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Social emotional learning skills of middle school students

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ABSTRACT

This research aimed to investigate the social-emotional learning skills of middle school students based on various variables. The study group consisted of middle school students attending public schools in a medium-sized province of Türkiye during the 2023-2024 academic year. The convenience sampling method was employed, and easily accessible sixth, seventh, and eighth-grade middle school students were included in the sample. Data was collected from a total of 500 students, comprising 289 female and 211 male students. The data collection instruments used were a Personal Information Form and the Social-Emotional Learning Scale (SELS). Descriptive statistics, independent samples t-test, and one-way analysis of variance were utilized for data analysis. The research findings indicate that students' social-emotional learning skills are generally at a high level. In the family context, it was concluded that students' self-worth increases as the daily time spent with both parents increases and as the socio-economic status rises. In the context of childhood, students who reported playing with materials such as "dolls, kitchen utensils, stethoscopes, chef's aprons, and paper-pen" in childhood were found to have higher skills enhancing their self-worth. In the academic context, students attending Imam Hatip middle schools were found to have higher problem-solving skills, while students in other middle schools exhibited higher stress coping skills. Additionally, eighth-grade students (compared to other grade levels) were found to have higher scores in communication, stress coping, and general social-emotional learning skills. Finally, students with high academic achievement were also found to have similarly high communication, problem-solving, and general social-emotional learning skills.

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Introduction

Individuals undergo a continuous process of development throughout their lives. This process originates within the family and is subsequently shaped by environmental and cultural influences. School life facilitates a more planned and systematic developmental trajectory. This ongoing process of change and development underscores the importance of acquiring certain skills in the 21st century. According to the Partnership for 21st Century Learning Framework (P21, 2019) and the OECD's (2021) report, "Beyond Academic Learning: First Results from the Survey of Social and Emotional Skills", Social and Emotional Learning (SEL) skills are among the essential competencies to be developed. Furthermore, the OECD's (2015) "Digital Economy Outlook" report identifies the cultivation of individuals with balanced social and emotional skills as a critical need for the 21st century. In this regard, the ability to manage one's own emotions, sustain teamwork, and achieve goals has been emphasized as essential life skills. The prevailing socioeconomic climate presents challenges in adapting to contemporary innovations, professional life, and personal life. To overcome these difficulties, individuals must be well-equipped with social and emotional

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competencies (OECD, 2021). The development of social and emotional skills provides positive contributions not only to professional life but also to educational activities. Fostering these skills yields individual benefits such as effective communication and emotion management, while also leading to academic success (Murano et al., 2020).

While the outcomes of these skills are critical in educational and professional settings, their acquisition and initial development are deeply rooted in the child's primary social environment. The family is a fundamental component of childhood. The bond established with the family is critically important for a child's ability to form and maintain positive relationships, understand and manage emotions, and interact effectively with their environment. Through this connection, children learn self-confidence, become aware of their talents, and can develop lasting, positive friendships (Morris et al., 2007). Consequently, the context of family and childhood is evidently significant for the development of SEL skills. Furthermore, the middle school period, which marks the onset of adolescence, is a stage where students' social and emotional development accelerates, their skills and strengths require reinforcement, and their search for identity intensifies (Özdemir, 2016). Therefore, the investigation of SEL during this period holds particular importance.

A review of the literature indicates that SEL helps students develop positive social relationships and reduces psychological and behavioral problems (Jones et al., 2017). The beginning of adolescence, which corresponds to the middle school level within the educational system, is a critical period for social and emotional development. Fostering SEL skills during this stage can make significant contributions to students' overall growth (Özdemir, 2016). For this reason, conducting the research with middle school students is of considerable importance. Moreover, SEL is often regarded as a set of life skills, which are defined as the ability to solve problems, regulate emotions, communicate effectively, and consider alternative perspectives (UNICEF, 2015). Although various studies have explored the relationship between SEL, academic achievement, and general well-being (Akcaalan, 2016; Karamanlı-Gül, 2019), it is noted that specific variables—such as the qualitative nature of daily time spent with parents and the effects of certain childhood play materials on SEL—have not been sufficiently investigated, particularly within the middle school student population. In this context, the present study aims to conduct a detailed examination of the SEL skills of middle school students in relation to specific variables within familial, childhood, and academic contexts (e.g., time spent with parents, childhood play materials, academic achievement, school type). The findings are expected to provide significant contributions for the development of educational programs and guidance services designed to support students' social and emotional development.

Social-emotional learning

With the transformation of living conditions at socioeconomic levels, families have become increasingly involved in the workforce. This trend impacts the child-rearing process and their educational experiences. The amount of time children spend with their parents has diminished due to the effects of urbanization, contrasting with previous generations. Consequently, the family structure has shifted from an extended to a nuclear model. The emergence of nuclear families has also led to a reduction in the number of individuals with whom children interact. This has resulted in a decline in certain skills traditionally learned from peers and family members (Schaps, 2010, as cited in Kalaycı, 2023). This decrease in the transmission of learned skills, exacerbated by urbanization, has prompted education experts to pursue collaborative initiatives in this area.

The concept of social and emotional learning first emerged in 1994 at a meeting organized by the Fetzer Institute (Cherniss et al., 2006). Following this meeting, the Collaborative for Academic, Social, and Emotional Learning (CASEL) was established to guide educators on the subject, and the concept of SEL began to appear in the literature (CASEL, 2003). CASEL (2003) defines SEL as a developmental process encompassing five core competencies: (i) Self-awareness, (ii) Self-management, (iii) Social awareness, (iv) Relationship skills, and (v) Responsible decision-making. According to Kabakçı and Korkut-Owen (2010), SEL is the process through which children fully develop academically, socially, and emotionally throughout their lives, acquiring new skills by building upon their existing ones. More broadly, SEL is the process of acquiring emotional skills that enables individuals to enhance their knowledge, skills, and attitudes; find solutions to problems; manage the social and emotional aspects of life; achieve self-awareness and behavioral control; and support collaborative work (Elias, 2004).

