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Developing a Mathematical Curiosity Scale for Adolescents: Validity and Reliability Study

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Abstract

Curiosity offers opportunities for personal growth by instilling a desire to learn, explore, and investigate. Therefore, it is considered essential to encourage curiosity, especially in children and adolescents, for their future lives. Similarly, mathematical curiosity leads the individual to develop in mathematics by directing their desire to learn about mathematics toward discovery. In this context, the study aims to create a scale that provides accurate and reliable measurements that is a valid and reliable Likert-type scale of mathematical curiosity of secondary and high school students. 499 students participated in the exploratory factor analysis, 294 in the confirmatory factor analysis, and 91 in the test-retest analysis. As a result of the exploratory factor analysis, the scale structure with 3 factors and 20 items explains 57.95% of the total variance. The construct validity of the scale was examined through confirmatory factor analysis. The Cronbach alpha reliability coefficient of the scale was found to be 0.903. The reliability coefficients of the sub-dimensions of the scale are .838, .842, and .690, respectively.

Key Words

Curiosity • Mathematical curiosity • Scale development

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Introduction

There is a strong relationship between emotions and learning, therefore, affective characteristics should be taken into account in the learning process (Gömleksiz & Kan, 2012). Concepts such as student interest, attitude, love, fear, anxiety, bias, curiosity, motivation, excitement, self-efficacy perception, and self-confidence towards the course are affective characteristics (Etlioğlu & Tekin, 2020). Hence, the inclusion of affective characteristics in teaching programs is crucial for affective learning (Bacanlı, 2006). In particular, curiosity has been recognized as a critical motivation that constantly affects human behavior both positively and negatively throughout the life cycle (Loewenstein, 1994). It is known that at the core of curiosity are the concepts of recognizing, searching, and preferring the new (Kashdan & Silvia, 2009). However, curiosity needs to be nurtured. To do so, it is necessary to focus on student motivation, turn the lack of knowledge from a shameful concept to a form of curiosity about learning, and direct the student's curiosity cognitively to raise their intellectual level (Watson, Inan, Whitcomb, & Yigit, 2018).

A teacher who knows what it feels like to have a desire to learn is better equipped to nurture this desire in their students (Engel, 2015, p.1). In education, while a teacher's goal for their students may be for them to engage in certain behaviors or master specific skills, focusing not on the behaviors or skills themselves, but on students' underlying motivation, inspiring their curiosity, and working to nourish it, is one of the most effective ways to achieve that aim (Baehr, 2015). For instance, cognitive ability is required to solve arithmetic problems. However, what we truly desire is for the student to have a desire to understand why the answers are correct. In other words, students are expected to not just be knowledgeable about the answers to the questions, but also to ask questions at an intellectual level (Pritchard, 2015). Therefore, determining students' mathematical curiosity, especially, is deemed significant in guiding students. In the literature, different scales for mathematical curiosity (Usluoğlu & Toptaş, 2021), knowledge-based curiosity (Eren, 2009), scientific curiosity (Cındıl-Kopan, 2020), physics curiosity (Serin, 2010), and curiousness (Demirel & Coşkun, 2009) for different age groups are observed. However, it is striking that there is no scale to determine the level of mathematical curiosity of students receiving education at the secondary and high school levels. Therefore, a valid and reliable mathematical curiosity scale was aimed to be developed for secondary and high school students in this study. The development of this scale will not only meet this need in the field but will also serve as a resource for teachers and researchers in determining the curiosity of secondary and high school students towards mathematics and in allocating, directing and guiding students into fields.

Method

Research Model

This study aimed to develop a mathematical curiosity scale for students aged 14-16, and a survey model was used for this purpose. Survey models are models in which the opinions of large groups and various communities are taken, and their characteristics and attitudes are determined (Büyüköztürk et al., 2016).

Study Groups

The research was conducted with data collected from three different study groups.

Study Group 1

For the exploratory factor analysis, attention was paid to having a number of participants ten times the number of items in the scale (Bryman and Cramer, 2001). For the exploratory factor analysis (EFA), data were collected from 499 students studying in the 8th grade of secondary school, 9th and 10th grades of high school in public schools affiliated with the Istanbul National Education Directorate in the 2021-2022 academic year. (EFA) (Table 1)

Table 1

Demographic Characteristics of the EFA Study Group

	Groups	**F**	**%**
Gender	Female	249	49.8
	Male	250	50.2
Grade	8-th grade	140	28.1
	9-th grade	169	33.9
	10-th grade	190	38.1

As seen in Table 1, 249 (49.8%) of the participants in the study were female students, while 250 (50.2%) were male students. When examining the students' grade levels, 140 (28.1%) were 8th grade, 169 (33.9%) were 9th grade, and 190 (38.1%) were 10th grade students.

Study Group 2

For the confirmatory factor analysis (CFA), data were collected from 294 students in the 8th grade of secondary school and 9th and 10th grades of high school from public schools affiliated with Istanbul Provincial Directorate of National Education during the 2021-2022 academic year (Table 2).

Table 2

Demographic Characteristics of the Study Group Applied Confirmatory Factor Analysis

	Groups	**f**	**%**
Gender	Female	120	40.8
	Male	174	59.2
Grades	8-th grade	20	6.8
	9-th grade	142	48.3
	10-th grade	132	44.9

As seen in Table 2, 195 (%40.8) of the participants in the study were female students and 174 (%59.2) were male students. When looking at the grade levels, 20 (%6.8) were 8-th grade students, 142 (%48.3) were 9-th grade students, and 132 (%44.9) were 10-th grade students.

Study Group 3

For the test-retest application, data was collected from 91 students in 8-th grade of secondary school, and 9-th and 10-th grade of high school from public schools affiliated with the Istanbul Provincial Directorate of National Education during the 2021-2022 academic year (Table 3).

Table 3

Test-Retest Analysis Demographic Characteristics of the Study Group

	Groups	**f**	**%**
Gender	Female	47	51.6
	Male	44	48.4
Grade	8-th grade	45	49.5
	9-th grade	32	35.2
	10-th grade	14	15.4

As seen in Table 3, 47 (51.6%) of the participants were female students and 44 (48.4%) were male students. In terms of grade levels, 45 (49.5%) were 8-th grade students, 32 (35.2%) were 9-th grade students and 14 (15.4%) were 10-th grade students.

Data Collection Tools

Mathematical Curiosity Scale

The development of the scale started with a literature review. In the process of developing the scale, international studies related to the curiosity were examined and an item pool was created (Cındıl-Kopan, 2020; Collins, Litman & Spielberger, 2004; Demirel & Coşkun, 2009; Kashdan, Gallagher, Silvia, Winterstein, Breen, Terhar & Steger, 2009; Kashdan, Stiksma, Disabato, McKnight, Bekier, Kaji & Lazarus, 2018; Leherissey, 1971; Litman & Jimerson, 2004; Litman & Spielberger, 2003; Renner, 2006; Naylor, 1981; Serin, 2010; Usluoğlu & Toptaş, 2021). Simultaneously, the opinions of 10 mathematics teachers working at secondary and high school levels in Istanbul were received and these opinions were added during the creation of the item pool. The scale, which initially consisted of 131 items, was reduced to 32 items by removing the items that had the same meaning or were not related by taking the opinions of experts in mathematics education, especially in the affective domain (2), measurement and evaluation (1) and Turkish teacher (1). The 32-item scale's factor structure was first determined by exploratory factor analysis, and the model obtained in exploratory factor analysis was tested by confirmatory factor analysis.

The scale type was determined as a 5-point Likert scale: (1) Strongly Disagree, (2) Disagree, (3) Neither Agree nor Disagree, (4) Agree, (5) Strongly Agree. Likert scales enable individuals to indicate to what extent they agree with a given situation (Seçer, 2015). There are 14 positive and 6 negative items in the scale, with the negative items calculated by reverse coding.

Data Analysis

To determine whether the data were suitable for factor analysis, a normality test, Kaiser-Meyer-Olkin (KMO), and Bartlett's test of Sphericity were conducted. EFA is used to determine how many items in a draft measurement tool should be grouped and what the relationship between them is (Sönmez & Alacapınar, 2014). It was found that the data were suitable for factor analysis and a three-factor structure consisting of 20 items was revealed.

During the factor analysis, care was taken not to maintain the scale's content validity. After the exploratory factor analysis, the items were re-evaluated. Content validity refers to the ability of the items that make up a measurement tool to adequately represent the qualities the scale intends to measure (Seçer, 2015).

Subsequently, the correlation between item-total scores was calculated. Confirmatory factor analysis (CFA) was applied to test the structure that emerged. In order to conclude that the model was validated, fit values were taken into consideration. A ratio of the chi-square value (χ^2) to the degrees of freedom (df) of 2 or less indicates an ideal fit, while a ratio between 2 and 5 indicates an acceptable fit. A CFI (Comparative Fit Index) value of 1 indicates ideal fit, while a value between 0.90 and 0.99 is considered acceptable. An RMSEA (Root mean square error of approximation) value between 0.05 and 0.09 is considered an acceptable fit, while an SRMR (Root mean square residuals) value of 0 is considered ideal fit and a value between 1 and 5 is considered acceptable (Özdamar, 2016).

In the reliability analysis of the scale, Cronbach's alpha reliability coefficient and item-total correlation values were calculated, and the independent samples t-test (with a 27% upper-lower independent group) was applied to determine whether the items distinguish between upper and lower groups. To provide evidence of the scale's reliability in terms of stability, correlation coefficients of data obtained from test-retest were calculated.

Results

Validity-Related Findings

EFA and CFA were conducted to reveal the findings regarding the scale's validity. In this process, IBM SPSS 25 and AMOS 25 programs were used to analyze the data.

