Gifted and Talented International

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/ugti20

Metacognitive awareness as a predictor of social emotional learning skills in gifted and talented students

Zeynep Yazgı Yanık & Nüket Afat

To cite this article: Zeynep Yazgı Yanık & Nüket Afat (2022): Metacognitive awareness as a predictor of social emotional learning skills in gifted and talented students, Gifted and Talented International, DOI: 10.1080/15332276.2022.2053316

To link to this article: https://doi.org/10.1080/15332276.2022.2053316

Published online: 23 Mar 2022.

GIFTED AND TALENTED INTERNATIONAL
https://doi.org/10.1080/15332276.2022.2053316

Routledge
Taylor & Francis Group

Metacognitive awareness as a predictor of social emotional learning skills in gifted and talented students

Zeynep Yazgı Yanık [a] and Nüket Afat [a,b]

[a]Department of Special Education, Hacettepe University, Ankara, Turkey; [b]Gifted Education Research and Application Center, Istanbul Sabahattin Zaim University, Istanbul, Turkey

ABSTRACT

The study aims to determine the relationship between metacognitive awareness and social emotional learning skills among gifted and talented students and to determine the effect of metacognitive awareness on social emotional learning skills in line with the relationship detected. It was also aimed to determine whether these concepts differ according to demographic variables. The research design is correlational research. The population consisted of 6th, 7th and 8th grade gifted and talented students in Istanbul, Turkey. The sample group consisted of 367 gifted and talented secondary school students obtained via a purposive sampling method. The Metacognitive Awareness Scale, the Social Emotional Learning Skills Scale, and a personal information form were used for the data collection purposes. Results show that there is a high level, significant positive relationship between metacognitive awareness and social emotional learning skills. In addition, metacognitive awareness significantly predicts social emotional learning skills. Several factors including spending little time on screen, having a mother with a high education level, and high perception of school success resulted in a difference in metacognitive awareness and social emotional learning skills for gifted and talented students. Significant implications for policy, practice, and research are discussed.

KEYWORDS

Gifted and talented; metacognitive awareness; social emotional learning; mother's education level; screen time

Introduction

Gifted people make many great contributions to society in many areas. For this reason, gifted individuals are important in the future of a country and the world, in general (Davaslıgil & Leana, 2004). In 1991, the Columbus Group defined giftedness as follows: "Giftedness is an asynchronous development in which advanced cognitive abilities and heightened intensity combine. This asynchrony increases with higher intellectual capacity." (as cited in Morelock, 1992, p. 14). The definition of giftedness has been developed over time, including the social and emotional development of the gifted. With the emergence of the concept of emotional intelligence in the early 1990s, it has been suggested that the traditional understanding of intelligence is limited and should be expanded to include not only cognitive abilities but also the experience, expression, and regulation of emotions (Zeidner & Matthews, 2017). Vygotsky explained that emotional and cognitive development are related (Silverman, 1997).

Interest in social emotional learning (SEL) arose with Goleman's book *Emotional Intelligence* in the mid-1990s (Zins & Elias, 2006). Emotional intelligence has emerged as a productive combination of cognitive and emotional systems. Individuals with high emotional intelligence can understand emotions, manage emotions, allow emotions to facilitate their thoughts, and can understand the emotions of those around them more accurately and richly (Mayer et al., 2001). Developing emotional intelligence is related to developing SEL skills (Zeidner & Matthews, 2017). SEL is the process through which individuals acquire and apply the knowledge, skills, and attitudes to manage emotions, develop healthy identities, achieve goals, empathize, establish and maintain relationships, and make responsible and caring decisions (CASEL, 2020). SEL includes social, emotional, and academic development of an individual in both school life and also outside of school (Pasi, 2001). SEL may provide awareness and respect for self and others, self-control, and interpersonal

CONTACT Zeynep Yazgı Yanık zeynepyazgi@hacettepe.edu.tr Department of Special Education, Hacettepe University, Ankara, 06532, Turkey

relationships, and it can also help a person to plan goals and problem solve better (Burke, 2002). Gifted people have certain traits such as excessive knowledge about emotions, extraordinary sensitivity to the emotions of others, high self-awareness, and extraordinary emotional depth. Sometimes, these traits of the gifted can cause problems. For example, others might view the gifted as arrogant or a perfectionist due to their evaluative approach toward themselves and others, resulting in problems (Clark, 2015). It is important to foster emotional intelligence in coping with the problems arising from a person's giftedness (Chan, 2003).

It is thought that the emotional process, in which emotional and cognitive domains are interconnected, guides cognitive skills to develop (Ames & Archer, 1988). The ability to understand and evaluate one's thought and emotion processes is a metacognitive skill. Metacognitive awareness (MA) is being aware of emotion and cognition (Karakelle & Saraç, 2010). MA is the knowledge of individuals about their cognitive processes and the outcomes of these processes (Flavell, 1972). It covers all processes related to cognition (Papleontiou-Louca, 2003). Metacognitive skills develop earlier in gifted students compared to non-gifted students. (Schraw & Graham, 1997). In addition, it was found that gifted students show more MA than non-gifted children (Sarıcam & Ogurlu, 2015; Snyder et al., 2011). By examining the concept of metacognition in gifted children and adolescents, we can better understand how they think and solve problems (Barfurth et al., 2009).