The importance and benefits of social-emotional learning

SEL has been crucial for individuals' success in leading productive, fulfilling lives and achieving self-actualization. Given the evolving economic and social conditions, resolving problems is becoming increasingly challenging. The presence and development of social and emotional skills are considered essential for addressing these challenges. From birth, humans exist as social beings, continuously engaging in mutual communication and interaction. Therefore, being equipped with skills such as problem-solving,

conflict resolution, managing communication, empathy, and prosocial behavior serves to ease the challenges of life. It is posited that individuals who acquire these skills at a young age are more likely to establish positive relationships (Lynch & Simpson, 2010). Through the social skills they cultivate, individuals can find appropriate solutions to problems, develop harmonious and productive relationships with society, and foster a climate of trust and mutual respect through healthy communication. This, in turn, reduces the adoption of harmful habits and diminishes violent tendencies (Songül, 2019).

The benefits of SEL act as a protective shield, enabling individuals to overcome the challenges encountered in daily life. Programs designed to foster these skills not only contribute to individuals' social and emotional development but also help mitigate negative behaviors, enhance school culture, cultivate a positive attitude toward educational environments, and support the enhancement of academic achievement (Adelman & Taylor, 2000). According to Zins and Elias (2007), the development of SEL skills in students leads to both greater life satisfaction and improved academic performance. Through social skills, children interact with their environment and engage in successful social experiences. Through these interactions, students learn to solve problems, make autonomous decisions, exercise self-regulation, and enhance their communication skills. Consequently, potential maladjustments between the individual and their environment are averted. Children with well-developed social skills gain acceptance from their peer groups. Conversely, children lacking these skills face the risk of social exclusion (Spivey, 2007).

Social-emotional learning skills

SEL is analyzed under four sub-dimensions: problem-solving skills, communication skills, self-esteem enhancing skills, and skills for coping with stress (Korkut, 2004).

Problem-Solving Skills: Problem-solving encompasses the full range of cognitive and behavioral processes involved in deciding upon the most suitable option among several alternatives when faced with a challenging situation (D'Zurilla & Goldfried, 1971). According to Kabakçı (2006), problem-solving skills are abilities that focus on resolving conflicts constructively and refer to the process by which an individual utilizes specific behaviors. This includes discovering rational and effective solution methods and achieving positive outcomes through them. The early acquisition of problem-solving skills enables children to communicate effectively, develop strong social relationships, and manage anxiety. Conversely, children who fail to acquire these skills have been observed to exhibit aggressive behaviors and higher levels of anxiety (Anlıak & Dinçer, 2009).

Communication Skills: From birth, children have an innate need to communicate with others in their environment. Communication skills are acquired in early childhood and are continuously developed and maintained over time. Through the use of both verbal and non-verbal messages, individuals engage in a process of self-expression by understanding each other's feelings and thoughts (Cüceloğlu, 2000). The communication and interaction children establish throughout their educational journey are crucial for their social and emotional development. Positive relationships with the environment also enhance adolescents' problem-solving skills and empathy. The health of peer relationships is contingent upon the ability to establish and sustain effective communication (Boyd et al., 2005).

Self-Esteem Enhancing Skills: Self-esteem encompasses an individual's perceptions, evaluations, and awareness of themselves. An awareness of one's self-worth enables individuals to recognize their own emotions, develop and manifest empathy in their behavior, enhance problem-solving abilities, and manage interpersonal conflicts. Skills that enhance self-esteem also involve the ability to understand others with whom one interacts. This skill is also closely related to self-awareness (Kabakçı, 2006). According to Payton et al. (2000), an individual's mental health, the ability to build a positive life, and the development of positive social relationships are contingent upon a healthy self-perception and a sense of self-worth. Self-esteem enhancing skills are a private domain for the individual, and their development is important. In this sense, these skills include: (i) Being aware of and recognizing one's own emotions, (ii) Developing an awareness of others, (iii) Knowing oneself, including one's strengths and weaknesses, (iv) Possessing a positive personality, and (v) Identifying and being able to meet one's own needs.

Skills for Coping with Stress: Stress is a state that arises from events in the social environment, developing independently of an individual's thoughts, and is characterized by a reaction that exceeds one's capacity in response to feelings of discomfort (Cüceloğlu, 1993). In medical science, stress is defined as the response of an organism to strain or challenge. According to Eryılmaz (2009), stress is considered the effort an individual exerts beyond their existing capacity in response to adverse environmental situations. As a source of pressure, stress elicits negative emotions. Individuals mobilized by this discomfort attempt to manage their emotions and behaviors resulting from the stress they experience. Coping with stress is the set of cognitive, emotional, and behavioral responses an individual employs, using their own resources, to eliminate or resist the tension created by a stressor. During the coping process, an individual may avoid or

exhibit certain behaviors to feel better. Failures in coping with stress during childhood and adolescence can adversely affect individuals emotionally and socially.

The aim of the research

This study aims to determine the SEL skills of middle school students and to examine these skills in relation to familial, childhood, and academic contexts. To achieve this aim, the following research questions were addressed:

1. What is the level of students' SEL skills?
2. Do students' SEL skills differ based on familial context?
3. Do students' SEL skills differ based on childhood context?
4. Do students' SEL skills differ based on academic context?

