environment and the student struggles to develop his / her potential.

In this context, the student; It is important to determine the achievement standard that is ideal for him and suitable for his / her potential and that the student gains awareness about it (Feldhusen, 2005). This standard of achievement should be adjusted very well according to the level of the student. A target level that is very difficult to reach has the possibility of decreasing the work appetite and triggering hopelessness (Sak, 2012, p. 344). A target level that is very easy to reach will distract the student from realizing his potential, as stated before. It is very important for individual development that the determined success standard is feasible and worth the effort, and the potential of each student must be correctly identified in order to achieve this setting.

For this reason, determining students' perceptions of the competitive environment and their level of difficulties will give us information about the relationship between the current educational environment and their ability levels. In this way, educational programs can be evaluated and developed in terms of content level according to the competition and strain requirements of the students. Therefore, the Competition Skills and Challenge Level Scale (CCS) is a tool intended to be functional in evaluating gifted students' in-class competition and challenge levels.

Purpose

In this study, it is aimed to carry out the validity and reliability study of the Competition Skills and Challenge Level Scale (CCS), which was developed for gifted students.

Method

Research Model

This research was designed as a survey study. Due to survey the validity and reliability calculations of the Competition Skills and Challenge Level Scale (CCS) were made in this study. In the first stage of the study, the literature review was made on the concept of competition and the concept of competition in the education of gifted students. Scale items were created by the researcher within the framework of scientific theories and research in this context. Then 41-item scale trial form was obtained by taking expert opinions. The trial form was applied to the research participants in order to make validity and reliability studies.

Participants

The criterion sampling method, one of the purposeful sampling methods, was used to determine the study group of the study. Criterion sampling can be formed from people, events, objects or situations with certain qualities. In the study, in the selection of the study group where the application will be carried out, the diagnosis of students as gifted was taken as a criterion.

A total of 375 students, 125 boys and 250 girls, studying at primary school level in Konya and Ankara provinces participated in the study. According to Comrey and Lee (1992), the measures of adequacy of a sample on which factor analysis will be made are roughly; "Very bad = 50", "bad = 100", "medium = 200", "good = 300", "very good = 500", "excellent = 1000 and more". Accordingly, since the sample size in this study is 330, it has a rating between "good / very good" in order to perform factor analysis on it. The approval of each participant was received. The demographic distribution of the students in the study group is shown below.

Table 1

The Distribution of the Students in the Study Group by Some Characteristics

Samples		f	%
Gender	Female	250	66,7
	Male	125	33,3
Grade level	3. grade	180	48
	4. grade	195	52
Total		375	100

Scale Development Process

The work and operations performed during the scale development process can be summarized as follows:

Establishing an Item Pool: Firstly, studies conducted in the literature especially about competition and gifted students reviewed to create an item pool for the scale (Renzulli, 1999; Peterson and Colangelo, 1995; Reis and Mccoach, 2000; Siegle and Schuler, 2000; Renzulli and Park, 2002; Udvari and Schneider, 2010; Sak, 2012; Leana-Taşcılar, Kanlı, 2014; Rizzoli and Reis, 2014; Yılmaz and Tortop, 2018) were examined. Secondly, a group of students (15 people) working in pre-school education institutions were interviewed and their opinions were taken about what kind of educational practices they do within the framework of responsibility education for children. By combining the information obtained from both sources, a list of 48 items was created regarding the educational practices of students in preschool education institutions. Against the items in the list, to get the teacher evaluation regarding the frequency of the stated educational application (1) "Never", (2) "Rarely", (3) "Sometimes", (4) "Most of the time", (5) "Always" options are placed.

Expert Validity: The 48-item pool created was first examined by three pedagogists in terms of purpose and scope, and 12 items that were thought not to be directly related to the issue of competition and challenge in gifted education were removed from the list. The remaining 36-item list was then examined by two linguistics experts in terms of expression, spelling and spelling rules. Necessary corrections were made in line with the recommendations. Thus, the draft scale, which includes the directive with 36 items and named "Competition Skills and Challenge Level Scale (CCS)" due to its content, has been made ready for implementation.