Studies have examined metacognitive skills and SEL skills with different variables such as MA and math anxiety in gifted students (Sarıcam & Ogurlu, 2015), gifted students' epistemological beliefs, self-efficacy beliefs and use of metacognition (Ucar, 2018), differential metacognitive functioning and MA (Sastre-Riba, 2011), social interaction and metacognitive development (Moss, 1990), metacognition and problem solving (Swanson, 1992). Other studies looked at SEL needs of gifted students (Phelan, 2018), SEL and perceived social support in gifted students (Ogurlu et al., 2018), SEL, self-esteem, and self-perception of gifted kindergarten students (Papadopoulos, 2020). According to Ellis (1991) cognition, emotion, and behavior inevitably include and interact with each other. Also, it is known that emotions and metacognition are related concepts (Efklides, 2006; Pessoa, 2009). Considering this relationship, we believe that these concepts should be studied and illuminated together. In addition, social emotional and cognitive skills are the skills considered necessary to understand gifted individuals better. Therefore, in our study, we looked at the relationship between SEL skills and MA and the effect of MA on SEL skills.

Along with the changing global trends, the education level of the parents, technological developments and the individual's self-perception have gained importance (OECD, 2014). Also, these concepts are important parameters of MA and SEL skills. However, it is unknown whether or not these multidimensional concepts make a difference in the gifted. Many researchers have investigated mother's education level (Gürpınar, 2006; Renzulli & Park, 2000; Tekin & Taşğin, 2009), perception of school success (Gülbahçe et al., 2016; Litster & Roberts, 2010; Vallerand et al., 1994), and extracurricular screen time (Walsh et al., 2018) and it has been observed that these variables make a difference in gifteds. The relationships of SEL skills and MA with the mother's education level, extracurricular screen time, and perception of school success are examined in this study. We hope the study is useful for future studies on SEL skills and/or MA; Furthermore, this study is helpful in understanding the gifted and in providing these students with a more appropriate education so that they become more productive, active, and ultimately happier.

Purpose of the study

The purpose of this study is to determine the relationship between MA and SEL skills among gifted students and to determine the effect of MA on SEL skills in line with the relationship detected. The sub purpose of this study seeks an answer to the question: "Is there a significant difference between the MA and SEL skills of gifted students and the mother's education level, extracurricular screen time, and perception of school success?"

Method

Research design

In accordance with the research goals, the relational (correlational) research method, which is one of the quantitative research models was, used to examine the relationship between MA and SEL skills. Correlational research describes an existing relationship between variables. The other purpose of this research method is prediction (Fraenkel et al., 1993).

Sample

The sample of the research was determined by the purposive sampling method and consists of 367 secondary school gifted students (6th, 7th and 8th grade) who are continuing their education at Science-Art Center (SAC) and have been tested for individual intelligence. Fraenkel et al. (1993, p. 107) stated that "a purposive sample consists of individuals who have special qualifications of some sort or are deemed representative on the basis of prior evidence." Purposeful sampling criterion is that the students first have a diagnosis of giftedness. Students were selected from the 6th, 7th and 8th grade levels. In forming the sample, attention was paid to ensure that the sample was sufficient to represent the population and that the gender was equally distributed. The Science-Art Center is an educational institution which provides support education to students who attend formal education institutions and are recognized as talented in the visual arts, music, and general mental ability fields to use their capacities at the highest level (Ministry of National Education, 2018).

Table 1. Sample characteristics

	Variables	N	%
Gender	Male	223	61.1%
	Female	142	38.9%
Grade	6^{th}	232	63,2%
	7^{th}	99	27%
	8^{th}	36	9,8%
Mother's education level	Primary School	25	7%
	Secondary School	27	7.6%
	High School	100	28.1%
	University	166	46.6%
	Master/PhD	38	10.7%
Screen time	<1 hour	99	27.3%
	1–2 hours	163	44.9%
	2< hours	101	27.8%
Perception of school success	Low	13	3.6%
	Medium	63	17.5%
	High	283	78.8%

As given in Table 1, most of the gifted students who compose the sample are male, 6th grade, students whose mothers attained a university degree, with a reported high perception of school success, and between 1–2 hours of extracurricular screen time.

Instruments

As data collection tool in this research, the Metacognitive Awareness Scale Form B, the Social Emotional Learning Skills Scale, and a personal information form created by the researchers were used.

Personal information form

The personal information form prepared by the researchers contains information about the participants' extracurricular screen time, the perception of school success (Gülbahçe et al., 2016), and their mothers' education level.

Metacognitive awareness scale (MA) Form B

The Metacognitive Awareness Scale Form B (Sperling et al., 2002) was developed to measure metacognitive skills. Karakelle and Saraç (2007) perform the validity and reliability study of this scale in Turkish. The scale consists of two sub-dimensions: cognition knowledge and cognition regulation. However, since these two sub-dimensions are related, they are interpreted on a single total score. The total score is a minimum of 18 and a maximum of 90. High scores mean that MA is high, and low scores mean that MA is low (Karakelle & Saraç, 2007). In order to determine the reliability of the scale, the Cronbach alpha (α) reliability coefficient was calculated and found to be .84 which is reliable.