In the literature, research on SEL (Aksoy, 2020; Arslan, 2018; Arslan & Demirtaş, 2016; Aygün, 2017; İşeri, 2016; Kabakçı, 2016; Kabakçı & Korkut, 2008; Kalaycı, 2023; Kutluay-Çelik, 2014; Öztürk, 2022; Tilki, 2021) has generally consisted of program evaluations and literature reviews. Correlational studies have typically included variables such as age, gender, grade level, socioeconomic status, academic achievement, and parental education level. However, no studies were found that specifically investigate the relationship between SEL and variables such as the daily amount of time spent with parents, the types of games played during childhood, and preferred toys. In this respect, this study acts as one of the rare quantitative studies that relates SEL at the middle school level to childhood play experiences. These variables are hypothesized to be associated with SEL. Furthermore, within the framework of the "Türkiye Century Education Model" implemented in 2024, SEL skills have been integrated into the curriculum content, forming a set of competencies that supports the development of other skills. The inclusion of SEL in the current curriculum enhances the significance of this research. The findings of this study will determine the levels of middle school students' SEL skills and their relationship with the specified variables. This will enable the development of action strategies tailored to students' needs and developmental potential. In this regard, the present study is expected to be original and to make a significant contribution to the existing literature.

Method

Research design

This study was conducted using a quantitative research method. A descriptive survey model was employed to examine the relationship between students' SEL levels and the variables under investigation. As stated by Karasar (2009), the descriptive survey model is a research approach that aims to describe the phenomena, individuals, or objects under investigation within their existing conditions and in their natural state. This model seeks to depict an existing situation as it is, without any intervention.

Participants

The participants of this study comprised middle school students attending public schools in a province in Türkiye during the 2023-2024 academic year. Convenience sampling was employed in this study. In this context, the sample consisted of sixth, seventh, and eighth-grade students to whom the researchers had easy access. Data were collected from a total of 500 students, of whom 289 were female and 211 were male. Students who volunteered to participate and whose parents provided affirmative consent through a "Parental Consent Form" were included in the research. Information regarding the participants is presented in Table 1.

Table 1. Demographic Characteristics of the Participants

		n	%
Gender	Female	289	57.8
	Male	211	42.2
School Type	Imam Hatip Middle School	174	34.8
	Public Middle School	326	65.2
Grade Level	6th Grade	160	32.0
	7th Grade	175	35.0
	8th Grade	165	33.0
General Academic Average	Fair	48	9.6
	Good	121	24.2
	Very Good	331	66.2

Data collection instruments

In this study, a Personal Information Form and the Social and Emotional Learning Scale were used.

Personal Information Form: This form was developed by the researchers and finalized after receiving feedback from three experts (two school counselors and one curriculum development specialist). The form included questions addressing students' familial context (socioeconomic status, daily time spent with mother and father), childhood context (games played and preferred toys during childhood), and academic context (school type, grade level, and general academic average).

Social and Emotional Learning Scale (SELS): The SELS was developed by Kabakçı and Korkut-Owen (2010). The scale consists of four sub-dimensions and comprises 40 items: "Communication Skills," "Problem-Solving Skills," "Skills for Coping with Stress," and "Self-Esteem Enhancing Skills." The SELS is a four-point Likert-type scale, with responses ranging from 4 (Completely Applies to Me) to 1 (Does Not Apply to Me at All). Scores can be calculated for the total scale as well as for each of the four subscales. The minimum and maximum possible total scores are 40 and 160, respectively. The maximum scores for the sub-dimensions are as follows: Communication Skills, 36; Problem-Solving Skills, 44; Skills for Coping with Stress, 40; and Self-Esteem Enhancing Skills, 40. The administration time is approximately 15 minutes. In the original reliability studies, the internal consistency coefficients for the sub-dimensions were reported as follows: Communication Skills (.74), Problem-Solving Skills (.69), Skills for Coping with Stress (.70), and Self-Esteem Enhancing Skills (.82). This scale was deemed suitable and selected for our study due to its development for the middle school level, its validation with a large sample (N = 1343), and its strong validity and reliability indices (Kabakçı & Korkut-Owen, 2010).

Ensuring the validity and reliability of SELS

In this study, the goodness-of-fit indices obtained from the confirmatory factor analysis (CFA), conducted to determine the construct validity of the SELS, were as follows: $\chi^2/df = 1.58$; $p < .001$; CFI = .757; TLI = .738; SRMR = .062; RMSEA = .048. Although the CFI and TLI values are considered borderline, the χ^2/df value being below 3, given the large sample size (N=500), indicates that the scale is confirmed by the collected data. Furthermore, an RMSEA value below 0.05 suggests a good model fit (Çokluk et al., 2010; Hooper et al., 2008; Jöreskog & Sörbom, 1993; Kline, 2005; Munro, 2005; Şimşek, 2007).

To determine the reliability of the SELS, Cronbach's Alpha (α) was calculated. A Cronbach's Alpha coefficient is considered unreliable if $0.00 \leq \alpha < 0.40$, having low reliability if $0.40 \leq \alpha < 0.60$, acceptable reliability if $0.60 \leq \alpha < 0.80$, and high reliability if $0.80 \leq \alpha < 1.00$ (Kalaycı, 2018). The Cronbach's alpha coefficient for the SELS was calculated as .84 in the current study. This result indicates that the scale is highly reliable.

Data collection procedure

After obtaining permission to use the SELS, research approval was secured sequentially from the Ordu University Educational Research Ethics Committee and the Ordu Provincial Directorate of National Education. Data were collected between February and April 2024. The researchers visited the schools and provided information about the data collection instruments. Data were collected in person from students who volunteered and had parental consent. The collection process took one class period. To increase student motivation, participants were given pens and notebooks as small gifts.