Data Collection: The duplicated draft scale form was collected by the researcher after being applied to the students in the previously determined study group with the necessary permissions from the Provincial Directorate of National Education.

Analyzing the Data: The trial form of the measurement tool, which is arranged according to expert opinions and pre-application results, determines the construct validity of the scale. Therefore it was applied to the sample group to determine its sub-dimensions (explanatory factor analysis) and to determine the level of reliability (Zeller, 1988). The reliability of the scale was calculated by two methods, namely Cronbach Alpha Coefficient and Test-Retest Method (Tavşancıl, 2002). The data collected at the end of the application was analyzed with the SPSS 23 package program. In the analysis; Descriptive and procedural statistical techniques that should be done in scale development studies were used. Within the scope of descriptive analysis; arithmetic mean, standard deviation and percentage values for each question were examined. With the procedural analysis, the reliability level of the measuring tool, factor analysis to determine the sub-dimensions, correlation analysis to determine the relationship between the factors was included.

Findings

The findings obtained as a result of the validity and reliability analysis of the scale are summarized below:

Validity Results

Kaiser-Mayer-Olkin (KMO) and Bartlett's Test of Sphericity (BTS) tests were used to measure the adequacy of the sample used in the study. In KMO statistics; "Between 0.50 and 0.70 = moderate", "Between 0.71 and 0.80 = good", "between 0.81 and 0.90 = very good" and "0.91 and above = excellent" It is called (Field, 2002). The KMO test result of this developed measurement tool was determined to be 0.95. This value corresponds to the "excellent" classification. Thus, it can be said that the factor analysis made on these data gives quite reliable results. The BTS test is highly significant (99% confidence interval) for the data obtained in this study (B = 969.45; $p < 0.01$). From here, it can be said that these data are suitable for factor analysis.

Results of the Non-Rotated Principal Components Analysis

After determining the appropriateness of the data obtained from the sample, the non-rotated principal component

analysis was applied to determine the factor structure of the scale. The results of the applied non-rotated principal components analysis showed that the measuring tool can be built on 2 factors. When the total explained variance and common variance tables were examined, it was determined that the measuring tool was collected under two factors with an eigenvalue greater than 2.00. Common variance is the sum of squares of factor load values in a variable (Büyüköztürk, 2002, 2005).