Social emotional learning (SEL) skills scale

The Social Emotional Learning Skills Scale was used in the assessment of SEL skills. It was developed by Kabakçı and Owen (2010). The scale has four sub-dimensions: problem solving skills, communication skills, self-esteem enhancing skills, and coping with stress skills. This scale is a Likert-type. The lowest score in total is 40, and the highest in

total is 160. It can be seen that the students with a low total score have insufficient SEL skills, and those with high total scores have sufficient SEL skills (Kabakçı & Owen, 2010). According to the data obtained from the sample, the KMO value (.89) is quite high, and the Cronbach alpha (α) reliability coefficient of the Bartlett test result (4871,251, p <.0001) was found to be .89.

Data collection

A permission letter was received from Istanbul Provincial Directorate of National Education. Permission was obtained from parents and students before data was collected. Data were collected in line with planning. The collected data were processed in accordance with ethical and scientific research principles.

Data analysis

The information obtained from the MA Scale, the SEL Skills Scale, and the personal information form were processed by using the SPSS package program. One-way variance analysis (ANOVA) was used to determine the differentiation status of the students' MA levels and SEL skills levels according to the mother's education level, extracurricular screen time, and perception of school success variables. LSD, one of the Post Hoc test types, was used to detect differences between units. The relationship between SEL skills and MA was analyzed with the Pearson product-moment correlation coefficient. Regression analysis was conducted to determine to what extent the MA level predicted SEL skills.

Results

In this section, tables examining the relationship between MA and SEL skills and the relationship between some variables are presented.

According to Table 2, the difference between the arithmetic averages of the groups was found statistically significant as a result of one-way analysis of variance (ANOVA) in order to determine whether there is a significant difference according to the mother's education level variable of the MA levels (F = 2,673; p =,032) and SEL skills (F = 3,000; p =,019) of gifteds. Based on the results of the LSD test performed to determine the groups where the differences of the units arise, the higher education level of the mother of gifted students differs in favor of the MA and SEL skills level.

Table 3 shows that the difference between the arithmetic averages of the groups was found statistically significant as a result of one-way analysis of variance (ANOVA) in order to determine whether there is a significant difference according to the extracurricular screen time variable of the MA levels (F = 6.870; p =,001) and SEL skills (F = 6,007; p =,003) of gifteds. Based on the results of the LSD test performed to determine the groups where the differences of the units arise, the lower screen time of gifted students differs in favor of the MA and SEL skills level.

Table 4 shows that the difference between the arithmetic averages of the groups was found statistically significant as a result of one-way analysis of variance (ANOVA) in order to

Table 2. ANOVA results regarding mother's education level variable of MA and SEL skills

					ANOVA RESULTS				
	Mother's Education	N	*X*	*SD*		*SS*	*df*	*MS*	*F*	*p*
Metacognitive Awareness	Primary School	25	71,80	11,22	Between Groups	1428,48	4	357,12	2,673	,032*
	Secondary School	27	68,85	11,64	Within Groups	46,896,64	351	133,60		
	High School	100	70,50	10,90	Total	48,325,13	355			
	University	166	72,75	12,17						
	Postgraduate	38	76,73	10,56						
					ANOVA RESULTS					
	Mother's Education	N	*X*	*SD*		*SS*	*df*	*MS*	*F*	*p*
SEL Skills	Primary School	25	121,24	15,88	Between Groups	3498,856	4	874,714	3,000	,019*
	Secondary School	27	118,55	22,05	Within Groups	102,351,175	351	291,599		
	High School	100	123,26	17,33	Total	105,850,031	355			
	University	166	124,34	16,23						
	Postgraduate	38	132,02	16,78						

*p <.05; **p <.01

Table 3. ANOVA results regarding extracurricular screen time variable of MA and SEL skills

					ANOVA RESULTS				
	Screen Time	N	*X*	*SD*		*SS*	*df*	*MS*	*F*	*p*
Metacognitive Awareness	<1 h	99	75,15	12,97	Between Groups	1775,121	2	887,561	6,870	,001**
	1–2 h	163	72,46	10,31	Within Groups	46,509,925	360	129,194		
	2 < h	101	69,20	11,30	Total	48,285,047	362			
					ANOVA RESULTS					
	Screen Time	N	*X*	*SD*		*SS*	*df*	*MS*	*F*	*p*
SEL Skills	<1 h	99	125,46	16,38	Between Groups	3372,511	2	1686,255	6,007	,003**
	1–2 h	163	126,60	15,86	Within Groups	101,062,547	360	280,729		
	2 < h	101	119,45	18,42	Total	104,435,058	362			

*p < .05; **p <.01

Table 4. ANOVA results regarding perception of school success variable of MA and SEL skills