EFA is a technique used to determine the sub-factors of the items in the measurement tool and to identify the relationships between the items (Sönmez & Alacapınar, 2016, p.63). The Kaiser-Meyer-Olkin (KMO) test was used to determine the suitability of the data for factor analysis and the adequacy of the sample size. Bartlett's Sphericity Test was used to determine whether there was sufficient correlation between variables (Özdamar, 2016). The results obtained are presented in Table 4 below.

Table 4

KMO and Bartlett's Test of Sphericity Results of MCS

KMO and Bartlett's Test	Coefficiants	Values	Acceptable	Fine fit
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.953	$0.50 \leq KMO \leq 0.90$	$0.90 \leq KMO$
Bartlett's Test of Sphericity	χ^2 2/df	6811.944/496	$2 \leq \chi^2/\text{df} \leq 5$	$\chi^2/\text{df} \leq 2$
	Sig.	.000		

As seen in Table 4, the KMO value of the Mathematical Curiosity Scale (MCS) is above 0.50, and the Bartlett's test is also significant at the 0.05 level, indicating that the data is suitable for factor analysis. Özdamar (2016, p.150) emphasized that KMO values should be greater than 0.50, and as the value approaches 1, the scale will be highly competent in measuring the phenomenon. [(KMO=0.953), Bartlett's test (496) = 6811.944 p=.000)]. After determining that the data is suitable for factor analysis, a principal component analysis was conducted. The factors with eigenvalues above 1 in the first principal component analysis and the eigenvalues and ratios of the variance they explain are given in Table 5.

Table 5

Eigenvalues and Percentages of Variance Explained by Factors in Principal Component Analysis

Factors	**Eigenvalue**	**Variance**	**Cumulative Variance**
1	11.287	35.271	35.271
2	2.079	6.496	41.767
3	1.578	4.930	46.697
4	1.119	3.496	50.193
5	1.078	3.369	53.561

As seen in Table 5, there are 5 factors with an eigenvalue greater than 1. In addition, the distribution of the scale's factor structure was examined using the Scree Plot given in Figure 1.

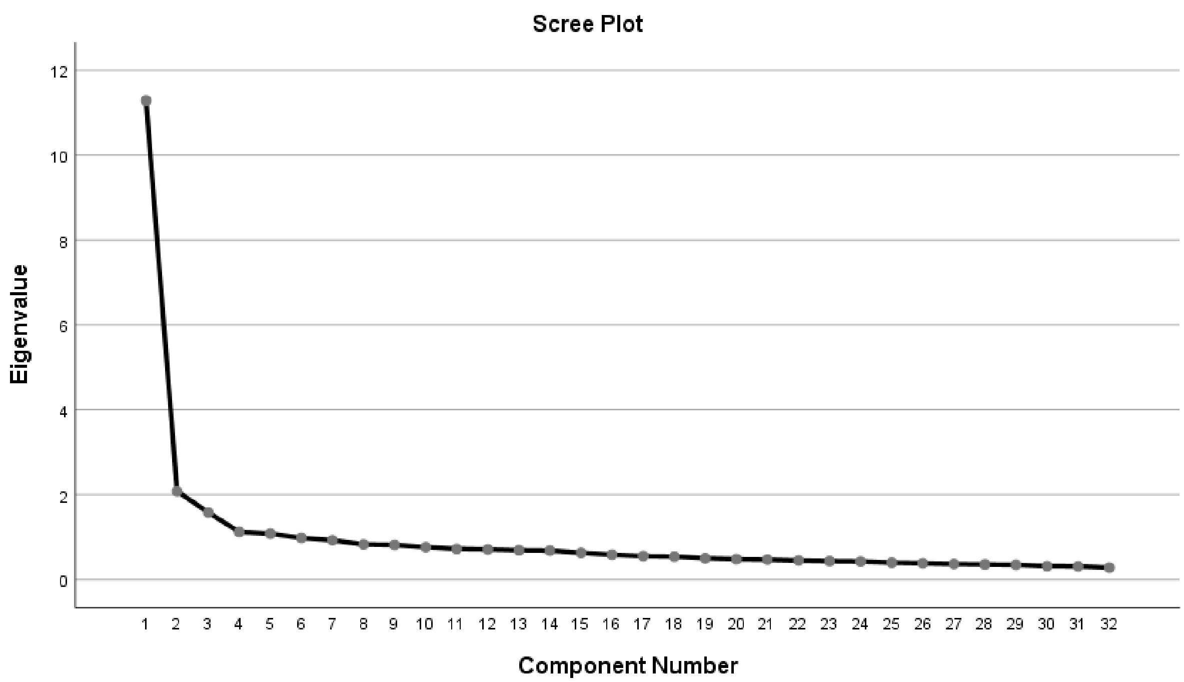

Figure 1. Scree plot

As seen in Figure 1, it can be said that the items are distributed into 3 factors.

In the principal component analysis, the item loading estimation point was accepted as .40 and above, items with multiple loading on different factors were removed one by one, and the analysis was repeated after each item removal. Table 6 presents the factors with eigenvalue greater than 1 and their corresponding variance ratios.

Table 6

Variance Ratios and Eigenvalues Explained by the Subfactors of the MCS

Factors	Eigenvalue	Variance	Cumulative Variance
1	7.339	43.171	43.171
2	1.444	8.495	51.667
3	1.068	6.284	57.951

As seen in Table 6, there are three factors with eigenvalues above 1. The eigenvalue for the first factor is 7.339, accounting for 43.171% of the variance; the eigenvalue for the second factor is 1.444, accounting for 8.495% of the variance; and the eigenvalue for the third factor is 1.068, accounting for 6.284% of the variance. The sub-factors of MCS account for a total of 57.951% of the variance. In addition, following the principal component analysis, the scale's factor structure was examined using the Scree Plot in Figure 2.

The variance eigenvalue explained by the first factor is 7.339 and the variance ratio is 43.171%; the variance eigenvalue explained by the second factor is 1.444 and the variance ratio is 8.495%; the variance eigenvalue explained by the third factor is 1.068 and the variance ratio is 6.284%. The sub-factors of MCS explain 57.951% of the total variance. In addition, the Scree Plot given in Figure 2 was examined for the scale’s factor structure after the principal component analysis.

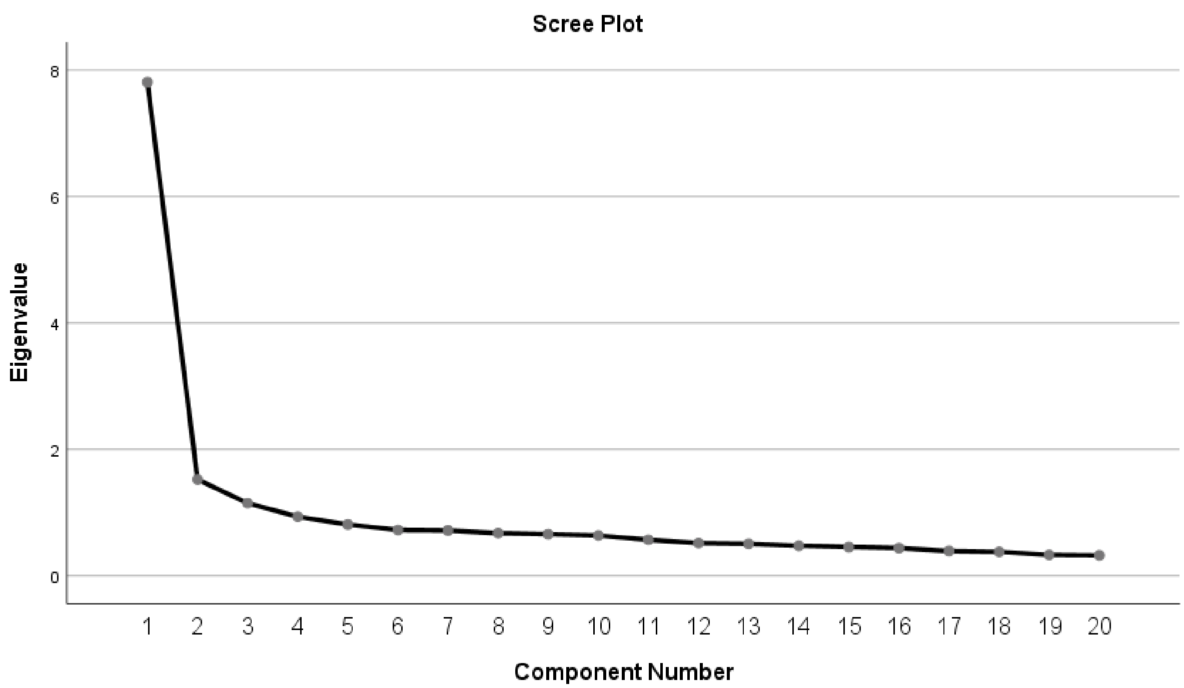

Figure 2. Scree plot

Twelve items with factor loadings below 0.40, with loadings on two or more factors, and with differences between factors less than 0.10 were removed (1, 12, 13, 16, 19, 22, 23, 25, 26, 28, 29, 31). As a result of this process, a scale consisting of 20 items was obtained. The factor loadings, variance ratios explained by the factors, and item numbers of the scale are presented in Table 7.