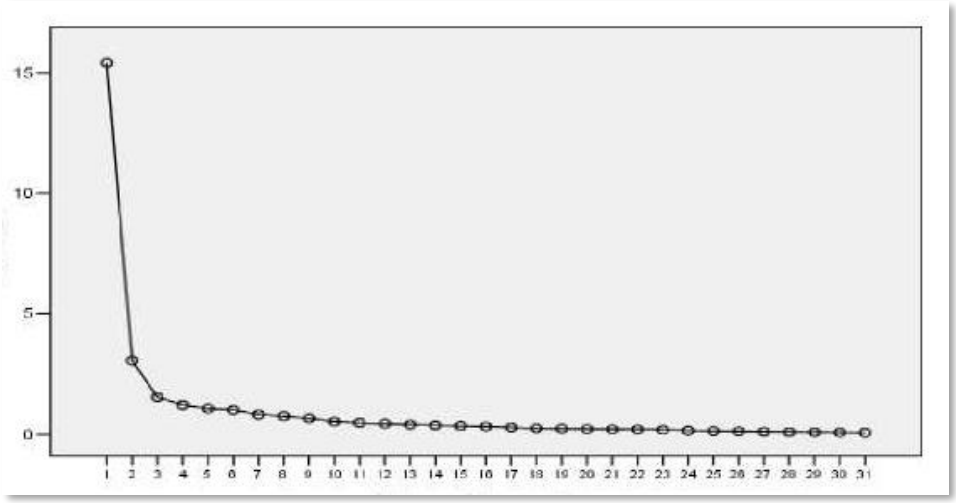

Figure 1

Scree Plot of Competition Perception and Strain Level Scale

The Scree Plot Graph was examined in the analysis of the items of the measurement tool because of the very few items loaded on some factors. As seen in Figure 1, the first sudden change in the Scree Plot curve occurred in the second factor. According to this curve, it was decided that the scale could probably consist of 2 factors (Field, 2002).As in this study, the Scree Plot curve can give very reliable results, especially in studies with more than 200 samples. However, although the Scree Plot curve is very useful, it is not always correct to base factor selections on this criterion alone (Field, 2002). For this, in order to make the factor selection, principal component analysis rotated with Maximum Likelihood and Kaiser Normalization and Varimax methods was performed.

Results of the Rotated Principal Components Analysis

Principal component analysis; It deals with how a private variable contributes to the component and the creation of existing components within the data (Field, 2002). In varimax rotation, items with a factor load of 0.30 are generally considered as the sub-cut of factor loads (Comrey and Lee, 1992). In this study, items with a factor load of 0.40 were processed as the sub-cut of factor loads in varimax rotation, and items with a factor load of less than 0.40 were ignored. It was determined that the common variances of the two factors defined regarding the items ranged from 10.74 to 51.32. According to these findings, it was determined that the two factors emerging at the end of the analysis together explained about 62% of the total variance in the items and the variance related to the scale. This value is at an acceptable level since it is above 40% according to Kline (Cited in: Ceyhan and Namlu, 2000). According to the rotated components matrix table data, it was determined that some items in the scale loaded on more than one factor or their factor loadings were low. These items were removed from the measurement tool in order to limit the number of factors and increase the reliability level. At the end of these regulations, the total number of items was determined as 28. Depending on these processes, it is accepted that the scale consists of two sub-factors.

Table 2

Latest Factor Loads of the Items in the Competition Skills and Challenge Level Scale According to the Rotated Principal Component Analysis Method

No	Items	Factor Loads			
1	I like competition in school because it gives me a chance to test my skills.	.736			
2	I think competition environment in my classroom is perfect	.731			
3	I have very tough competitors in my class as talented and successful as I do.	.713			
4	I always want to get a hundred points in exams because I try to learn all the information in the course.	.664			
5	I always want to get a hundred points in exams because I try to be the best in the class.	.654			
6	I think that my current school achievement is at the highest level of my talent potential.	.635			
7	I don't care about my class success. It doesn't matter to me what rank I am in the class.	.613			
8	Winning a competition makes me feel like a strong person.	.594			
9	I consider my potential rivals my enemy for first place.	.587			
10	I do not think there is anyone in the school to be my rival.	.571			
11	If I can not find a competitor to compete, I will race myself.	.554			
12	Being successful in the competition makes me think that I am superior to others.	.533			
13	I am jealous of my school competitors when they receive an award or success	.530			
14	Even in a friendly gaming environment, I take competition seriously and become ambitious.	.457			
15	The world is a world of war and struggle. I always have to be the best to be successful.		.756		
16	I strive for the failure of my competitors to win in the competition for success.		.721		
17	In the competition I am focusing only on my own success.		.713		
18	When I lose in competition, I get sick.		.623		
19	Losing in competition only hurts me a little.		.511		
20	I find it useless to compete with my friends for success.		.491		
21	When the competition heats up, I immediately accept to lose and withdraw from the race.			.845	
22	I believe I can be both fiercely competitive and a good friend at school.			.801	
23	I admire and respect competitive and challenging people.			.752	
24	Failing to reach an achievement goal I set makes me even more ambitious.			.617	
25	When I fail to reach a goal of success I have set, I fall into despair and leave everything.				.663
26	I find the competitive environment sweet and fun				.635
27	I wish I could be a competitive person but I don't have the strength				.591
28	It is not suitable for me to be hardworking and pushing yourself to compete.				.543

The factor loads obtained at the end of the Varimax rotation are roughly; "Between 0.32-0.44 = bad", "Between 0.45-0.54 = normal, between 0.55-0.62 = good", "Between 0.63-0.70 = very good" and "0.70 and above = excellent" (Comrey and Lee, 1992). According to Table 2, the factor loadings obtained at the end of the varimax rotation were found to be between "0.70 and above = excellent" for 20 items, between 0.63-0.70 = very good for 3 items, and It was determined that "between 0.55-0.62 = good" and "between 0.45-0.54 = normal" within 3 items.