Data analysis

Jamovi (Version 2.3.24) and SPSS (Version 27) software were used for data analysis. Descriptive statistics were used to determine the participants' SEL levels. Initially, data were collected from 525 students; however, 25 responses were excluded from the analysis due to missing values. A frequency table was generated for the sociodemographic variables. To examine differences in group means, the Independent Samples T-test was used for variables with two groups, and the One-Way Analysis of Variance (ANOVA) was used for variables with three or more groups. When a significant difference was found, Tukey's HSD and the Least Significant Difference (LSD) post-hoc tests were conducted to identify the source of the difference. All analyses were performed at a significant level of $\alpha = 0.05$.

Table 2. Skewness and Kurtosis Values for the Social and Emotional Learning Scale

Scale	Sub-dimensions	n	Skewness	Kurtosis
Social and Emotional Learning Scale	Communication Skills	500	-.160	-.495
	Problem-Solving Skills	500	-.181	-.466
	Skills for Coping with Stress	500	.124	-.330
	Self-Esteem Enhancing Skills	500	-.505	-.391
	Total	500	-.051	-.524

Data are considered normally distributed when skewness and kurtosis values are between -1.5 and +1.5 (Tabachnick & Fidell, 2007). As shown in Table 2, the skewness and kurtosis values for the scale and its sub-dimensions fall within this specified range. Therefore, the dataset was assumed to have a normal distribution.

Results

Students' social and emotional learning skills

The descriptive statistics results, conducted to determine the SEL levels of middle school students, are presented in Table 3.

Table 3. Descriptive Statistics for the Social and Emotional Learning Scale

Scale	Sub-dimensions	No. of Items	Min	Max	M	Sd	Item Mean
Social and Emotional Learning Scale	Communication Skills	9	15	36	26.8	4.14	2.9
	Problem-Solving Skills	11	20	44	33.7	4.91	3.0
	Skills for Coping with Stress	10	15	37	25.0	4.78	2.5
	Self-Esteem Enhancing Skills	10	14	40	31.2	5.62	3.1
	Overall Scale	40	79	152	116.7	13.92	2.9

Scores for the Communication Skills sub-dimension ranged from 15 to 36, with a mean score of 26.08 (SD = 4.14). In the Problem-Solving Skills sub-dimension, scores varied between 20 and 44, with a calculated mean of 33.7 (SD = 4.91). The scores for the Skills for Coping with Stress sub-dimension ranged from 15 to 37, with a mean of 25.0 (SD = 4.78). For the Self-Esteem Enhancing Skills sub-dimension, students' scores ranged from 14 to 40, and the mean was recorded as 31.2 (SD = 5.62). Overall, the total scores of the participants on the SELS ranged from 79 to 152, with a mean score of 116.7 (SD = 13.92).

When examining the item means for the sub-dimensions (on a 4-point scale), they were calculated as 2.9 for Communication Skills, 3.0 for Problem-Solving Skills, 2.5 for Skills for Coping with Stress, and 3.1 for Self-Esteem Enhancing Skills. Based on these data, it was observed that among students' SEL skills, the highest mean was in Self-Esteem Enhancing Skills (Item M = 3.1), while the lowest was in Skills for Coping with Stress (Item M = 2.5). The overall item mean for the scale was determined to be 2.9 out of 4. It can be concluded that the middle school students' SEL skills are at a high level.

Results regarding the familial context

Results related to the variables of daily time spent with mother, daily time spent with father, and socioeconomic level within the familial context are presented sequentially below.

Table 4. Differences in Students' SEL Levels by Daily Time Spent with Mother (ANOVA Results)

Scale	Group	N	M	SD	df	F	p	Significant Difference
Communication Skills	a) <1 hour	36	27.53	3.843	3	1.099	.349	
	b) 1-2 hours	107	26.23	3.687				
	c) 3-4 hours	137	26.86	4.531				
	d) >4 hours	220	26.91	4.139				
	Total	500	26.80	4.142				
Problem-Solving Skills	a) <1 hour	36	33.56	4.601	3	.594	.619	
	b) 1-2 hours	107	33.59	5.132				
	c) 3-4 hours	137	33.28	5.036				
	d) >4 hours	220	33.98	4.778				
	Total	500	33.67	4.909				
Skills for Coping with Stress	a) <1 hour	36	25.33	4.678	3	.145	.933	
	b) 1-2 hours	107	25.09	4.586				
	c) 3-4 hours	137	24.83	4.295				
	d) >4 hours	220	25.10	5.189				
	Total	500	25.04	4.782				
Self-Esteem Enhancing Skills	a) <1 hour	36	31.33	5.752	3	4.351	.005*	d>b
	b) 1-2 hours	107	29.69	5.697				
	c) 3-4 hours	137	31.09	5.789				
	d) >4 hours	220	32.05	5.324				
	Total	500	31.23	5.621				
SEL Total	a) <1 hour	36	117.75	12.115	3	1.648	.177	
	b) 1-2 hours	107	114.61	13.888				
	c) 3-4 hours	137	116.06	13.506				
	d) >4 hours	220	118.03	14.387				
	Total	500	116.74	13.919				

*p<0.05

Table 4 presents the results of the One-Way ANOVA for the variable of daily time spent with the mother. According to the analysis, there was a statistically significant difference in the Self-Esteem Enhancing Skills

scores among the groups, $F(3) = 4.351$, $p < .05$. The mean score on Self-Esteem Enhancing Skills for students who spend more than four hours a day with their mother was significantly higher than that of students who spend one to two hours.