Table 7

Exploratory Factor Analysis Results

	Factor Loading Values		
Item No	**Will to learn mathematics (WLM)**	**Value-oriented mathematics curiosity (VOMC)**	**Applied mathematics curiosity (AMC)**
I7	0.715		
I5	0.698		
I3	0.651		
I11	0.642		
I17	0.634		
I21	0.623		
I15	0.526		
I9	0.509		
I20	0.452		
I4		0.763	
I2		0.728	
I6		0.701	
I8		0.693	
I18		0.650	
I10		0.618	
I32			0.699
I27			0.698
I24			0.627
I30			0.591
I26			0.485

When Table 7 is examined, it is seen that the items that make up the scale are grouped under 3 factors with eigenvalues greater than 1. The items belonging to the sub-dimensions were analyzed and the sub-dimensions were named. The "Will to learn mathematics" factor consists of 9 items (1, 2, 3, 4, 5, 6, 7, 8 and 9), "Value-oriented mathematics curiosity" factor consists of 6 items (10, 11, 12, 13, 14 and 15) and "Applied mathematics curiosity" factor consists of 5 items (16, 17, 18, 19 and 20). All items in the value-oriented mathematics curiosity factor were negative and reverse-coded.

The item-total correlation values and inter-factor correlation values of the MCS were calculated and presented in Table 8.

Table 8

Item-Total Correlation Values and Interfactor Correlation Values of the MCS

	Total	**WLM**	**VOMC**	**AMC**
I2	.611**	.486**	.739**	.335**
I3	.690**	.725**	.534**	.471**
I4	.636**	.465**	.773**	.412**
I5	.584**	.665**	.377**	.405**
I6	.712**	.579**	.809**	.434**
I7	.680**	.755**	.494**	.435**
I8	.672**	.563**	.787**	.354**
I9	.656**	.671**	.503**	.482**
I10	.561**	.415**	.662**	.382**
I11	.674**	.728**	.505**	.445**
I15	.557**	.619**	.368**	.402**
I17	.659**	.718**	.448**	.484**
I18	.617**	.481**	.739**	.363**
I20	.548**	.602**	.357**	.415**
I21	.761**	.781**	.583**	.555**
I24	.535**	.451**	.304**	.692**
I26	.630**	.534**	.431**	.716**
I27	.560**	.451**	.343**	.731**
I30	.614**	.508**	.406**	.740**
I32	.453**	.338**	.279**	.633**
WLM		1		
VOMC		.666**	1	
AMC		.652**	.504**	1
Total		.927**	.846**	.797**

N=499; **p<.01

As seen in Table 8, item-total correlation values ranged between 0.453 and 0.761. In addition, the correlation values between the factors ranged from .504 to .666, and the correlations between the scale total score and the factors ranged from .797 to .927 and were positively significant (p<.01). This finding was interpreted as a positive and significant relationship between the scale total score of the items and factors that make up the MCS. It can be said that the items and sub-dimensions as a whole measure MCS.

The structure consisting of 3 factors and 20 items in the exploratory factor analysis was confirmed by confirmatory factor analysis. CFA is an indispensable tool for the scale’s construct validity (Brown, 2015, p.2). As a result of the confirmatory factor analysis, Figure 3 below has emerged.

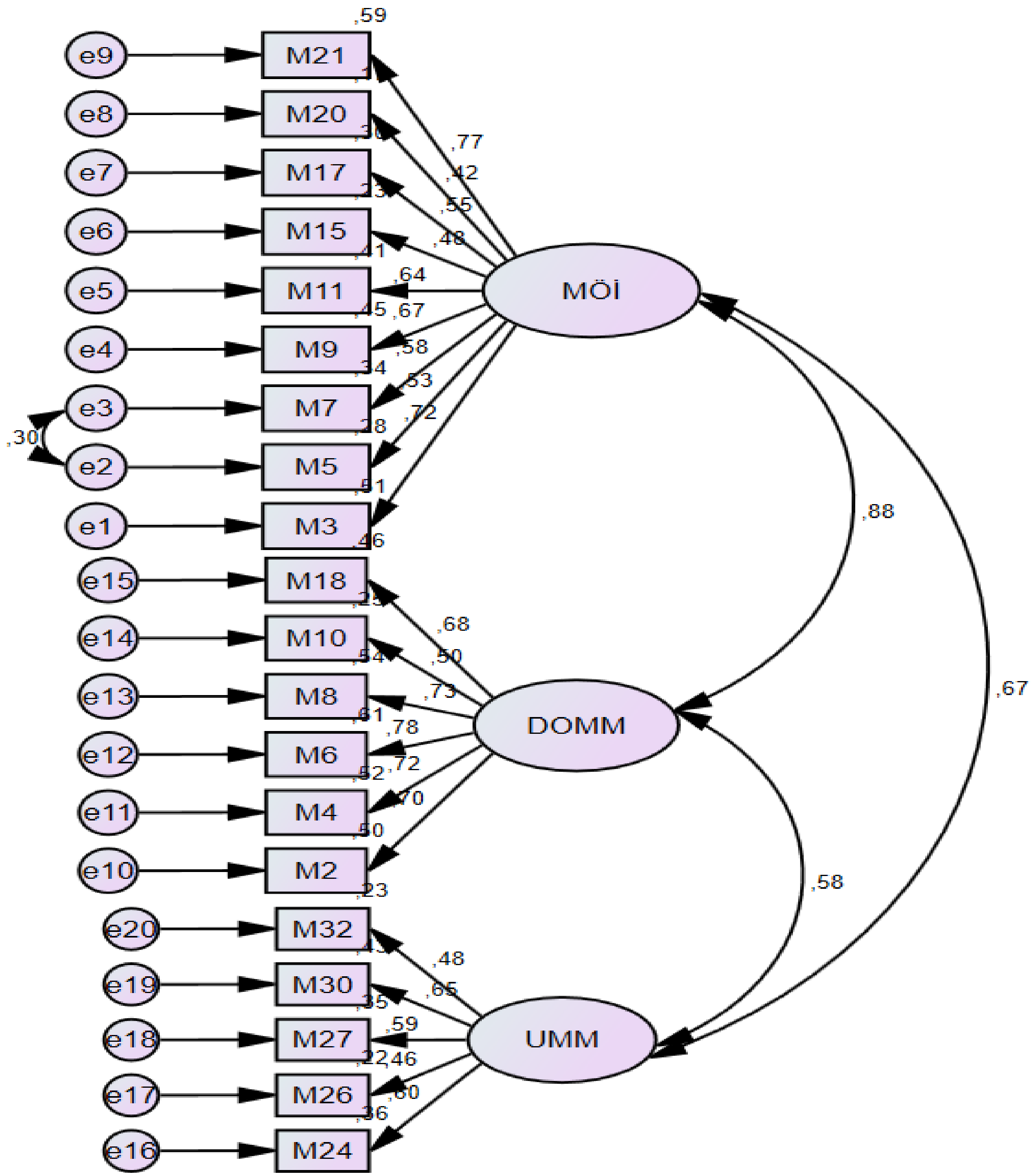

Figure 3. Confirmatory factor analysis

The fit indices of the CFA analysis are presented in Table 9.

Table 9

CFA Fit Indices

Fit Indices	Model values	Acceptable	Fine fit	Evaluation
x2/df	2.060	$3<\chi^2/df \leq 5$	$0\leq\chi^2/df \leq 3$	Fine
SRMR	.059	05<SRMR≤.08	0≤ SRMR≤.05	Acceptable
GFI	.889	90≤ GFI<95	95≤GFI≤1.0	Acceptable
IFI	.915	90≤ IFI<95	95≤IFI≤1.0	Acceptable
CFI	.914	90≤CFI<95	95≤CFI≤1.0	Acceptable
RMSEA	.060	.05≤RMSEA<.080	.0≤RMSEA<.080	Acceptable

χ^2=341.979; df=166; p=.000

Reference: Byrne, Shavelson & Muthen (1989), Jöreskog (2004), Kline (2011) & Sümer (2000)

According to Table 9, CFA fit indices confirm the 20-item and 3-factor structure obtained in EFA.

As a result of the studies and analyzes conducted for the validity of the scale, it can be concluded that the scale is a valid scale. In other words, it can be said that the scale is a scale that measures the mathematical curiosity of secondary and high school students.

Findings Related to Reliability

Firstly, Cronbach's Alpha values were calculated for the reliability of the MCS and given in Table 10.

Table 10

MCS Reliability Coefficients

	Cronbach	McDonald's	Spearman-Brown	Guttman	Item Numbers
WLM	.868	.869	.805	.783	9
VOMC	.846	.848	.833	.833	6
AMC	.744	.746	.718	.691	5
MCS Total	.918	.919	.878	.875	20

N=499

According to Table 10, after EFA, the reliability value of the will to learn mathematics (WMI) sub-dimension was .868, the reliability value of the value-oriented mathematics curiosity sub-dimension (VOMC) was .846, the reliability value of the applied mathematics curiosity sub-dimension (AMC) was .744, and the overall reliability value of the scale was calculated as .918. In addition, after CFA, the reliability value of the will to learn mathematics (WMI) sub-dimension was .838, the reliability value of the value-oriented mathematics curiosity sub-dimension (VOMC) was .842, the reliability value of the applied mathematics curiosity sub-dimension (AMC) was .690, and the overall reliability value of the scale was calculated as .903.

The findings of the independent samples t-test conducted to determine whether the scale items differentiated the lower and upper groups from each other are given in Table 11.