Naming the Factors

The items in Factor 1 (1,2,3,4,5,6,7,8,9,10,12,13,14,16,17,29) are used to evaluate students' perceptions of class-wide competition environment and competitive skills. Therefore the first factor, which includes these 16 items, was named *"Competition Perceptions"*. The items in Factor 2 (18,19,20,22,23,24,25,26,27,28,30,31) is directly related to the level of challenge in classroom. Research about competition indicates that: there is strong correlation between challenge level of individuals and their competitive attitudes (Ryckman, Hammer, Kaczor, and Gold, 1990). In this context, the second factor is named *"Challenge Level Perceptions"*.

Table 3

Variance Results Regarding the Sub-Dimensions of the Competition Skills and Challenge Level Scale (CCS)

Factors	Item Numbers	Variance Ratio
1- Competition Skills	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15,	51,32
2- Challenge Level	23, 24, 25, 26, 28, 30, 31	10,74
Total	**28**	**62,08**

When Table 3 is examined, it is seen that the two sub-factors that make up the Competition Skills and Challenge Level Scale explain 62.08% of the variance in all scales scores. Factor 1, which constitutes the *"Competition Perceptions"* has the highest number of items and the highest variance value among these two factors, explains 51.32% of the total variance. Factor 2, which constitutes the *"Challenge Level Perceptions"* dimension of the scale, consists of 7 items. The 10.74% variance explained by this factor corresponds to approximately 17% of the total variance value.

Item Discrimination of CCS: The coefficient values (r value) determined as the correlation coefficient within the framework of the Classical Test Theory (CTT) are considered as the discrimination value and can take values between -1 and 1. If the r values are low or higher than .05 significance level, it should be removed from the scale with the assessment that it is not distinctive (DeVellis, 2003; Pallant, 2007). The item-total correlation values calculated for CCS are shown in Table 4:

Table 4

Adjusted Item Total Correlation Values for CCS Items

H-TU Factor		BU Factor		SVU Factor		GbU Factor	
Md.	**r**	**Md.**	**r**	**Md.**	**r**	**Md.**	**r**
1	.620*	**15**	.378*	**21**	.236*	**25**	.614*
2	.490*	**16**	.396*	**22**	.191*	**26**	.618*
3	.496*	**17**	.455*	**23**	.195*	**27**	.351*
4	.520*	**18**	.471*	**24**	.373*	**28**	.501*
5	.507*	**19**	.542*				
6	.471*	**20**	.497*				
7	.525*						
8	.484*						
9	.447*						
10	.424*						
11	.536*						
12	.439*						
13	.543*						
14	.349*						

*: p<,001; N: 193

In Table 3, the item-total correlation values of the items according to the factors in the CCS were between .349 and .620 for the H-TU factor; .378 to .497 for BU factor, .191 to .373 for SVU factor; For the GbU factor, it is seen that the value is between .351 and .618. Each of these correlation values shows that the relationship is significant and positive (p<,001). Accordingly, it can be said that the items in the CCS serve the general purpose of the scale (Pallant, 2007). According to the results of the construct validity and discrimination analyzes based on the data collected with the CCS, it can be said that it is appropriate to qualify the scale as a valid scale.

Descriptive Statistics Results for Factors

In Table 5, the arithmetic mean and variance values of the items collected under two factors are given:

Table 5

Descriptive Statistics Results of the Sub-Factors of the Perception of CCS

	N	$\bar{X}$	Variance
Factor 1	375	3,56	0,77
Factor 2		4,07	0,73

When Table 5 is examined, it has been observed that the mean score of the items in Factor 1, which measures the competition perceptions of gifted students, is lower than the mean of the items in Factor 2, which measures the level

of strain. Based on these findings; it can be said that the perception levels of the gifted students towards the competitive environment and competition abilities of the classroom are more positive than their perceptions of the challenge levels in the competition.