						ANOVA RESULTS				
	School Success	N	*X*	*SD*		*SS*	*df*	*MS*	*F*	*p*
Metacognitive Awareness	Low	13	57,46	9,06	Between Groups	5764,137	2	2882,069	24,442	,000**
	Medium	63	66,60	10,33	Within Groups	41,977,618	356	117,915		
	High	283	74,04	11,04	Total	47,741,755	358			
						ANOVA RESULTS				
	School Success	N	*X*	*SD*		*SS*	*df*	*MS*	*F*	*p*
SEL Skills	Low	13	107,53	16,14	Between Groups	6941,431	2	3470,716	12,541	,000**
	Medium	63	118,39	17,36	Within Groups	98,523,900	356	276,753		
	High	283	126,26	16,49	Total	105,465,331	358			

*p <.05; **p <.01

determine whether there is a significant difference according to the perception of school success variable of the MA levels (F = 24,442; p =,000), SEL skills (F = 12,541; p =,000) of the gifteds. Based on the results of the LSD test performed to determine the groups where the differences of the units arise, the high perception of school success of gifted students differs in favor of the MA and SEL skills level.

Table 5 shows the Pearson product-moment correlation analysis conducted to determine the relationship between the scores obtained from the MA scale and the SEL skills scale. It was found that there was a statistically significant relationship between MA and SEL skills at the level of p <.01.

Table 5. Pearson product-moment correlation coefficient results to determine the relationships between MA and SEL skills

		Metacognitive Awareness	SEL Skills
Metacognitive Awareness	Pearson correlation	1	,623**
	p		,000**
	N	367	367
SEL Skills	Pearson correlation	,623**	1
	p	,000**	
	N	367	367

*p <.05; **p <.01

Table 6 shows that the model was significant as a result of the regression analysis conducted to determine the level of explaining the scores of the SEL scale scores of the MA scale (F = 231,586; p =,000). In this context, the power of MA to predict SEL learning skills was found significant (R^2 = , 388; p =,000). As a result, MA explains 38% of the level of SEL skills. It was concluded that MA is an important predictor of SEL skills.

Discussion and conclusion

The aim of this study was to investigate the relationship between MA and SEL skills among gifteds, and to what extent MA level predicts SEL skills level. As a result of the research, it is concluded that there is a statistically significant and high level positive relationship between these two variables and that that MA explains 38% of the level of SEL skills. In addition, having a mother with a high education level, spending little time on extracurricular screen, and high perception of school success resulted in significantly difference in metacognitive awareness and social emotional learning skills for gifteds.

Table 6. Regression analysis results on the effect of MA level on SEL skills level

Variable	B	Std. Error	Beta	t	R	R^2	F	*p*
Constant	58,038	4,403		13,181	,623	,388	231,586	,000
Metacognitive Awareness	,916	,060	,623	15,218				,000
$R = ,623$ $R^2 = ,388$								
$F = 231,586$								
$p = ,000$								

*p <.05; **p <.01

This finding shows that MA is an important predictor of SEL skills of gifted students. This result means that the studies to improve the MA of gifteds will contribute to the development of their SEL skills. This finding is consistent with the giftedness literature (Smith, 2017). When we look at the definitions of MA and SEL skills, it is seen that concepts such as management of emotions and decision making are similar. In addition to this meaningful connection, it is stated that the concept of MA is the key to SEL (Mullen, 2020).

The emotional system and the cognitive system interact in intricate and complex ways facilitating the integration of an individual person and in the bonding of person to person in a social relationship (Izard et al., 1984). O'Brien et al. (2003) state that students should gain competence in academic skills, social skills, and emotional management skills in harmony. Heydenberk and Heydenberk (2005) revealed that the effect of social skill development on metacognition was statistically significant. Metacognition is thought to be a factor that regulates emotions and increases success in communication (Efklides, 2006). In a study conducted with gifted students, it has been revealed that individual differences in metacognitive skills are reinforced through social interaction (Moss, 1990). Communication skills, which have an important place in social interaction, are one of the SEL skills. Individuals with strong social emotional sides are more successful in self-knowledge, understanding, and interpersonal relationships (Kabakçı & Owen, 2010). In addition to these, one of the SEL skills is the ability to cope with stress and problem solving skills. In studies conducted with gifted students, Swanson (1992) found that problem-solving skills are related to metacognition. Ucar (2018) found that self-efficacy is related to metacognition. Sarıcam and Ogurlu (2015) found a negative relationship between anxiety and MA. In light of this information, it is seen that the concepts of SEL and MA discussed in the research have common points and are influenced by each other. This relationship and effect have been revealed in this current study.

It was concluded that there was a significant difference according to the level of the mother's education in the results of the analysis on the MA and SEL skills of gifteds. Children whose mothers have a higher level of education tend to have higher levels of cognitive function, social emotional, and academic achievement; therefore, it is suggested that the educational level of the mother is important for children (McLoyd, 1998). The more the education level of the mother increases, the better the conscious role in raising children (Karakelle & Şentürk, 2006). It has been observed that families of gifted children spend more time with their children, play educational and other fun games, read to and with them often to improve their language skills, activities which increases the child's metacognition skills (Moon, 2004; Afat, 2013). The low educational level the mother was associated with social and cognitive problems such as a higher school dropout rate (Renzulli & Park, 2000). The education level of mothers has a positive effect on creativity in gifted students (Tekin & Taşğin, 2009). It was also found that the total and subtest scores that gifted students received on the intelligence test were significant in favor of those with a high level of mother education (Gürpınar, 2006). The common point in these studies with gifted students is the effect of the mother's education level on the child. In our study, level of mother's education was considered, and its relationship with the concepts of SEL skills and MA was revealed. The level of mother's education is a factor that has both cognitive and social effects and should be addressed.