Table 11

Independent Groups t-Test

	Groups	N	M	Std.	t	df	p
I2	Lower group	135	2.34	1.160	-13.123	268	.000
	Upper group	135	4.07	1.005			
I3	Lower group	135	1.61	.947	-18.336	268	.000
	Upper group	135	3.82	1.036			
I4	Lower group	135	2.33	1.233	-14.199	268	.000
	Upper group	135	4.19	.902			
I5	Lower group	135	1.64	.988	-15.855	268	.000
	Upper group	135	3.64	1.082			
I6	Lower group	135	1.90	1.239	-20.184	268	.000
	Upper group	135	4.44	.769			
I7	Lower group	135	1.78	.975	-19.374	268	.000
	Upper group	135	4.06	.960			
I8	Lower group	135	1.81	1.169	-18.222	268	.000
	Upper group	135	4.21	.995			
I9	Lower group	135	1.69	.833	-17.818	268	.000
	Upper group	135	3.68	.997			
I10	Lower group	135	2.67	1.227	-11.596	268	.000
	Upper group	135	4.23	.962			
I11	Lower group	135	2.47	1.251	-15.166	268	.000
	Upper group	135	4.36	.739			
I15	Lower group	135	2.82	1.349	-11.446	268	.000
	Upper group	135	4.36	.777			
I17	Lower group	135	2.19	1.147	-15.588	268	.000
	Upper group	135	4.14	.899			
I18	Lower group	135	1.99	1.255	-15.260	268	.000
	Upper group	135	4.19	1.110			
I20	Lower group	135	3.04	1.307	-11.308	268	.000
	Upper group	135	4.52	.781			
I21	Lower group	135	1.75	.879	-22.485	268	.000
	Upper group	135	4.13	.859			
I24	Lower group	135	1.70	1.073	-11.884	268	.000
	Upper group	135	3.33	1.178			
I26	Lower group	135	2.04	1.239	-15.277	268	.000
	Upper group	135	4.16	1.021			
I27	Lower group	135	2.56	1.358	-11.099	268	.000
	Upper group	135	4.18	1.006			
I30	Lower group	135	2.06	1.202	-15.083	268	.000
	Upper group	135	4.07	.982			
I32	Lower group	135	2.90	1.506	-9.521	268	.000
	Upper group	135	4.34	.899			
WLM	Lower group	135	18.97	5.324	-30.567	268	.000
	Upper group	135	36.711	4.133			
VOMC	Lower group	135	13.044	4.729	-24.093	268	.000

	Upper group	135	25.34	3.576			
AMC	Lower group	135	11.2741	3.946	-20.892	268	.000
	Upper group	135	20.081	2.901			
Total	Lower group	135	43.296	9.937	-37.986	268	.000
	Upper group	135	82.133	6.509			

When Table 11 is analyzed, it is seen that the scale items, sub-factors and the total score of the scale significantly differentiate the lower and upper groups (p<.01). In other words, the scale items, sub-factors and the total score of the scale differentiate the lower and upper groups.

Table 12

MCS Test-Retest Correlation Coefficients

Dimension	**Group**	**N**	**r**	***p***
WLM	First application	91	.845	.000
	Last application	91		
VOMC	First application	91	.793	.000
	Last application	91		
AMC	First application	91	.844	.000
	Last application	91		
MCS Total	First application	91	.882	.000
	Last application	91		

*p<.01

As seen in Table 12, the correlation values between the scale sub-dimensions ranged between r=.793 and =.882 as a result of the MCS test-retest application.

Discussion, Conclusion & Suggestions

Curiosity leads individuals to seek new challenges, ask questions and solve problems (Hardy, Ness, & Mecca, 2017). People who are curious about mathematics often enjoy mathematical puzzles, abstract thinking, and solving complex problems (Peterson & Cohen, 2019). Mathematical curiosity is a fundamental quality for mathematicians as it helps individuals make connections between different mathematical concepts and find new solutions to problems (Kartika, Pujiastuti, & Soedjoko, 2019). In addition, a love of mathematics can inspire individuals to pursue careers in science, engineering, finance, and technology, where mathematical knowledge and skills are highly valued (Cass, Hazari, Cribbs, Sadler, & Sonnert, 2011; Wang & Degol, 2017). To nurture and develop mathematical curiosity, engaging in activities that challenge and stimulate the mind is vital. This can include solving mathematical puzzles and problems, reading books on mathematical topics, attending lectures and workshops, and participating in mathematical competitions (Rumack & Huinker, 2019). In addition, exploring the history of mathematics and learning about the people and ideas that have shaped the field can also help develop curiosity about the subject (Bell, 2012). Determining individuals' curiosity towards mathematics is essential for changing and improving their attitudes toward mathematics. When the literature in Turkey is examined, it is seen that different data collection tools have been developed for the concept of curiosity (Cındıl-Kopan, 2020; Demirel & Coşkun, 2009; Eren, 2009; Serin, 201;

Usluoğlu & Toptaş, 2021). However, it was determined that there was no measurement tool to determine the mathematics curiosity of secondary and high school students.

KMO (.953) and Bartlett's Test of Sphericity ($x2=6811.944$, $p<.01$) values were examined to determine whether the data obtained from the draft form were suitable for factor analysis. According to Tabachnick and Fidell (2007), in order to conduct factor analysis, the KMO value should be at least 0.60 and above and Bartlett's test should be significant. According to the values obtained, it was determined that the data were suitable for factor analysis. While determining the factor structure of the scale with Exploratory Factor Analysis, the factor loading value was taken as the lower limit of 0.40, and 12 items with item loadings below 0.40 and overlapping items were removed. In determining the factors, the condition of having an eigenvalue greater than 1 was sought (Özçifçi, 2020). Thus, the scale was finalized with 3 factors with eigenvalues greater than 1 and 20 items. The scale explains 57.951% of the total variance. In social sciences, a total explained variance above 40% is considered sufficient (Özdamar, 2016). It was determined that there was a positive and significant relationship between the factors that make up MCS and factor-total scale scores. CFA was conducted to test the construct validity of the 3-factor MCS scale ($\chi^2/sd= 2.060$; SRMR==.059; GFI= .889; IFI=.915; CFI=.914; RMSEA= .060) and it was seen that the structure of the scale met the criteria recommended in the literature (Byrne, Shavelson, & Muthen, 1989; Jöreskog, 2004; Kline, 2011; Sümer, 2000). Scale item-total correlation values were calculated and found to show a significant relationship ($p<.05$). This analysis provides an idea about the relationship between the items of the scale and the trait to be measured (DeVellis, 2014). This finding shows that the items and sub-dimensions as a whole measure mathematics curiosity.

Cronbach's alpha reliability coefficients were calculated to determine the reliability of the scale and it was found that the overall reliability coefficient of the scale was 0.903. It was determined that the internal consistency of the items in the scale was high (Tezbaşaran, 2008). Independent groups t-test was calculated to provide evidence for the discriminative feature of the items (Büyüköztürk, Akgün, Kahveci, & Demirel, 2004), and it was concluded that the scale items were able to distinguish the affect of mathematical curiosity of the lower and upper groups from each other. For reliability, test-retesting is recommended to show the consistency of the measurement tool, that is, its invariance over time and the external consistency of the measurements (Gözüm & Aksayan, 1999; Karadağlı & Ecevit-Alpar, 2017). In the test-retest correlation analysis, it was found that the correlation coefficients were significant and high ($r= .882$, $p=.00$). According to these results, the reliability of the scale was found to be at a high level. As a result of the validity and reliability studies and analyses, the factors and item distributions of the (MCS) are given below:

Will to Learn Mathematics: 1, 2, 3, 4, 5, 6, 7, 8, 9

Value Oriented Mathematical Curiosity: 10, 11, 12, 13, 14, 15

Applied Mathematics Curiosity: 16, 17, 18, 19, 20

The scale aims to measure the mathematical curiosity of students between the ages of 14-16. In future studies, calculating and presenting values for the validity and reliability of the scale may increase the validity and reliability of the scale. Since there is no Turkish mathematical curiosity scale developed on a similar sample group in the literature, an analysis of criterion validity could not be conducted. It is predicted that reporting the relationships between the MCS and other variables in future studies will provide evidence of criterion validity. The scale can be used to assess individual differences in students' mathematics curiosity, to understand how mathematical curiosity levels contribute to academic achievement, and to see the effect of educational interventions designed to nurture mathematics curiosity in students.

Ethic

This study was ethical approved by Istanbul Sabahatttin Zaim University Graduate Education Institute (Date:06/04/2022, Approval Number: E-20292139-050.01.04-25492 and Istanbul Governorship, Istanbul Provincial Directorate of National Education (date:21/04/2022, Approval Number: 48270374)

Author Contributions

First author: Literature rewiev, process of creating scale items, results and conclusions

Second author: Methodology, data analysis and results.

Third author: Data collection process.

Fourth author: Literature rewiev and process of creating scale items.

Conflict of Interest

The authors declare that they have no conflict of interest.

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The Relationship between Pre-service Early Childhood Teachers' Self-Compassion and Self-Regulation: The Moderating Effect of Mindfulness

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Abstract

Teacher characteristics are one indicator which might affect teachers' teaching practices. The current study was focused on several characteristics that might have an effect on teaching practices. The aim of this study was to examine the relationship between self-compassion skills, self-regulation skills, and mindfulness scores of pre-service early childhood teachers and reveal the moderator function of mindfulness in the relationship between self-compassion and self-regulation skills. To accomplish this aim, correlational research method was used and multiple regression analysis was applied to data collected from 213 pre-service teachers. Data were collected through four different instruments: "Personal Information Form, Self-Compassion Scale, Self-Regulation Questionnaire, and Mindful Attention Awareness Scale." As a result, a significant relationship between self-compassion and self-regulation skills and a statistically significant relationship between self-compassion skills and mindfulness scores were found. Also, a statistically significant relationship between self-regulation skills and mindfulness scores was revealed. Finally, a moderator effect on the relationship between self-regulation and self-compassion skills of participants was discovered. As a result of the consideration of the related literature, the importance of mindfulness practices for pre-service teachers will be highlighted.