In Table 6, the number of items loaded on two sub-factors and the Cronbach Alpha reliability coefficients of these factors is given.

Table 6

Descriptive Statistics Results on the Sub-Dimensions of the CCS

Factors	Number of Items	InternalConsistency Coefficient (a)
Factor 1	21	0,96
Factor 2	7	0,72
Total	28	0,94

As a result of the reliability studies, it was determined that the Cronbach Alpha internal consistency coefficient of the whole scale was 0.94. In addition, the internal consistency coefficients for each sub-dimension of the measurement tool were also examined. At the end of these analyzes the Cronbach Alpha reliability coefficients of the sub-factors were; It was calculated as 0.96 for Factor1 and 0.72 for Factor 2.

According to these results, it can be said that the reliability level of the data obtained from the scale is quite sufficient (Ozdamar, 2004). In accordance with the test-retest method, the scale was reapplied to 265 of the 375 students in the sample 3 weeks later, and the Cronbach Alpha internal consistency coefficient was found to be 0.94. This data is important in terms of showing the consistency of the scale over time.

Conclusion

In this study, it is aimed to develop a " Competition Skills and Challenge Level Scale" to be used in the education of gifted children in order to determine how competitive they are in the classroom and to what extent the classroom atmosphere forces them to develop their potential. The scale draft prepared for this purpose was applied to 375 gifted students. While developing the scale, the literature on the subject was reviewed as much as possible and seen that existing very limited studies on competition among gifted individuals (Peterson and Colangelo, 1995; Reis and Mccoach, 2000; Siegle and Schuler, 2000; Renzulli and Park, 2002; Udvari and Schneider, 2010; Sak, 2012; Leana-Taşcılar, Kanlı, 2014; Rizzoli and Reis, 2014; Yılmaz and Tortop, 2018).

A draft structure consisting of 31 items was created in the light of expert opinions of the measurement tool to be developed. Explanatory factor analysis was applied for the construct validity of the scale. As a result of the explanatory factor analysis, it was determined that the factor load weights of 3 items were overlapping and low, and it was decided to exclude items 11, 21 and 29 from the scale. As a result of the varimax analysis, it was determined that the scale consisted of two factors. As indicated in Table 2, these factors were named as “perception of competition” and “level of difficulty”, respectively. These two factors explain 62.06% of the variance in all scale scores. The internal consistency reliability (Cronbach Alpha) of the entire scale was calculated as 0.95.

In the light of all the analysis results, it can be said that this scale, which aims to evaluate the perceptions of gifted students' level of competition and striving, has reliable results in terms of validity and reliability tests. As such, the scale can be used to evaluate competitive environments in gifted individuals. Thus, measures can be taken to ensure that gifted students do not fail due to the educational atmosphere below their potential.

Competition plays an important role in the lives of gifted adolescents. Some research suggests that schools encourage competition simply by the nature of assigning grades and that students learn very early about the winners and losers (Rizza and Reis, 2001). For gifted and talented students, one of the most important aim for educators and researchers is handling underachievement situations of these students. Competitiveness is an important factor for giving them a chance to test their abilities and motivates them to bring out the best in their selves. Also, for a lifespan success, education must challenge students’ potentials strongly because; herewith they will be acquired study discipline. If they educate with a low-level curriculum than their potential and not existing competition environment in the classroom, this can because of their lifespan failure. So as; we can say that measuring and assessing competition skills and challenging levels of their potential is very important in gifted and talented education.

At the study, an evidence-based scale was provided by researchers to evaluate competition skills and challenging levels of gifted and talented students. Results indicate that CCS is a valid and reliable scale for measuring competition and challenging perceptions of gifted students.