The result of the gifted students regarding MA and SEL skills showed a significant difference according to the screen time. When the extracurricular screen time decreases, the level of MA and SEL skills increases. It has been found that children today spend less time playing outdoors than the previous generation. One of the most important reasons for this is the excessive time spent on TV or computer games (Clements, 2004). A study found three behaviors that will ensure that children get high scores in their mental abilities tests, which are as follows: at least 60 minutes of physical activity per day, 9 to 11 hours of sleep per day, and limited screen hours not exceeding two hours per day (Walsh et al., 2018). It is stated that spending too much time on the internet or TV is one of the factors that negatively affect students' learning and thinking abilities (Rimm et al., 2018). Excessive screen time also negatively affects skills such as processing information, imagination, collaboration, and sharing. This inverse relationship between screen time and cognitive skills is similar to the result encountered in this current study. With the disappearance of the culture of playing games on the street, children spend time indoors at home. This means that screens have replaced the former fun street games. When children spend a lot of time in front of the screen, their imagination gets smaller. Children who are tied to the screen have difficulties in catching social clues, their language skills are not properly developed, and they cannot communicate effectively as a result (Pedagogy Association, 2015). This information overlaps with the findings on screen time in this study.

A significant difference was found between perception of school success level and MA, SEL skills of gifted students. As the level of school success increases, the level of MA increases. Students with high awareness organize their learning processes. Hence, school success levels can be high. Positive or negative beliefs of gifted students affect their social and academic well-being. Determining the perceptions of the gifted determines the areas of interest and power for stakeholders. Gifted students have higher academic and behavioral competence scores than non-gifted students. (Litster & Roberts, 2010). In another study, it was revealed that gifted students are perceived to be more competent in school activities than non-gifted students (Vallerand et al., 1994). It has been found that gifted students who perceive their success level as high have more secure attachment and higher leadership skills (Gülbahçe et al., 2016). These results support the relationship between social skills and school success.

Limitations

Although this study was successful in showing the relationship between MA and SEL skills, there are a few limitations that researchers need to take into account when interpreting the results. First, this study was limited because of the participant pool. All students taking part in this study were located in Istanbul, Turkey. Although Istanbul has a wide variety of demographic data, a larger sample and replication of this study with a different sample would be helpful for the generalizability of our findings. Second, this study may have limitations concerning its tools. Multidimensional descriptions of MA may contain differences. The researchers used the MA scale and SEL skills scale compatible with the norms of Turkey taking into account the age group of the sample. Alternate forms that allow exploration of these variables would also be beneficial. The use of self-report questionnaires used in the study may have led to social desirability and recall biases.

Implications

Implications for researchers

Although studies on SEL are frequently encountered in the literature, it is thought that determining SEL skills and other psychological needs of gifted children and increasing the studies for intervention methods are of great importance for the development, education, and socialization of gifted children. SEL skills program content can be developed to reduce negative behaviors and increase positive behaviors of students. The effectiveness of the program can be examined by pretest and posttests and can be included in the literature. The relationship between SEL skills and MA with different variables can be investigated qualitatively. The roles of mediate variables can be examined with structural

equation modeling. SEL skills and MA variables can be examined in different special education fields. Studies with MA are generally associated with a particular subject, and if there are contradictions, this issue should be supported by research. Another study can be done about how children spend time outside school. By conducting a process study, it can be investigated how education affects MA. Developments of these variables can be followed. Longitudinal studies should be conducted because the present study was cross-sectional.

Implications for practitioners

Since school and the school environment are thought to greatly impact the development of the student's social and emotional skills, awareness can be raised about positive social behaviors by conducting classroom activities, training through guidance services. As perception of school success increases, SEL skills and MA increase. For this reason, guidance services regarding students' academic perceptions are important. Considering that the time spent on screen extracurricular the course affects SEL skills and MA negatively, it is thought that informing students and parents about this subject and recommending different activities will contribute to the child's cognitive and emotional development.

Implications for policy makers

Teachers should be given in service training on student MA and SEL skills development. Teachers should be trained in specific activities and procedures that they can do with their students to develop these skills. Education is not just limited to school. According to the lifelong learning perspective, parents' awareness should be increased for the importance of children's education and training, and their roles are important in this regard (EC (European Commission), 1995). It may be beneficial for mothers to organize short or long-term training programs and workshops according to their needs in order to benefit their children's social and cognitive skills, support their lives, and raise awareness. In addition, support groups can be organized on specific topics for mothers. An example of this is SENG (Supporting Emotional Needs of the Gifted). The SENG Model encourages the sharing of ideas by facilitating issues such as motivation, discipline, stress management, and peer relations within the families of gifted children (DeVries & Webb, 2007).