Key Words

Mindfulness • Pre-service early childhood teachers • Self-compassion • Self-regulation

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Introduction

Teachers' psychological well-being is a significant determinant of the quality of teaching (Ahmed & Malik, 2019; Flook et al., 2013; Gustems-Carnicer & Calderón, 2013; McInerney et al., 2015; Panatik et al., 2011). It has been stated in several previous studies that teachers who cannot maintain psychological well-being in teaching, which is a stressful profession, often quit their jobs because of burnout (Buchanan, 2017; Lomas et al., 2017; McCormick & Barnett, 2011). Also, novice teachers can experience high levels of burnout early in first year of their teaching, but this is rooted in the teacher training process (Gavish & Friedman, 2010). For example, in the teacher training process, pre-service teachers should be supported in terms of investigating and understanding their own personality, which can help them feel better prepared at the outset of their teaching careers (Jamil et al., 2012). In this way, it is possible that pre-service teachers can modify their characteristics, adapt to new situations, and develop coping strategies in difficult times (McAdams & Pals, 2006; Rimm-Kaufman & Hamre, 2010). Therefore, although it may seem like a small step to include pre-service teachers in the current study, there is an argument that it can be beneficial for their future teaching experiences as well as make them feel better equipped to face future challenges (Jamil et al., 2012).

There are a variety of factors that can negatively affect teachers' psychological well-being and cause burnout, such as, low income, excessive working hours, heavy workload, high number of students, difficulties with classroom management, negative relationship with their students' parents, and other work pressure (Al-Adwan & Al-Khayat, 2017; Buchanan, 2017; Yaşar- Ekici, 2017). Preschool teachers often have greater responsibilities and uninterrupted working hours compared to other teachers, for example, teaching becomes busier and the teacher's responsibilities increase as the age of students decreases (Akman, et al., 2010). In addition to the academic development of children, it can also be difficult for early childhood teachers due to other responsibilities such as the general development of children as well as addressing their needs, establishing positive relationships with families, providing effective classroom management, which can all be factors that impact ECE teachers' psychological well-being (Akman et al., 2010). For these reasons, pre-service early childhood education (ECE) teachers should become prepared for the aforementioned difficulties through the teacher training process and should also gain knowledge regarding how to ensure their psychological well-being (Jamil et al., 2012; Rimm-Kaufman & Hamre, 2010).

In the related literature, it is mentioned that there are various factors positively influence teachers' psychological well-being as well as prevent burnout such as having high levels of self-compassion, self-regulation, and mindfulness (Abenavoli et al., 2013; Buchanan, 2017; Carmody & Baer, 2008; Chiesa & Serretti, 2009; Elreda et al., 2018; Homan, 2016; Jennings, 2014; Neff & Germer, 2017; Singh & Sharma, 2018; Whitehead, 2011). According to relevant studies in the literature, three factors which have bilateral relations between one another, are frequently used in research with teachers and a wealth of results have been obtained that have benefited teachers (Buchanan, 2017; Geldhof et al., 2010; Neff & Germer, 2017; Singh & Sharma, 2018; Whitehead, 2011). For example, in the following the aforementioned factors are explained one by one and enriching through resources from the literature.

First among the factors mentioned, self-compassion, is defined as one's awareness, acceptance, and tolerance of the self, one's failures, and weaknesses (Neff & Knox, 2016). There are a variety of circumstances that occur in individuals' lives, and as a result, they can experience a multitude of difficulties and problems. In such situations, individuals need to behave kindly to the self to comfort themselves and decrease the level of suffering as well as minimize their self-isolation (Neff, 2003). In the literature related to self-compassion it has been argued that self-compassion is highly associated with psychological well-being (Neff, 2009). In addition, self-compassion skills are critical for teachers regarding them dealing with work-related problems, increasing their teaching quality, developing positive relationships with students, decreasing their level of stress, and preventing negative physical and psychological outcomes related to stress such as depression and anxiety (Hwang et al., 2019; Jennings, 2015; Neff & Germer, 2017).

The second factor mentioned is self-regulation, which is defined as managing actions, emotions, thoughts, impulses, and/or appetites in the desired way for benefits in both the long and short term (McClelland et al., 2018). Like self-compassion, self-regulation is also described as an effective tool for well-being and mental health (Geldhof et al., 2010). The capacity for self-regulation is seen as an indicator of individuals' psychological well-being due to its contribution to positive relationships with others, personal growth, having an aim in life, and self-acceptance (Singh & Sharma, 2018). Self -regulation skills are significant for teachers for promoting positive relationships with children, developing effective classroom management skills, and providing self-regulated learning experiences for their students (Ertürk, 2013; Kurt & Sığırtmaç, 2021; Randi, 2004).

After self-compassion and self-regulation, the third factor is mindfulness. Mindfulness is defined as taking notice to the current moment with no judgment and was first applied in 1979 as a therapy for patients suffering chronic pain (Kabat-Zinn, 2003). In light of the findings from this therapy, mindfulness practices have been included in several fields such as psychology, medicine, and education (Meiklejohn et al., 2012; Roemer et al., 2008). According to previous studies, mindfulness can reduce stress (Chiesa & Serretti, 2009), promote emotional regulation (Goldin & Gross, 2010), increase psychological well-being (Chiesa & Serretti, 2009), and prevent depression (Hofmann et al., 2010). In addition, mindfulness practices in the field of education are found to increase academic success, attention, memory, and self-confidence (McCallum & Price, 2010; Meiklejohn et al., 2012). Also, it has been stated that burnout in teachers can also be prevented with the help of decreased stress levels (Abenavoli et al., 2013; Buchanan, 2017; Jennings, 2014; Whitehead, 2011). Furthermore, mindfulness practices have been found to positively affect teachers' classroom management skills (Jennings, 2015).

When self-compassion, self-regulation and mindfulness are examined in depth, it has been shown in the literature that these three factors intersect at one point because all the factors have similarly positive effects on the psychology of individuals (Buchanan, 2017; Hofmann et al., 2010; Homan, 2016; Neff & Germer, 2017; Singh & Sharma, 2018; Teasdale et al., 2000; Whitehead, 2011). The aforementioned studies demonstrate that self-compassion, self-regulation and mindfulness meet at common points and benefit teachers by decreasing their levels of depression, anxiety, and stress, promoting mental health, establishing positive relationships with children, developing classroom management skills, and improving psychological well-being (Buchanan, 2017; Chiesa & Serretti, 2009; Ertürk, 2013; Hwang et al., 2019; Kurt & Sığırtmaç, 2021; Neff & Germer, 2017; Randi, 2004; Whitehead, 2011).

In addition to the common benefits of self-compassion, self-regulation, and mindfulness, there are many studies that demonstrate bilateral relations occurring between each other. For example, it is revealed that self-compassion interventions improve self-regulation skills of individuals (Biber & Ellis, 2019; Gale et al., 2014; Kelly & Carter, 2015; Terry & Leary, 2011). In another example, researchers have revealed that there is a positive relationship between self-compassion and mindfulness (Aydın Sünbül & Yerin Güneri, 2019; Flook et al., 2013; McKay & Walker, 2021). Lastly, it has been shown in other studies that the practice of mindfulness positively affects participants' self-regulation skills (Kabat-Zinn, 2003; Tang et al., 2015; Zenner et al., 2014). There have been several studies which support bilateral the relationship between self-compassion, self-regulation, and mindfulness (eg. Aydın et al., 2019; Biber & Ellis, 2019; Kelly & Carter, 2015). However, to our knowledge there has not been a study which has revealed a relationship between these three concepts as well as the moderator role of mindfulness in the relationship between the two other concepts. Therefore, looking at a relationship between three factors, and in particular, examining the moderator role of mindfulness will ultimately contribute to the literature. In addition to contributing to the related literature, the findings of the current study may contribute to teachers' teaching practices. That is, as stated before, self-regulation, self-compassion, and mindfulness contribute to teachers in terms of decreasing stress for mental health, establishing positive relationships with children, improving classroom management skills, and improving psychological well-being (Buchanan, 2017; Chiesa & Serretti, 2009; Ertürk, 2013; Hwang et al., 2019; Kurt & Sığırtmaç, 2021; Neff & Germer, 2017; Randi, 2004; Whitehead, 2011). Thus, with the awareness related to these skills, teachers can realize the different ways to develop their teaching skills or have more secure relationships with children in the classroom. The teacher that is able to regulate his/her feelings and behaviors, accept the self, and focus on the moment without judgments can also help children to develop these skills by creating a classroom environment in accordance with this consciousness. To help teachers be aware of these skills, and their potential for these skills, both undergraduate education and in-service education policies can be planned.

In the light of the literature, the results of which cover a wide range of points, the purpose of the current study was twofold. First, the aim of this study was to discover the relationship between self-compassion skills, self-regulation skills, and mindfulness scores among pre-service early childhood teachers. Second, the study aim was to examine the moderator function of mindfulness on the relationship between self-compassion and self-regulation skills. The examination of these variables is important because it is helpful for pre-service early childhood teachers to understand different ways to deal with difficulties in the classroom as well as increasing their psychological well-being, decreasing their level of stress, and promoting positive relationships with students. In addition, the findings of the current study can aid researchers in designing new approaches for increasing pre-service teachers' well-being.

Therefore, in accordance with aforementioned aims of this study, attempts were made to answer the following research questions:

1. Is there a relationship between pre-service early childhood education teachers' self-compassion and self-regulation skills? If so, in what direction?

2. Is there a relationship between pre-service early childhood education teachers' self-compassion and mindfulness levels? If so, in what direction?

3. Is there a relationship between pre-service early childhood education teachers' self-regulation and mindfulness levels? If so, in what direction?

4. To what extent are pre-service early childhood education teachers' self-compassion skills related to their self-regulation skills, and is this relationship moderated by their mindfulness levels?

To examine these research questions, the researchers utilized a quantitative research design, and in the following section, detailed information regarding the methodology applied will be shared.