Table 5. Differences in Students' SEL Levels by Daily Time Spent with Father (ANOVA Results)

Scale	Group	N	M	SD	df	F	p	Significant Difference
Communication Skills	a) <1 hour	118	26.77	4.235	3	.685	.561	
	b) 1-2 hours	141	26.71	3.914				
	c) 3-4 hours	142	27.17	4.238				
	d) >4 hours	99	26.41	4.223				
	Total	500	26.80	4.142				
Problem-Solving Skills	a) <1 hour	118	32.97	4.622	3	1.540	.203	
	b) 1-2 hours	141	33.90	4.995				
	c) 3-4 hours	142	34.20	4.863				
	d) >4 hours	99	33.43	5.137				
	Total	500	33.67	4.909				
Skills for Coping with Stress	a) <1 hour	118	24.77	4.560	3	.194	.900	
	b) 1-2 hours	141	25.21	4.787				
	c) 3-4 hours	142	25.11	4.884				
	d) >4 hours	99	25.02	4.942				
	Total	500	25.04	4.782				
Self-Esteem Enhancing Skills	a) <1 hour	118	30.38	5.736	3	4.781	.003*	c,d>b
	b) 1-2 hours	141	30.28	5.866				
	c) 3-4 hours	142	32.13	5.091				
	d) >4 hours	99	32.30	5.536				
	Total	500	31.23	5.621				
SEL Total	a) <1 hour	118	114.89	13.571	3	1.684	.170	
	b) 1-2 hours	141	116.10	14.028				
	c) 3-4 hours	142	118.61	13.474				
	d) >4 hours	99	117.17	14.639				
	Total	500	116.74	13.919				

*p<0.05

Table 5 shows the ANOVA results for the daily time spent with the father. A statistically significant difference was found in Self-Esteem Enhancing Skills scores based on this variable, $F(3) = 4.781$, $p < .05$. The mean scores for Self-Esteem Enhancing Skills of students who spend three to four hours or more than four hours a day with their father were significantly higher than those of students who spend one to two hours.

Table 6. Differences in Students' SEL Levels by Socioeconomic Level (ANOVA Results)

Scale	Group	N	M	SD	df	F	p	Significant Difference
Communication Skills	a) Low	18	26.17	4.554	2	1.773	.171	
	b) Middle	427	26.70	4.133				
	c) High	55	27.75	4.015				
	Total	500	26.80	4.142				
Problem-Solving Skills	a) Low	18	32.44	5.305	2	.906	.405	
	b) Middle	427	33.65	4.900				
	c) High	55	34.22	4.856				
	Total	500	33.67	4.909				
Skills for Coping with Stress	a) Low	18	23.78	3.606	2	1.008	.336	
	b) Middle	427	25.02	4.699				
	c) High	55	25.60	5.675				
	Total	500	25.04	4.782				
Self-Esteem Enhancing Skills	a) Low	18	29.67	5.729	2	4.657	.010*	c>a,b
	b) Middle	427	31.03	5.641				
	c) High	55	33.27	5.031				
	Total	500	31.23	5.621				
SEL Total	a) Düşük	18	112.06	13.623	2	3.559	.029*	c>a,b
	b) Orta	427	116.41	13.843				
	c) Yüksek	55	120.84	13.956				
	Toplam	500	116.74	13.919				

*p < .05

Table 6 presents the ANOVA results for the socioeconomic level variable. A statistically significant difference was found in Self-Esteem Enhancing Skills scores, $F(2) = 4.657$, $p < .05$. Additionally, the total SEL score also showed a significant difference, $F(2) = 3.559$, $p < .05$. The mean scores for both Self-Esteem

Enhancing Skills and total SEL for students with a high socioeconomic level were significantly higher than those of students with middle and low socioeconomic levels.

Results regarding the childhood context

Results related to preferred toy materials and most frequently played games during childhood are presented below.

Table 7. Differences in Students' SEL Levels by Preferred Toy Materials in Childhood (ANOVA Results)

Scale	Group	N	M	SD	df	F	p	Significant Difference
Communication Skills	a)	187	26.21	3.946	3	2.529	.057	
	b)	75	26.72	4.392				
	c)	191	27.37	4.115				
	d)	47	26.91	4.398				
	Total	500	26.80	4.142				
Problem-Solving Skills	a)	187	33.13	5.442	3	2.224	.085	
	b)	75	33.75	5.067				
	c)	191	34.34	4.312				
	d)	47	33.02	4.479				
	Total	500	33.67	4.909				
Skills for Coping with Stress	a)	187	25.00	4.494	3	.827	.479	
	b)	75	25.52	4.607				
	c)	191	24.73	5.024				
	d)	47	25.70	5.175				
	Total	500	25.04	4.782				
Self-Esteem Enhancing Skills	a)	187	30.96	5.512	3	3.109	.026*	c>b
	b)	75	29.77	5.706				
	c)	191	32.01	5.740				
	d)	47	31.45	5.017				
	Total	500	31.23	5.621				
SEL Total	a)	187	115.30	14.021	3	1.765	.153	
	b)	75	115.76	12.886				
	c)	191	118.45	14.218				
	d)	47	117.09	13.510				
	Total	500	116.74	13.919				

$p < .05$; a: Ball, basketball hoop, climbing rope, sandbox, car; b: Blocks, Lego; c: Doll, kitchen supplies, stethoscope, chef's apron, paper-pen; d: Computer, tablet

Table 7 displays the ANOVA results for preferred toy materials in childhood. A statistically significant difference was found in the Self-Esteem Enhancing Skills scores among the groups, $F(3) = 3.109$, $p < .05$. The mean score for Self-Esteem Enhancing Skills of students who used "Doll, kitchen supplies, stethoscope, chef's apron, paper-pen" was significantly higher than that of students who used "Blocks, Lego."