Acknowledgments

This article is derived from a master's thesis titled Metacognitive Awareness as a Predictor of Social Emotional Learning Skills in Gifted and Talented Students, written by Zeynep Yazgı Yanık, under the guidance of Assist. Prof. Dr. Nüket Afat.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

Zeynep Yazgı Yanık is a Ph.D student at the Department of Gifted Education at Hacettepe University since 2020. She received her bachelor's degree in gifted education from Istanbul University in 2017. Her minor area of study in undergraduate was guidance and psychological counseling. She completed her Master of Arts in the Department of Guidance and Psychological Counseling of Istanbul Sabahattin Zaim University. Her research interests are gifted education, social and emotional needs, metacognition, creativity, and twice-exceptionality.

Nüket Afat is an assistant professor in the Department of Special Education at Istanbul Sabahattin Zaim University and also the Director of the Application and Research Center for Special Talented Children. Her research interests include counseling and guidance, gifted education, creativity, parent education, and teacher education.

ORCID

Zeynep Yazgı Yanık http://orcid.org/0000-0002-8459-7873
Nüket Afat http://orcid.org/0000-0002-4247-025X

References

Afat, N. (2013). Çocuklarda üstün zekanın yordayıcı olarak ebeveyn tutumları [Parental attitudes as predictors of giftedness in children]. *HAYEF: Journal of Education*, *20*(1), 155–168 https://scholar.google.com/scholar?hl=tr&as_sdt=

0%2C5&q=Afat%2C+N.+%282013%29.+%C3%87ocuklarda+%C3%BCst%C3%BCn+zekan%C4%B1n+yorday%C4%B1c%C4%B1+olarak+ebeveyn+tutumlar%C4%B1+%5BParental+attitudes+as+predictors+of+giftedness+in+children%5D.+HAYEF%3A+Journal+of+Education%2C+20%281%29%2C+155%E2%80%93168.&btnG= .

Ames, C., & Archer, J. (1988). Achievement goals in the classroom: Students' learning strategies and motivation processes. *Journal of Educational Psychology*, *80*(3), 260–267. https://doi.org/10.1037/0022-0663.80.3.260

Barfurth, M. A., Ritchie, K. C., Irving, J. A., & Shore, B. M. (2009).A metacognitive portrait of gifted learners. In L. V. Shavinina (Ed.), *International handbook on giftedness* (pp. 397–417). Springer. https://doi.org/10.1007/978-1-4020-6162-2

Burke, R. W. (2002). Social and emotional education in the classroom. *Kappa Delta Pi Record*, *38*(3), 108–111. https://doi.org/10.1080/00228958.2002.10516354

CASEL (2020). *Updated SEL Definiton*. https://casel.org/what-is-sel/

Chan, D. W. (2003). Dimensions of emotional intelligence and their relationships with social coping among gifted adolescents in Hong Kong. *Journal of Youth and Adolescence*, *32*(6), 409–418. https://doi.org/10.1023/A:1025982217398

Clark, B. (2015). *Üstün zekalı olarak büyümek: Evde ve okulda çocukların potansiyellerini geliştirmek [Growing up gifted: Developing the potential of children at school and at home]* (U. Ogurlu & F. Kaya, Eds.). Nobel Yayın Dağıtım.

Clements, R. (2004). An investigation of the status of outdoor play. *Contemporary Issues in Early Childhood*, *5*(1), 68–80. https://doi.org/10.2304/ciec.2004.5.1.10

Columbus Group. (1991, July). *Unpublished transcript of the meeting of the Columbus Group*. Columbus.

Davaslıgil, Ü., & Leana, Z. M. (2004). Üstün zekalıların eğitimi projesi [Gifted education project]. In A. Kulaksızoğlu, A. E. Bilgili, & M. R. Şirin (Eds.), *Üstün yetenekli çocuklar bildiriler kitabı* (pp. 85–100). Çocuk Vakfı Yayınları.

DeVries, A., & Webb, J. T. (2007). *Gifted parent groups: The SENG Model*. Great Potential Press.

EC (European Commission) (1995). Amended proposal for a European Parliament and council decision establish a - European year of lifelong learning, commission of the European communities. Decision No: 2493/95/EC. http://data.europa.eu/eli/dec/1995/2493/oj

Efklides, A. (2006). Metacognition and affect: What can metacognitive experiences tell us about the learning process? *Educational Research Review*, *1*(1), 3–14. https://doi.org/10.1016/j.edurev.2005.11.001

Ellis, A. (1991). The revised ABC's of rational-emotive therapy (RET). *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, *9*(3), 139–172. https://doi.org/10.1007/BF01061227

Flavell, J. H. (1972). An analysis of cognitive-developmental sequences. *Genetic Psychology Monographs*, *86*(2), 279–350 https://scholar.google.com/scholar?hl=tr&as_sdt=0%2C5&q=Flavell%2C+J.+H.+%281972%29.+An+analysis+of+cognitive-developmental+sequences.+Genetic+Psychology+Monographs%2C+86%282%29%2C+279%E2%80%93350.&btnG= .