Method

The aim of the current study was to reveal relationships between self-compassion, self-regulation, and mindfulness levels among pre-service ECE teachers as well as determine the moderator role of mindfulness in the relationship between self-compassion and self-regulation. A correlational research design through quantitative research methods was used which enabled the discovery of relationships between variables (Fraenkel & Wallen, 2006). A moderator is a quantitative or qualitative variable that affects the direction and severity of the relationship between the dependent variable and the independent variable (Gürbüz & Şahin, 2016). The Figure 1 displays the moderator relationship model between variables. That is, according to Gürbüz and Şahin (2018), the moderator regression model aims to display the effect of moderator variable on the relationship between dependent variables.

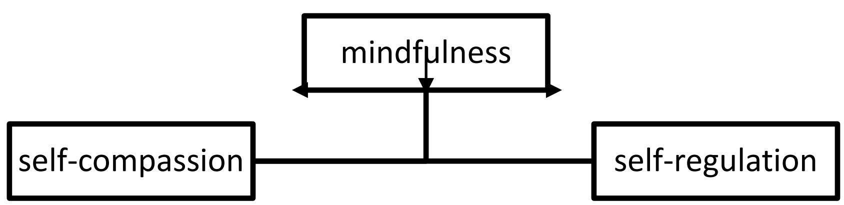

Figure 1. The moderator relationship model

Participants

The participants of the current study were 213 pre-service early childhood education teachers. Pre-service ECE teachers from 10 different public universities were included in this study. There was no missing data in the study due to the researchers utilizing online forms to gather the data. Detailed information regarding the participants is presented in Table 1.

Table 1

Participant Information

Questions	Answers
Gender	Female: (n = 192) 90.1%
	Male: (n = 21) 9.9%
Age	18-20: (n = 31) 14.5%
	21-23: (n = 146) 68.6%
	24-26: (n = 29) 13.6%
	27-29: (n = 3) 1.4%
	30 and above: (n = 4) 1.9%
Year in school	Freshman: (n = 10) 4.7%
	Sophomore: (n = 6) 2.8%
	Junior: (n = 143) 67.1%
	Senior: (n = 54) 25.4%
Experience of practicum (term)	1 term: (n = 148) 69.5%
	2 terms: (n = 19) 8.9%
	3 terms: (n = 46) 21.6%

Data Collection Instruments

In the current study, data were gathered through four different data collection instruments, which included the Personal Information Form, Self-Compassion Scale (Neff, 2003; Deniz, Kesici, & Sümer 2008), Self-Regulation Questionnaire (Brown, Miller, & Lawendowski, 1999; Aydın, Keskin, & Yel 2014), and Mindful Attention Awareness Scale (Brown & Ryan, 2003; Özyeşil, Arslan, Kesici, & Deniz 2011). These scales are the most common used for the variables sought in the current study. For this reason, these scales were accepted to be valid and reliable for use in this study. Prior to the scales being implemented, the necessary permissions were taken by the researchers who adapted the scales into Turkish.

Personal information form

The researchers created a Personal Information Form to collect demographic information from participants. The Personal Information Form included questions related to gender, age, year in school, and experience of practicum (term).

Self-compassion scale

The Self-Compassion Scale (SCS) was created by Neff in 2003. It includes 26 items with six subscales which are "self-kindness, self-judgment, common humanity, isolation, mindfulness, and overidentification." It is based on a 5-point Likert scale ranging from 1 to 5 (i.e., 1 = almost never, 5 = almost always). The Cronbach alpha coefficient for the scale is calculated as .92, and the test-retest reliability coefficient is .93 (Neff, 2003). Due to the participants in the current study being Turkish pre-service teachers, the Turkish adaptation of the scales were utilized. For example, the Self-Compassion Scale was adapted to Turkish through a four-phase study that included 341 university students (Deniz et al., 2008). At the completion of the adaptation process, two items were eliminated from the scale. As a result, the new Cronbach alpha coefficient for the adapted scale is .89, and the test-retest reliability coefficient is .83 (Deniz et al., 2008).

Self-regulation questionnaire

The Self-Regulation Scale used in this study was developed by Brown et al. (1999), and included 63 items with seven subdimensions such as evaluating information, comparing it to norms and receiving relevant information, triggering change, searching for options, formulating a plan, implementing the plan, and assessing plan effectiveness. It is based on a 5-point Likert scale ranging from 1 to 5 (i.e., 1 = strongly disagree, 5 = strongly agree). The Cronbach alpha coefficient for the scale is calculated as .91 (Brown et al., 1999). In addition, since the current study participants were Turkish pre-service teachers, the Turkish adaptation of the scales was utilized. For example, the Self-Regulation Questionnaire was adapted to Turkish through a study that included 591 university students (Aydın et al., 2014). As a result, at the completion of the adaptation process, the number of questionnaire items and subdimensions was amended. Thus, the adapted version of the questionnaire is made up of 51 items and three subdimensions including self-reinforcement, self-monitoring, and self-evaluation. The new Cronbach alpha coefficient for the adapted scale is .87 (Aydın et al., 2014).

Mindful attention awareness scale

The Mindful Attention Awareness Scale (MAAS) developed by Brown and Ryan (2003) was used in this study. The original form of the scale includes 15 items and has no subdimensions. It is based a 6-point Likert scale ranging from 1 to 6 (i.e., 1 = almost always, 6 = almost never). Importantly, a higher score on this scale means that the participant has a high level of mindfulness. The Cronbach alpha coefficient for the scale is calculated as .82, and the test-retest reliability coefficient is .81 (Brown & Ryan, 2003). Since the current study participants were Turkish pre-service teachers, the Turkish adaptation of these scales were utilized. For example, the Mindful Attention Awareness Scale was adapted into Turkish with the participation of university students (Özyeşil et al., 2011). At the completion of the adaptation process, the number of items remained the same. The new Cronbach alpha coefficient of the adapted scale is .80, and the test-retest reliability coefficient is .86 (Özyeşil et al., 2011).

Data Collection Process

Prior to conducting the current study, researchers applied for approval from the Human Research Ethics Committee of a State university located in Türkiye. After gaining approval, the scales were transformed into online forms to reach a greater number of participants. As a result, the link to the scales was shared with pre-service early childhood education teachers from different universities. The data were collected in the spring semester of 2021 and following completion of the data collection process, researchers entered data into SPSS 22 Software Package for analysis.

Data Analysis

Furthermore, prior to analyzing the collected participant data, the normality distribution of the data obtained through the Self-Compassion Scale (Neff, 2003; Deniz et al., 2008), Self-Regulation Questionnaire (Brown et al., 1999; Aydın et al., 2014), and Mindful Attention Awareness Scale (Brown & Ryan, 2003; Özyeşil et al., 2011) was examined, and as a result, it was determined that the data were within a normal distribution. Since the data showed a normal distribution, parametric tests were used within the analysis process. That is, for correlation analyses used to detect the relationships between variables, Pearson Correlation was used to find out the relationships between the variables (Pallant, 2020). In addition, to find out if there is a moderator role of mindfulness in the relationship between self-regulation and self-compassion, a moderated multiple regression analysis was conducted to reveal the interactional effects among variables (Shieh, 2009).

Table 2

Skewness and Kurtosis Values for Normality

Descriptive			
		Statistic	Std. Error
Self-compassion	Skewness	-.298	.167
	Kurtosis	-.393	.332
Mindfulness	Skewness	-.389	.167
	Kurtosis	.165	.332
Self-regulation	Skewness	-.269	.167
	Kurtosis	-.289	.332

Data normality can be measured with the help of Skewness and Kurtosis values (Hair at al., 2013). Importantly, if these values fall inside the range of -1 to +1, the assumption can be made that the data is normally distributed. Therefore, as is displayed in Table 2, the data related to self-compassion (skewness: -.298 to .167 and kurtosis: -.393 to .332), mindfulness (skewness: -.389 to .167 and kurtosis: .165 to .332), and self-regulation (skewness: -.269 to .167 and kurtosis: -.289 to .332) was normally distributed. Considering these results, the parametric test was applied in the current study. Thus, Pearson correlation was used to find out the relationships between variables, and a moderated multiple regression analysis was performed with mindfulness as the criterion variable and the three independent variables were self-compassion, self-regulation, and their interaction.

Results

In the following section, findings are provided to answer the research questions.

Pre-Service Early Childhood Education Teachers' Self-Compassion, Self-Regulation Skills, And Mindfulness Level

Table 3

Relationship between Self-Compassion, Self-Regulation Skills, and Mindfulness Level

Variables	**Mean**	**SS**	**1**	**2**	**3**
1.Self-Compassion	3.2492	.74569		.341**	.625**
2.Mindfulness	3.9311	.81004	.341**		.418**
3.Self-Regulation	2.0798	.95078	625**	.418**	

** Correlation is significant at a 0.01 level (2-tailed).

When Table 3 is examined, it can be seen that there was a statistically significant relationship between pre-service early childhood education teachers' self-compassion and self-regulation skills according to $p = .000 < .01$.

In this study, the researchers also examined if there was a relationship between pre-service ECE teachers' self-compassion and mindfulness levels. Thus, according to the results of the Pearson correlation, it was observed that there was a statistically significant relationship in the positive direction with consideration of $p = .000 < .01$.

Finally, the relationship between self-regulation and mindfulness was examined. Similar to the relationship between the other variables, a statistically significant relationship was found between the pre-service ECE teachers' self-regulation skills and mindfulness levels with $p = .000$ at a .01 alpha level, and the direction of this relationship was positive.