Table 8. Differences in Students' SEL Levels by Most Frequently Played Games in Childhood (ANOVA Results)

Scale	Group	N	M	SD	df	F	p	Significant Difference
Communication Skills	a)	281	26.68	3.965	3	1.120	.341	
	b)	39	27.13	4.895				
	c)	138	27.19	4.075				
	d)	42	25.98	4.724				
	Total	500	26.80	4.142				
Problem-Solving Skills	a)	281	33.47	5.036	3	1.069	.362	
	b)	39	34.72	5.586				
	c)	138	33.95	4.259				
	d)	42	33.12	5.352				
	Total	500	33.67	4.909				
Skills for Coping with Stress	a)	281	25.02	4.586	3	.298	.827	
	b)	39	25.72	5.015				
	c)	138	24.93	5.195				
	d)	42	24.90	4.552				
	Total	500	25.04	4.782				
Self-Esteem Enhancing Skills	a)	281	31.17	5.345	3	1.822	.142	
	b)	39	29.97	6.773				
	c)	138	31.97	5.758				
	d)	42	30.33	5.655				
	Total	500	31.23	5.621				

SEL Total	a)	281	116.35	13.743	3	.934	.424
	b)	39	117.54	15.405			
	c)	138	118.04	13.448			
	d)	42	114.33	15.185			
	Total	500	116.74	13.919			

p < .05; a: Physical games (Soccer, hide-and-seek, basketball, hopscotch, jump rope, puzzles, etc.); b: Construction play (e.g., building with blocks and Legos); c: Dramatic play (e.g., playing house, doctor, chef); d: Digital games (e.g., Minecraft, car racing, dress-up games)

Table 8 provides the ANOVA results for the most frequently played games in childhood. This variable did not show a statistically significant difference in any of the SEL sub-dimensions ($p > .05$).

Results regarding the academic context

Results related to school type, grade level, and general academic average are presented below.

Table 9. Differences in Students' SEL Levels by School Type (Independent Samples t-test Results)

Scale	Group	N	M	SD	df	F	p
Communication Skills	Public Middle School	326	26.58	4.078	-1.578	498	.115
	Imam Hatip Middle School	174	27.20	4.241			
Problem-Solving Skills	Public Middle School	326	33.25	5.044	-2.720	385.524	.007*
	Imam Hatip Middle School	174	34.46	4.556			
Skills for Coping with Stress	Public Middle School	326	25.71	4.868	4.376	498	.000*
	Imam Hatip Middle School	174	23.78	4.359			
Self-Esteem Enhancing Skills	Public Middle School	326	31.07	5.529	-.885	498	.377
	Imam Hatip Middle School	174	31.53	5.795			
SEL Total	Public Middle School	326	116.61	14.152	-.274	498	.785
	Imam Hatip Middle School	174	116.97	13.508			

*p < .05

Table 9 shows the Independent Samples t-test results for the school type variable. A statistically significant difference was found in Problem-Solving Skills scores, $t(385.52) = -2.720, p < .05$. The mean score for Problem-Solving Skills of students attending Imam Hatip Middle Schools was significantly higher than that of students in other public middle schools. A statistically significant difference was also found in Skills for Coping with Stress scores, $t(498) = 4.376, p < .001$. The mean score for Skills for Coping with Stress of students in other public middle schools was significantly higher than that of students in Imam Hatip Middle Schools.

Table 10. Differences in Students' SEL Levels by Grade Level (ANOVA Results)

Scale	Group	N	M	SD	df	F	p	Significant Difference
Communication Skills	a) 6	160	25.76	4.270	2	11.517	.000*	c>a,b
	b) 7	175	26.70	4.114				
	c) 8	165	27.91	3.774				

Problem-Solving Skills	a) 6	160	33.35	5.230	2	.880	.416	
	b) 7	175	33.60	4.861				
	c) 8	165	34.06	4.634				
Skills for Coping with Stress	a) 6	160	23.92	4.700	2	9.706	.000*	c>a,b
	b) 7	175	24.96	4.525				
	c) 8	165	26.21	4.881				
Self-Esteem Enhancing Skills	a) 6	160	31.24	5.707	2	.646	.525	
	b) 7	175	31.56	5.492				
	c) 8	165	30.87	5.684				
SEL Total	a) 6	160	114.27	14.101	2	4.868	.008*	c>a
	b) 7	175	116.82	13.699				
	c) 8	165	119.05	13.647				

*p < .05

Table 10 presents the ANOVA results by grade level. Statistically significant differences were found in students' scores for Communication Skills, $F(2) = 11.517$, $p < .001$, and Skills for Coping with Stress, $F(2) = 9.706$, $p < .001$. The mean scores of eighth-grade students on both of these sub-dimensions were significantly higher than those of sixth and seventh-grade students. Furthermore, a significant difference was found in the total SEL score, $F(2) = 4.868$, $p < .05$. The mean total SEL score of eighth-grade students was significantly higher than that of sixth-grade students.