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (1993). *How to design and evaluate research in education* (8th ed.). McGraw-Hill.

Gülbahçe, A., Çetinkaya, S., & Özkurt, S. (2016). Üstün yetenekli çocukların bağlanma biçimleri ve liderlik becerileri arasındaki ilişkilerin çeşitli değişkenler açısından incelenmesi [Investigatıon of the relationship between the terms of gifted children's attachment style and leadership skills]. *Hasan Ali Yücel Eğitim Fakültesi Dergisi*, *13*(1), 73–83.

Gürpınar, N. (2006). *Bilişsel Değerlendirme Sistemi'nin (CAS) 8 yaş grubu için ön norm çalışması ve üstün zekâlı ve yetenekli öğrencilerin bilişsel değerlendirilmesi [Pre-norm study of the cognitive assessment system (CAS) for the 8-year-old group and the cognitive evaluatıon of gifted and talented students.* [Unpublished doctoral dissertation]. Istanbul Unıversıty http://nek.istanbul.edu.tr:4444/ekos/TEZ/41494.pdf .

Heydenberk, R. A., & Heydenberk, W. R. (2005). Increasing meta-cognitive competence through conflict resolution. *Education and Urban Society*, *37*(4), 431–452. https://doi.org/10.1177/0013124505277747

Izard, C. E., Kagan, J., & Zajonc, R. B. (Eds.). (1984). *Emotions, cognition, and behavior*. CUP Archive.

Kabakçı, Ö. F., & Owen, F. K. (2010). Sosyal duygusal öğrenme becerileri ölçeği geliştirme çalışması [A study of development of social emotional learning skills scale]. *Eğitim ve Bilim*, *35*(157), 153–166.

Karakelle, S., & Saraç, S. (2007). Çocuklar için üst bilişsel farkındalık ölçeği (ÜBFÖ-Ç) A ve B formları: Geçerlik ve güvenirlik çalışması [Validity and factor structure of Turkish versions of the metacognitive awareness inventory for children (Jr. MAI)- A and B forms]. *Türk Psikoloji Yazıları*, *10*(20), 87–103.

Karakelle, S., & Saraç, S. (2010). Üst biliş hakkında bir gözden geçirme: Üstbiliş çalışmaları mı yoksa üst bilişsel yaklaşım mı? [A review on metacognition: Metacognitive research or metacognitive approach?]. *Türk Psikoloji Yazıları*, *13*(26), 45–60.

Karakelle, S., & Şentürk, C. (2006). Üst bilişsel düzeyleri yüksek ve düşük öğrencilerin ebeveyn tutumlarının incelenmesi [Investigation of parenting style of the parents of students with high and low levels of metacognition]. *Psikoloji Çalışmaları*, *26* 45–56.

Litster, K., & Roberts, J. (2010). The self-concepts and perceived competencies of gifted and non-gifted students: A meta-analysis. *Journal of Research in Special Educational Needs*, *11*(2), 130–140. https://doi.org/10.1111/j.1471-3802.2010.01166.x

Mayer, J. D., Perkins, D. M., Caruso, D. R., & Salovey, P. (2001). Emotional intelligence and giftedness. *Roeper Review*, *23*(3), 131–137. https://doi.org/10.1080/02783190109554084

McLoyd, V. C. (1998). Socioeconomic disadvantage and child development. *American Psychologist*, *53*(2), 185–204. https://doi.org/10.1037/0003-066X.53.2.185

Ministry of National Education (2018). *Science and Art Centers student identification and placement guide 2018-2019*. https://orgm.meb.gov.tr/www/2018-2019-bilim-ve-sanat-merkezleri-ogrenci-tanilama-ve-yerlestirme-kilavuzu-yayimlandi/icerik/1121

Moon, S. M. (Ed.). (2004). *Social/emotional issues underachievement and counseling of gifted and talent students*. Corwin Press.

Morelock, M. J. (1992). Giftedness: The view from within. *Understanding Our Gifted*, *4*(3), 11–15.

Moss, E. (1990). Social interaction and metacognitive development in gifted preschoolers. *Gifted Child Quarterly*, *34*(1), 16–20. https://doi.org/10.1177/001698629003400104

Mullen, G. (2020, August 19). *The key to SEL? Metacognition*. Exploring the Core. https://www.exploringthecore.com/post/the-key-to-sel-metacognition

O'Brien, U. M., Weissberg, P. R., & Shriver, P. T. (2003). Educational leadership for academic, social and emotional learning. In M. J. Elias, H. Arnold, & C. S. Hussey (Eds.), *EQ + IQ= Best leadership practices for caring and succesful schools* (pp. 23–35). Corvin Press, Inc.