Moderator Effect Of Mindfulness On Self-Compassion And Self-Regulation Skills

Table 4

Moderator Mindfulness on Self-Compassion and Self-Regulation Skills

Dimensions	**Predictor Valiable: Mindfulness**				
Variable	**B**	**SE**	**β**	**t**	**p**
self-compassion	.314	.060	.341	5.26	.000
self-regulation	.222	.033	.418	6.67	.000

In addition to these relationships, the moderator effect of mindfulness was examined regarding pre-service teachers' self-compassion and self-regulation. As is shown in Table 3, the $p = .000$ displayed a statistically significant relationship between mindfulness and self-compassion at an alpha level of .01. Similarly, when mindfulness and self-regulation were observed, a positive, statistically significant relationship was found with $p = .000$ at an .01 alpha level

Moderator effect of mindfulness on the relationship between self-compassion and self-regulation skills

Table 5

Moderator Effect on the Relationship between Self-Compassion and Self-Regulation Skills

Dimensions	**Predictor Valiable: Mindfulness**				
Variable	**B**	**SE**	**β**	**t**	**p**
Interaction	1.87	.287	.410	6.52	.000

Interaction: self-regulation x self-compassion

Therefore, in accordance with the research aim, not only the relationship between self-regulation, but also self-compassion was examined. Also, the moderator role of mindfulness as part of this relationship was found. As a result, it was determined that the sign value in Table 5 revealed that there was a moderator effect for mindfulness with $p = .000$ at an alpha level of .01.

Considering these findings, in the following section, the data will be discussed in relation to the relevant literature.

Discussion, Conclusion & Suggestions

The purpose of the current study was to discover the relationship between self-compassion skills, self-regulation skills, and mindfulness scores of pre-service early childhood education teachers as well as examine the moderator function of mindfulness in terms of the relationship between self-compassion and self-regulation.

In accordance with the study aim, attempts were made answer several research questions. The first research question was to determine the relationship between self-compassion and self-regulation skills of pre-service early childhood education teachers. As a result, it was found that there was a statistically significant relationship between self-compassion and self-regulation skills of pre-service ECE teachers. This positive correlation parallels related literature including a several intervention studies, for example, it is revealed in the literature that self-compassion interventions improve participants self-regulation skills (Biber & Ellis, 2019; Gale et al., 2014; Kelly et al., 2010, 2014; Terry & Leary, 2011). There are a variety of possible explanations for these results. First of all, improvements in participants self-regulation skills along with the self-compassion interventions can be explained by a bilateral positive relationship occurring between the two. In addition, Dundas et al. (2017) argue that the positive relationship can be explained due to personal growth and development of healthy behaviors. Therefore, in the light of these sources, it was possible to observe an increase in self-regulation which was in line with an increase in self-compassion. Even if similar results are provided in previous studies as were determined in the current study, the focus was placed on sample groups with different characteristics. That is, the focus of the current study was placed on pre-service teachers due to their vital role in students' learning and education. Furthermore, during the time as a pre-service teacher, their skills might be supported in ways that would contribute to their future teaching career. Therefore, the results of the current study not only support those from other studies with similar relationships, but also provides a new perspective from different sample groups.

In the second research question, the relationship between self-compassion skills and mindfulness scores of the pre-service early childhood education teachers was queried. It was shown in the results that there was a statistically significant relationship between the self-compassion skills and mindfulness scores of pre-service early childhood teachers which was consistent with the literature (Aydın Sünbül & Yerin Güneri, 2019; McKay & Walker, 2021; Roeser et al., 2013). As a result, the reasons for the relationship between self-compassion and mindfulness may be, as Neff (2003) explains, that mindfulness is a dimension of self-compassion. In addition, the mindfulness dimension can be seen as a subscale of the Self-Compassion Scale (Neff, 2003).

The third research question investigated in this study was the relationship between self-regulation skills and mindfulness scores of pre-service ECE teachers. Importantly, the examination of previous studies shows that mindfulness practices positively affect participants' self-regulation skills (Tang et al., 2015; Zenner et al., 2014). Similarly, it was revealed in the current study that there was a statistically significant relationship between self-regulation skills and mindfulness scores of pre-service early childhood teachers. This result might be explained by the fact that self-regulation of attention is one of the mechanisms of mindfulness (Bishop et al., 2004). Even if the relationship emphasized in previous studies, in the context of ECE pre-service teachers, the study can provide an insight to include mindfulness in undergraduate early childhood education programs to increase the students self-regulation skills which would ultimately benefit their professional improvement (Butler, et al., 2004), effective teaching (Toussi et al., 2011), job performance (Gol & Royaei, 2013), and anxiety level (Button, 2007).

For the final research question, the researchers attempted to determine whether the pre-service ECE mindfulness levels acted as the moderator effect for the relationship between their self-regulation and self-compassion skills. As a result, it was revealed that the relationship between these factors was moderated by the mindfulness levels of the pre-service early childhood teachers. Furthermore, in the related literature, no study that directly focused on the moderator effect of mindfulness on the relationship between self-regulation and self-compassion was found. Thus, when considering studies regarding these three concepts, whose relationships have already been determined, it was noteworthy that several common issues were focused on. For example, well-being is one of the common issues that was found to be related to self-regulation, self-compassion and mindfulness. In addition, a causal relationship between mindfulness and well-being was also identified in other studies (Bowlin & Baer, 2012; Brown et al., 2007; Keng et al., 2011). Along with the aforementioned studies, which reveal the previously highlighted relationships, some researchers have also focused on the role of self-compassion as part of these relationships. Past researchers investigated whether or not self-compassion is a strong predictor of well-being (Baer et al., 2012; Woods & Proeve, 2014). There are other studies though in which the mediator role of self-compassion is reported as part of the relationship between mindfulness and well-being (Evans et al., 2018; Hollis-Walker & Colosimo, 2011). Moreover, the relationship between well-being and self-regulation is mentioned in the related literature. For example, according to Singh and Sharma (2018), individuals' capacity for self-regulation can be seen as an indicator of their psychological well-being as well as related to improvements in their relationships with others, personal growth, self-acceptance, and having life goals. In other words, it can be stated that self-regulation plays a significant role in individuals' well-being (Geldhof et al., 2010). Thus, even though the primary focus of the current study was not on well-being, it can still be inferred that the relationship between self-regulation, self-compassion along with the moderator role of mindfulness, can be viewed as a source for estimating preservice teachers' well-being.

Therefore, the second of these common issues was related to compelling situations such as stress, depression, anxiety, and burnout. In most studies, researchers reveal the effects of mindfulness practices for decreasing the levels of stress, depression, anxiety, and burnout for participants (Flook et al., 2013; Gold et al., 2010; Hofmann et al., 2010; Khoury et al., 2015; Napoli, 2004; Roeser et al., 2013). Furthermore, in some studies, it has been found that self-compassion is negatively correlated with the previously mentioned compelling situations (Beshai et al., 2018; Ko et al., 2018) as well as that self-compassion is widely used in decreasing stress (Tandler et al., 2019), burnout (Wörfel et al., 2015), depression, and anxiety (Takahashi et al., 2019). Likewise, when the description of self-regulation is examined, it can be seen that self-regulation is also related to compelling situations as it includes managing emotions, thoughts, behaviors, and/or impulses (McClelland et al., 2018). In addition, self-regulation can be seen as an effective tool for individuals' mental health (Geldhof et al., 2010). Thus, according to Zimmerman (2000), self-regulation is associated with monitoring and enhancing individuals' cognitive and affective states. As a result, it can be inferred that individuals can manage their behaviors and reactions by finding practical solutions to problems in their lives. Importantly, the moderator role of mindfulness that is described in the current study can be viewed as a practical solution for enhancing self-regulation and self-compassion and in the long term, can lead to decreasing the negative effects of stress, anxiety, and depression. As a result, the pre-service years can be an effective time-period when pre-service teachers learn practical solutions including mindfulness as well as also develop their skills in self-regulation and self-compassion.

In conclusion, as was recognized in the aforementioned studies, the skills of mindfulness, self-regulation, and self-compassion are intertwined. In the current study, the relationships between these factors were revealed, and moreover, the moderator effect of mindfulness on the relationship between self-regulation and self-compassion was revealed. Importantly, these intertwined factors are significant items for future teachers to be aware of to better maintain their psychological well-being as well as deal with the compelling situations they experience in their lives. It can be argued that the current study may be a good starting point for more fully understanding the significance of these terms as part of teachers' personal and professional lives.

Limitations and Suggestions for Further Research

There were some limitations in the current study that should highlighted. Firstly, the sample size of the study was a limitation due to it being small, and as a result, a small sample size in effect limits the generalizability and interpretation of determined results. In addition, due to most of the participants in this study being female, the homogeneity of the participants in terms of gender was another study limitation. For further research, it is recommended that larger samples with equal distribution in terms of gender should be investigated to better allow for a fully comprehensive analysis of the relationships. Along with these recommendations, in further research some implications for practice need to be considered. For example, inferring from the study findings, it can be suggested that elective courses related to mindfulness be added to the educational program of pre-service teachers. Moreover, mindfulness-based programs should be prepared for teachers to increase their self-regulation and self-compassion skills. Therefore, educators, researchers, and policymakers who focus on the well-being of teachers and teacher quality, need to consider these issues in future research and practice.

Ethic

Ethical approval was obtained from Middle East Technical University, Human Research Ethics Committee with protocol number of 134 ODTU 2020.

Author Contributions

This article was written with the equal contributions of all authors.

Conflict of Interest

The authors declare no conflict of interest in the research.

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Parent Attitudes and Behaviors Affecting Teacher Motivation

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Abstract

The aim of the study was to determine the attitudes and behaviors of parents that positively or negatively affect teachers' motivation based on their perceptions. The research was conducted using a case study methodology on 19 teachers working in public secondary schools in Karatay district of Konya, Turkey. The data were collected through semi-structured interviews and analyzed using content analysis. The study group was determined according to the maximum diversity sampling method. As a result of analysis, six parental behaviors that increase or decrease teachers' motivation were identified: recognition and appreciation, involvement and support, communication, trust in teacher expertize valuing holistic development, and support in terms of resources and materials. Teachers observed that their motivation increased when parental attitudes and behaviors aligned with their expectations and decreased when they did not. Based on the results, two recommendations were made: (1) schools should see parents as equal partners, and (2) schools should initiate parent involvement practices that will ensure appropriate behaviour without waiting for parents' appropriate behaviour.