Table 11. Differences in Students' SEL Levels by General Academic Average (ANOVA Results)

Scale	Group	N	M	SD	df	F	p	Significant Difference
Communication Skills	a) Fair	48	25.52	3.946	2	6.852	.001*	c>a,b
	b) Good	121	26.00	4.165				
	c) Very Good	331	27.27	4.088				
	Total	500	26.80	4.142				
Problem-Solving Skills	a) Fair	48	31.54	4.929	2	10.643	.000*	c>a,b
	b) Good	121	32.66	4.451				
	c) Very Good	331	34.35	4.927				
	Total	500	33.67	4.909				
Skills for Coping with Stress	a) Fair	48	25.85	4.352	2	1.349	.260	
	b) Good	121	24.55	4.841				
	c) Very Good	331	25.10	4.814				
	Total	500	25.04	4.782				
Self-Esteem Enhancing Skills	a) Fair	48	30.42	5.712	2	1.770	.171	
	b) Good	121	30.64	5.089				
	c) Very Good	331	31.56	5.778				
	Total	500	31.23	5.621				
SEL Total	a) Fair	48	113.33	14.038	2	6.215	.002*	c>a, b
	b) Good	121	113.85	13.296				
	c) Very Good	331	118.29	13.909				
	Total	500	116.74	13.919				

*p < .05

Table 11 shows the ANOVA results by general academic average. Statistically significant differences were found for Communication Skills, $F(2) = 6.852$, $p < .05$, and Problem-Solving Skills, $F(2) = 10.643$, $p < .001$. The mean scores for both Communication and Problem-Solving Skills of students with a "Very Good" academic average were significantly higher than those of students with "Good" and "Fair" averages. Additionally, the total SEL score showed a statistically significant difference, $F(2) = 6.215$, $p < .05$. The mean total SEL score of students with a "Very Good" average was significantly higher than that of students with "Good" and "Fair" averages.

Conclusion, discussion, and recommendations

This study aimed to conduct an in-depth examination of the SEL skills of middle school students across various contexts. The results not only revealed the general level of students' SEL skills but also provided significant insights into how these skills differ according to specific variables within familial, childhood, and academic contexts.

The first finding of the study is that the overall SEL skills of middle school students were above average; however, notable differences were observed among the sub-dimensions. Specifically, "Self-Esteem Enhancing Skills" had the highest mean score, whereas "Skills for Coping with Stress" exhibited the lowest. This suggests that while students perform better in terms of self-confidence and self-worth, they require greater support in stress management. A review of the literature indicates that these findings are consistent

with previous research. Studies conducted at the middle school level by Eryıldırım and Gülözer (2023), Öztürk (2017), and Tilki (2021) also found SEL skills to be above average. Similarly, research at the high school level by Atın (2022) and Binici (2023) reported high levels of SEL relative to the mean.

Regarding the familial context, the results showed that students' SEL levels differed significantly based on the daily amount of time spent with their parents. Students who spent more than four hours a day with their mother had higher scores on "Self-Esteem Enhancing Skills" compared to those who spent one to two hours. Similarly, students who spent three to four hours or more than four hours a day with their father had higher scores on "Self-Esteem Enhancing Skills" than those who spent one to two hours. A study by Toktamış (2008) found that students who perceived high parental sensitivity also had higher self-esteem enhancing skills. This body of literature supports the findings of the present study. It can be inferred that students who spend a regular and specific amount of time with their parents have higher self-awareness, utilize their positive strengths more, and thereby develop their self-esteem. Another study by Yılmaz (2014) demonstrated that parental attitudes during this time are influential on a child's SEL, concluding that parental attitudes have a significant effect on SEL among middle school students. It was found that children with high levels of parental sensitivity, autonomy support, and behavioral control had higher scores across all SEL sub-dimensions. Research conducted by Songül (2019) with adolescents found that communication with both mother and father had a significant effect on SEL. Adolescents with very good communication with their mothers scored higher on all SEL sub-dimensions, while those with very good communication with their fathers scored higher on "Problem-Solving Skills" and "Self-Esteem Enhancing Skills." In light of these findings, it is recommended that parents prioritize both the quantity and quality of time spent with their children, exhibit positive attitudes, and maintain open communication. This approach will significantly contribute to the development of students' SEL skills, particularly their self-esteem.

In terms of socioeconomic status, significant relationships were found between the family's socioeconomic level and both "Self-Esteem Enhancing Skills" and the total SEL score. Students from families with a high socioeconomic status were found to have higher scores in these areas. The literature contains studies that align with this finding. Merter (2013) found that middle school students with a high socioeconomic status also had high self-esteem enhancing skills. Öztürk (2017) concluded that middle school students from low-income backgrounds had low levels of these skills. Similarly, Temur's (2023) research revealed that students with a low socioeconomic status had lower SEL skills. The higher scores on certain SEL sub-dimensions among students from middle and high socioeconomic backgrounds can be attributed to the diversity of opportunities available to them. Greater access to environmental alternatives and engagement in artistic and sports activities may enable these students to recognize their potential. Realizing one's potential can, in turn, foster the development of self-esteem and communication skills. It is recommended that support projects be developed to enhance the SEL skills of children from low-income families. Furthermore, these students could be directed toward social and sports activities to help them benefit from available environmental resources.

Regarding the childhood context, students' SEL skills were found to be significantly related to the toy materials they played with, but not to the types of games they most frequently played. The study found that students who used materials such as "dolls, kitchen supplies, stethoscopes, chef's aprons, and paper-pen" in childhood had significantly higher scores on "Self-Esteem Enhancing Skills" than those who used "blocks and Lego." A review of the literature reveals parallel findings. A study by Ertabak et al. (2023) on play skills and social-emotional development concluded that play and toys contribute to the support of SEL. According to Kuğuoğlu and Kürtüncü-Tanır (2006), children who use and prefer dramatic play materials (e.g., dolls, cooking items, doctor kits) engage multiple senses and contribute to the development of self-regulation by experiencing cultural life. Connolly and Doyle (1984) concluded that children who prefer dramatic play materials have more opportunities for peer interaction and learn societal roles more quickly by rehearsing life. Research with preschool children by Sezici and Yiğit (2019) found that as children's preference for materials like playhouse sets, dolls, and doctor toys increased, so did their social play behaviors, which may indicate higher social-emotional adjustment. These studies suggest that preferring dramatic play materials positively contributes to children's SEL. It is thought that children who prefer dramatic play materials have the opportunity to realize their potential by using different senses and engaging in their imagination and creativity, thereby developing "Self-Esteem Enhancing Skills." In light of these results, it is recommended that parents and educators provide children with access to dramatic play materials and encourage such play to support their SEL, particularly their self-esteem.