Biodata of Author

Assist. Professor Abdullah Eker completed his undergraduate education at Istanbul University, Teaching Program for the Gifted in 2009. She completed her master's degree in the field of gifted education at Anadolu University. He completed his doctorate in Konya Necmettin Erbakan University, Department of Special Education, in 2020 with the thesis named "The Effectiveness of Training Programme for Gifted and Talented Students' Elementary Teachers in order to Enhance their Competences". She is still working as a lecturer at Kilis 7 Aralık University, Faculty of Education, Department of Special Education. E-mail: aeker38@gmail.com ORCID: 0000-0002-6409-7732

References

Baum, S. M., Renzulli, J. S., Ve Hébert, T. P. (1995). Reversing underachievement: creative productivity as a systematic intervention. *Gifted Child Quarterly, 39*(4), 224-235.

Büyüköztürk, Ş. (2002). Faktör analizi: Temel kavramlar ve ölçek geliştirmede kullanımı. *Eğitim Yönetimi, 32*, 470-483.

Büyüköztürk, Ş. (2005). *Sosyal Bilimler İçin Veri Analizi El Kitabı.* 5. Baskı, Ankara: PegemA Yayıncılık.

Chan, D., W., (2000). Exploring Identification Procedures of Gifted Students by Teacher Ratings: Parent Ratings and Students Self-Reports in Hong Kong. *High Ability Studies, 11* (1), 69-82.

Ceyhan, E., Namlu, A. G. (2000). Bilgisayar kaygı ölçeği (BKÖ): Geçerlik ve güvenirlik çalışması. *Anadolu Üniversitesi Eğitim Fakültesi Dergisi, 10* (2), 77-93.

Comrey, A. L., Lee, H. B. (1992). *A First Course in Factor Analysis. Second Edition*. New Jersey: Lawrence Erlbaum Associates, Publishers, Hillsdale.

Field, A. (2002). *Discovering Statistics Using SPSS*. London: Sage Publications Ltd.

Feldhusen, J. F. (2005). *Conceptions of giftedness*, in Giftedness, talent, expertise, and creative achievement, R. J. Sternberg & J. E. Davidson (Eds.), (pp. 64–79). New York: Cambridge University Press.

Ford, D. Y. (2003). Two other wrongs don't make a right: Sacrificing the needs of diverse students does not solve gifted education's unresolved problems. *Journal for the Education of the Gifted*, *26*, 283-291.

Kazdin, AE. (2000). *"Motivation: an overview"*. *Encyclopedia of Psychology*. American Psychological Association. ISBN 978-1-55798-187-5.

Leana-Taşcılar, M. Z., Kanlı, E. (2014). Investigation Of perfectionism and self-esteem scores of gifted and average students. Ankara University, *Journal of Faculty of Educational Sciences, 47*(2), 1-20.

Little, R. J. A., Rubin D. R. (1987). *Statistical Analysis with Missing Data.* New York: John Wiley & Sons.

Patton, M.Q. (1980). *Qualitative Evaluation Methods.* United Kingdom: Beverly Hills, Sage Publications.

Peterson, J., Colangelo, N. (1995). Gifted achievers and underachievers: a comparison of patterns found in school records. *Journal of Counseling and Development, 74*(4), 399-407.

Reis, S. M., McCoach, D. B. (2000). The underachievement of gifted students: What do we know and where do we go? *Gifted Child Quarterly, 44*(3), 152–170. https://doi.org/10.1177/001698620004400302

Renzulli, J. S. (1986). The three-ring conception of giftedness: A developmental model for creative productivity. In R. J. Sternberg & J. E. Davidson (Eds.), *Conceptions ofgiftedness* (pp. 53–92). New York, NY: Cambridge University.

Renzulli, J. S., Reis, S. M. (1994). Research related to the schoolwide enrichment model. *Gifted Child Quarterly*, *38*(1), 2–14. CrossRefGoogle Scholar

Renzulli, J. S. (1999). What is this thing called giftedness, and how do we develop it? A twenty five year perspective. *Journal for the Education of the Gifted*, *23*(1), 3-54.

Renzulli, J. S., Park, S. (2002). *Giftedness and high school dropouts: personal, family, and school-related factors,* University of Connecticut, The National Research Center on The Gifted and Talented Publications.