OECD (2014). Indicator A4: To what extent does parents' education influence participation in tertiary education?. In *Education at a glance 2014: OECD indicators*. (pp. 84–100). OECD Publishing. https://doi.org/10.1787/888933115521

Ogurlu, Ü., Sevgi-Yalin, H., & Yavuz-Birben, F. (2018). The relationship between social-emotional learning ability and perceived social support in gifted students. *Gifted Education International*, *34*(1), 76–95. https://doi.org/10.1177/0261429416657221

Papadopoulos, D. (2020). Effects of a social-emotional learning-based program on self-esteem and self-perception of gifted kindergarten students: A pilot study. *Journal for the Education of Gifted Young Scientists*, *8*(3), 1275–1290. http://dx.doi.org/10.17478/jegys.779438

Papleontiou-Louca, E. (2003). The concept and instruction of metacognition. *Teacher Development*, *7*(1), 9–30. https://doi.org/10.1080/13664530300200184

Pasi, R. J. (2001). *Higher expectations: Promoting social emotional learning and academic achievement in your school*. Teachers College Press.

Pedagogy Association (2015, March). *Çocuk ve ekran [Child and screen]*. https://pedagojidernegi.com/cocuk-ve-ekran/

Pessoa, L. (2009). Cognition and emotion. *Scholarpedia*, *4*(1), 4567. https://doi.org/10.4249/scholarpedia.4567

Phelan, D. (2018). *Social and emotional learning needs of gifted students* [Unpublished doctoral dissertation]. Walden University. https://scholarworks.waldenu.edu/dissertations/4813/

Renzulli, J. S., & Park, S. (2000). Gifted dropouts: The who and the why. *Gifted Child Quarterly*, *44*(4), 261–271. https://doi.org/10.1177/001698620004400407

Rimm, S. B., Siegle, D., & Davis, G. A. (2018). *Education of the gifted and talented* (7th ed.). Pearson.

Sarıcam, H., & Ogurlu, Ü. (2015). Metacognitive awareness and math anxiety in gifted students. *Cypriot Journal of Educational Sciences*, *10*(4), 338–348. https://doi.org/10.18844/cjes.v10i4.151

Sastre-Riba, S. (2011). Metacognitive functioning in gifted children. *Revista de Neurología*, *52*, 11–18. https://doi.org/10.33588/rn.52S01.2011021

Schraw, G., & Graham, T. (1997). Helping gifted students develop metacognitive awareness. *Roeper Review*, *20*(1), 4–8. https://doi.org/10.1080/02783199709553842

Silverman, L. K. (1997). The construct of asynchronous development. *Peabody Journal of Education*, *72*(3–4), 36–58. https://doi.org/10.1080/0161956X.1997.9681865

Smith, S. (2017). Responding to the unique social and emotional learning needs of gifted australian students. In E. Frydenberg, A. Martin, & R. Collie (Eds.), *Social and emotional learning in Australia and the Asia-Pacific* (pp.147-166). Springer.https://10.1007/978-981-10-3394-0_8

Snyder, K. E., Nietfeld, J. L., & Linnenbrink-Garcia, L. (2011). Giftedness and metacognition: A short-term longitudinal investigation of metacognitive monitoring in the classroom. *Gifted Child Quarterly*, *55*(3), 181–193. https://doi.org/10.1177/0016986211412769

Sperling, R. A., Howard, B. C., Miller, L. A., & Murphy, C. (2002). Measures of children's knowledge and regulation of cognition. *Contemporary Educational Psychology*, *27*(1), 51–79. https://doi.org/10.1006/ceps.2001.1091

Swanson, H. L. (1992). The relationship between metacognition and problem solving in gifted children. *Roeper Review*, *15*(1), 43–48. https://doi.org/10.1080/02783199209553457

Tekin, M., & Taşğin, Ö. (2009). Analysis of the creativity level of the gifted students. *Procedia Social and Behavioral Sciences*, *1*(1), 1088–1092. https://doi.org/10.1016/j.sbspro.2009.01.196

Ucar, F. M. (2018). Investigation of gifted students epistemological beliefs, self-efficacy beliefs and use of metacognition. *Journal for the Education of Gifted Young Scientists*, *6*(3), 1–10. http://dx.doi.org/10.17478/JEGYS.2018.77

Vallerand, R. J., Gagné, F., Senécal, C., & Pelletier, L. G. (1994). A comparison of the school intrinsic motivation and perceived competence of gifted and regular students. *Gifted Child Quarterly*, *38*(4), 172–175. https://doi.org/10.1177/001698629403800403

Walsh, J. J., Barnes, J. D., Cameron, J. D., Goldfield, G. S., Chaput, J.-P., Gunnell, K. E., Ledoux, A. A., Zemek, R. L., & Tremblay, M. S. (2018). Associations between 24 hour movement behaviours and global cognition in US children: A cross-sectional observational study. *Lancet Child Adolesc Health*, *2*(11), 783–791. https://doi.org/10.1016/s2352-4642(18)30278-5

Zeidner, M., & Matthews, G. (2017). Emotional intelligence in gifted students. *Gifted Education International*, *33*(2), 163–182. https://doi.org/10.1177/0261429417708879

Zins, J. E., & Elias, M. J. (2006). Social and emotional learning. In G. G. Bear & K. M. Minke (Eds.), *Children's needs III: Development, prevention, and intervention* (pp. 1–13). NASP.