In the academic context, significant differences in students' SEL skills were found based on general academic average, school type, and grade level. Regarding school type, it was observed that Imam Hatip middle school students had significantly higher scores in "Problem-Solving Skills" compared to students in other public schools, whereas they scored lower in "Skills for Coping with Stress." This differentiation in problem-solving skills can be associated with the educational climate and self-regulation processes in

Imam Hatip schools. Sari et al. (2024) stated that problem-solving ability is a strong predictor (94.47%) of students' self-regulated learning capacities. Consequently, the discipline and rule-based teaching processes inherent in religious education at Imam Hatip schools may have supported students' cognitive structuring and systematic thinking abilities, thereby enhancing their problem-solving skills. However, this finding contradicts some studies in the literature; for instance, Melikoğlu and Bedel (2021) found that students in general middle schools had higher problem-solving and social adaptation skills than Imam Hatip students. This discrepancy may stem from the demographic characteristics of the study groups or the structures of the measurement tools. Nevertheless, the current findings indicate that although Imam Hatip middle school students are competent in problem-solving, they require specific support in stress management. In light of this, it is recommended that school counselors organize psycho-educational programs focused on "time management" and "active stress coping" (e.g., breathing exercises, relaxation techniques) specifically for these students to help them cope with the heavy course load and academic pressure. Furthermore, in addition to the concepts of "patience" and "reliance on God" (tawakkul), the religious content in the curriculum should be taught in a way that emphasizes "active struggle against difficulties" to enhance students' emotional resilience.

The results showed that students with a "Very Good" general academic average had higher scores on "Communication Skills," "Problem-Solving Skills," and total SEL. This is consistent with the findings of Bozkurt Yükçü et al. (2021), who found that middle school students with high academic achievement also had high SEL skills. Temur (2023) also found a significant relationship between students' SEL skills and academic achievement. Conversely, studies by Ağırkan (2021), Aygün (2017), and Songül (2019) all reported a positive and significant relationship between academic success and various SEL sub-dimensions. According to Goleman (1996), SEL is a combined product of mental, emotional, and behavioral skills; thus, academic skills and SEL are interdependent structures. Students with high academic achievement are often those who can cope with stress, are highly motivated, have developed problem-solving skills, show perseverance and resilience, communicate effectively, and take responsibility (CASEL, 2003). However, the literature also includes studies that found no significant relationship. Research by Akcaalan (2016) at the high school level and Karamanlı Gül (2019) at the middle school level concluded that academic achievement was not significantly related to SEL. Given the positive relationship observed in this study, it is recommended that educators integrate SEL competencies (especially communication and problem-solving) into their curricula.

Regarding grade level, a statistically significant difference was found in "Communication Skills," "Skills for Coping with Stress," and total SEL scores in favor of eighth-grade students. This may be due to the development of communication skills with maturation. Additionally, stress management training provided by school counseling services to eighth graders preparing for high school entrance exams may have enhanced their skills in this area. This finding is supported by Yılmaz (2014), who found a significant difference in "Communication Skills" in favor of eighth graders. In contrast, several other studies (Candan, 2018; Durualp, 2014; Kabakçı & Korkut, 2008; Kutluay Çelik, 2014; Totan, 2011) found significant differences in favor of sixth graders, particularly in problem-solving and stress coping, attributing this to the emotional challenges of adolescence and exam stress in higher grades. Other studies (Eryıldırım & Gülözer, 2023; Kuyulu, 2015; Melikoğlu & Bedel, 2021) found no significant differences by grade level studies. It is believed that these divergent findings in the literature may stem from the use of different measurement instruments, students' perceptions of SEL, whether they received stress management training, and the specific characteristics of the study groups.

While this study provides important results, it also has several limitations. The research was conducted with 500 middle school students selected via convenience sampling from a medium-sized province in Turkey. Therefore, the findings are limited to this sample group and may not be generalizable to all middle school students. It is recommended that future research employs sampling methods that allow for generalizability (e.g., stratified or cluster sampling) and cover a wider geographical area and diverse socioeconomic levels. The data collected were based on self-report, which may be subject to biases such as social desirability or a tendency to present oneself in a different light. This limitation could be addressed in future studies by using multiple sources of information (e.g., parent and teacher evaluations). This study only examined the quantity of daily time spent with parents. However, the quality of parent-child interaction may be more important than the quantity. Future research could include variables that also assess the quality of this time.

Declarations

Ethics statements

Ethical approval for this study was obtained from the Ordu University Educational Research Ethics Committee on December 29, 2023 (Decision number: 2023-12).

Informed consent

Written informed consent was obtained from the legal guardians of all participants included in the study. The students also provided their voluntary assent to participate.

Availability of data and materials

The datasets generated and/or analyzed during the current study are not publicly available due to privacy and ethical restrictions but are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

GSA: Conceptualization, Methodology, Data Curation, Investigation, Writing - Original Draft. TAE: Supervision, Validation, Writing - Review & Editing. All authors have read and approved the final manuscript.

Artificial intelligence

An artificial intelligence tool was utilized for the translation of the manuscript from Turkish to English. The final text was subsequently reviewed and verified for accuracy and academic integrity by both authors.

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