Riley, T. L. (2011). *Teaching gifted students in the inclusive classroom*. The practical Strategies in Gifted Education. Texas: Prufrock Press.

Rimm, S. (2002). *Peer pressure and the social acceptance of gifted students*. In M. Niehart, S. M. Reis, N. M. Robinson, S. M. Moon (Eds.) The social and emotional development of gifted children (13-18). Washington, D.C.: Prufrock Press.

Rizza, M., Reis, S. (2001). Comparing and Contrasting: Stories of Competition. *Gifted Child Quarterly, 45*. 54-62. 10.1177/001698620104500108.

Ryckman, R. M., Thornton, B., & Butler, J. C. (1994). Personality correlates of the Hypercompetitive Attitude Scale: Validity tests of Horney's theory of neurosis. *Journal of Personality Assessment, 62*(1), 84–94. https://doi.org/10.1207/s15327752jpa6201_8

Sak, U. (2012). *Üstün Zekalılar Özellikleri Tanılamaları Eğitimleri.* Ankara: Maya Akademi Publications.

Siegle, D., Schuler, P. A. (2000). Perfectionism differences in gifted middle school students. *Roeper Review, 23*(1), 39-44.

Siegle, D. (2000). Parenting achievement oriented children. *Parenting For High Potential, 6,* 29–30.

Tavşancıl, E. (2002). *Tutumların Ölçülmesi ve SPSS ile Veri Analizi.* Ankara: Nobel Yayınları.

Udvari, S. J. & Schneider, B. H. (2000). Competition and the adjustment of gifted children: a matter of motivation. *Roeper Review, 22*(4), 212-216.

Yılmaz, S., Tortop, H.S. (2018) The Underachievement of Gifted Students, *Journal of Gifted Education and Creativity, 5*(2), 1-9

Zeller, R. A. (1988). *Validity. Education Research, Methodology, and Measurement an International Handbook* (Ed: Keeves, J.P.). 1th Edition, Oxford: Pergamon Press PLC, Headington Hill.

Appendix 1

Competition Skills and Challenge Level Scale

Competition Skills and Challenge Level Scale

1	2	3	4	5
Never	Rarely	Sometimes	Most of the time	Always

No	Items	1	2	3	4	5
1	I like competition in school because it gives me a chance to test my skills.					
2	I think competition environment in my classroom is perfect					
3	I have very tough competitors in my class as talented and successful as I do.					
4	I always want to get a hundred points in exams because I try to learn all the information in the course.					
5	I always want to get a hundred points in exams because I try to be the best in the class.					
6	I think that my current school achievement is at the highest level of my talent potential.					
7	I don't care about my class success. It doesn't matter to me what rank I am in the class.					
8	Winning a competition makes me feel like a strong person.					
9	I consider my potential rivals my enemy for first place.					
10	I do not think there is anyone in the school to be my rival.					
11	If I can not find a competitor to compete, I will race myself.					
12	Being successful in the competition makes me think that I am superior to others.					
13	I am jealous of my school competitors when they receive an award or success					
14	Even in a friendly gaming environment, I take competition seriously and become ambitious.					
15	The world is a world of war and struggle. I always have to be the best to be successful.					
16	I strive for the failure of my competitors to win in the competition for success.					
17	In the competition I am focusing only on my own success.					
18	When I lose in competition, I get sick.					
19	Losing in competition only hurts me a little.					
20	I find it useless to compete with my friends for success.					
21	When the competition heats up, I immediately accept to lose and withdraw from the race.					
22	I believe I can be both fiercely competitive and a good friend at school.					
23	I admire and respect competitive and challenging people.					
24	Failing to reach an achievement goal I set makes me even more ambitious.					
25	When I fail to reach a goal of success I have set, I fall into despair and leave everything.					
26	I find the competitive environment sweet and fun					
27	I wish I could be a competitive person but I don't have the strength					
28	It is not suitable for me to be hardworking and pushing yourself to compete.					

Thanks