Key Words

Parent behaviour • Parent involvement • Teacher motivation

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Teacher motivation has attracted the attention of researchers in every period. The reason for this interest is that teachers and teacher performance is one of the most important variables in schools for student achievement. One of the most important determinants of teacher performance is teacher motivation. In this study, acting with the same motivation, parent behaviours affecting teacher motivation were determined as the subject of this research.

Teacher motivation is a factor that attracts individuals to the teaching profession, makes them endure difficult training to become a teacher, and then determines how long they will stay in the profession and how much they will concentrate on their profession. This factor includes attraction, persistence and effort in relation to the teaching profession (Sinclair 2008). Research shows that teachers' motivation influences their approach to professional challenges, frustrations and rewards, their professional plans, their behaviors and, consequently, student outcomes (Abazaoğlu & Aztekin, 2016; Richardson & Watt, 2010). Dörnyei and Ushioda (2011) draw attention to the existence of frustrated, dissatisfied, or simply bored teachers at all levels of education. Accordingly, this situation, which negatively affects perseverance and effort, is a motivational crisis, and the causes of this crisis are stress, restricted autonomy, stress, ınsufficient self-efficacy, lack of intellectual challenge, ınadequate career structure.

The source of stress, which is one of the factors that cause teachers' demotivation, according to some studies (e.g. Müller et al., 2009; Skaalvik & Skaalvik, 2009), is teachers' relationships with students' parents. According to these studies, the stress experienced by teachers who have difficulties in building a relationship with their parents causes their motivation to decrease. The key point to remember about demotivation is that it does not eliminate all the positive effects that underlie motivational behavior. Other motivational factors can still provide motivation despite the presence of demotivation (Dörnyei & Ushioda, 2011). In other words, the stress experienced by the teacher in his/her relationship with the parents may negatively affect the teacher's motivation, but it may not completely eliminate it. For example, a teacher who loves his/her profession very much can maintain his/her motivation by coping with the stress caused by the parents.

Studies in Türkiye also show that teachers' relationships with parents affect their motivation positively or negatively. For example, participatory (Aydemir, 2008), interested, satisfied, collaborative, competent, and educated (Ada et al., 2013), supportive (Aydemir, 2008; Karabağ-Köse et al., 2018), and respectful (Kızıltepe, 2011) parents increase teachers' motivation. On the other hand, parents' indifference and insensitivity (Ada et al., 2013; Karabağ-Köse et al., 2018), negative attitudes (Ada et al., 2013), and confrontational behavior (Kızıltepe, 2011; Özge-Sağbaş & Özkan, 2022) cause teachers' motivation to decrease. When the researches are examined, it is observed that parent behaviours that affect or decrease teacher motivation in teacher-parent relationships are divided into various categories: interested-uninterested, sensitive-insensitive, cooperative-uncooperative, sufficient-insufficient, respectful-disrespectful, supportive-non-supportive-blocking. However, the content of these categories is not sufficiently focussed. For example, the meaning of parents' respectful behavior toward the teacher is unclear. In addition, the findings are not directly related to the relationship between parental behavior and teacher motivation, but as one of the factors affecting teacher motivation or performance in general. However, parents play an important role in teacher motivation. Comprehensive research to understand the attitudes and behaviors of parents that affect teacher motivation can provide valuable information to improve teacher-parent relationships and increase teacher motivation (Anastasiou & Papagianni, 2020). It can also contribute to policies and practices aimed at improving teacher-parent collaboration and the quality of education.

Although schools are generally considered responsible for students' academic performance, research shows that a large part of students' academic performance is explained by family characteristics (Carneiro, 2008, Coleman et al., 1966). In other words, students' academic success is based on a supportive home environment (Cabus & Ariës, 2016). However, it is not possible to completely ignore schools and what is done at school. At the very least, teachers and parents can work together to shape children's learning and therefore their upbringing, and development. It can be argued that it is imperative that parents and teachers share responsibility for supporting students' success and for promoting their overall well-being (Smith et al. 2022). Indeed, research shows that when teachers are able to share this responsibility, there are positive improvements in student achievement and behavior (e.g. Ateş, 2021; Fan & Chen, 2001; Kim et al., 2013; Pushor & Amendt 2018). However, the literature reveals that neither parents nor teachers are satisfied with the extent and depth of parental involvement in schools (Christenson, 1995; Gokturk & Dinckal, 2018). Gokturk and Dinckal (2018) attribute this to the fact that both parties have different understandings of the concept of the parental involvement.

It is possible to find the source of the different understandings identified by Gokturk and Dinckal (2018) in Schlechty's (2009) metaphors of the school as a factory, a producer of professional services, a warehouse, a prison, and a learning organization In these metaphors, Schlechty (2009) explained how the role expected of parents changes according to the different designs of the school as follows.

> In schools designed as factories, students are seen as raw materials and products. Parents are the source of supply and the determinant of product quality. From this perspective, who the parents are, what the parents do, and the nature of the social and cultural trust provided by the family are the main determinants of the performance expected of children.
>
> When a school is conceived as a professional service-producing organization, students are seen as customers and parents as guarantors and suspicious allies. In this context, teachers are experts and the parents are expected to ensure that the teachers do what they ask of their children without question. Parents who refuse to play the role expected of them are treated as outsiders and rule breakers. In such cases, the principal is usually expected to protect teachers from interference by uncooperative parents. However, for reasons such as incompetence, mistrust, view of the school, or self-perceived superiority over teachers, parents may refuse to fulfill the role of guarantor unqualifiedly.
>
> In warehouse or prison school designs, the school has begun to have warehouse or prison features by incorporating students who do not fit into the factory system. In this design, students play the role of objects or prisoners and parents play the role of strangers. The primary role of the parent is that of sender and receiver, ensuring that the student goes to school and has a place to return to when school is over. Parents are always a dubious ally, not to be trusted. They are viewed with suspicion, treated as outsiders and forced to follow certain rules, limit their interactions, and not go where they are not invited.

> In the school as a learning organization perspective, students are seen as knowledge workers and parents as partners. The role of parents as partners is to participate with teachers in the education of their children. This means, in addition to parent teacher association meetings, regular contact with teachers through intensive use of the Internet and other electronic means of communication, and having a say in their child's education together with teachers.

Anastasiou and Papagianni's (2020) study revealed that teachers generally have a positive attitude about parental involvement. At the same time, this research shows that teachers' attitudes about parental involvement are negative in cases where parents interfere with their work. Comparing Anastasiou and Papagianni's (2020) findings with Schlechty's (2009) metaphors, teachers' school design is: "school is an institution that produces professional services". They do not accept parental behaviour that contradicts this design in their minds.

If there is a gap between the design of the school and parents' perception of their own role in the child's education, conflicts between parents and teachers are inevitable. To manage these conflicts properly, it is important to know what roles the school design assigns to parents and what roles parents assign to the school, and what mutual expectations they have. Research conducted by Ünal (2012a) revealed that there are six types of expectations from parents in school-parent relationships in Turkey:

> Supporting educational activities: Parents check their children's homework and help them with their homework.
>
> Participation in social activities: Parents should participate in and financially support school ceremonies and social events.
>
> Taking part in decision making and following instructions: Parents should make suggestions to the school management and follow the school's policies.
>
> Communication: Parents should be in constant communication with the school management and teachers about their children and should take action regarding the student as directed by the teachers.
>
> Financial Contribution: Parents should contribute financially to the school to meet its physical and educational needs.
>
> Meeting their children's educational needs: Parents should send their children to school by meeting their needs.

Kıral (2019) also conducted a study in Turkey and found that educators had similar expectations from parents to those identified by Ünal (2012a), but these expectations were not met by most parents. The study by Ünal et al. (2010) also shows that educators' expectations from parents are not met. According to the data obtained by Ünal et al. (2010) in this study, educators see parents as unconscious, indifferent, not knowing what is good for their children, not cooperating enough with the school, and instinctively showing protective behavior toward their children. Another finding of the study is that educators do not see parents as stakeholders in educational activities and they expect parents to be people who accept themselves as experts, do only what they say, and do not intervene in their work. According to educators, parents' focus only on academic success, lack of interest in education, financial concerns, lack of time, communication problems, and lack of self-confidence also negatively affect communication with parents (Ünal, 2012a). Mann and Gilmore (2021) also found in their study that teachers value parent-teacher partnerships less than parents, invest less in the relationship, and participate less. Perhaps because their expectations are not met, educators may take their negative feelings and thoughts further and display rude, abusive, insulting, and scolding behavior toward parents (Ünal, 2012b).

Research results show that one of the important variables in teacher-parent interaction is the region where the school is located and the socioeconomic characteristics of the parents, which affect the mutual perception of teacher-parent relationships and the quality of these relationships. For example, teachers in schools located in socio-economically advantaged regions are more satisfied with their relationships with parents, while they believe that parents who do not cooperate with them do not value education (Bellibas & Gumus, 2013). On the other hand, as the socioeconomic characteristics of families improve, parental interaction with schools increases, but parental satisfaction with the schools decreases (Can, 2009).

Although the findings clearly show that the socio-economic characteristics of parents affect the teacher-parent relationship, there is a large body of literature on the source of barriers to healthy teacher-parent relationships reported by both parents and teachers (Mann & Gilmore, 2021). Christenson (2004), in his review, explained the parent-based foundations of the problems experienced in teacher-parent relationships under the categories of structural and psychological barriers as follows.

Structural barriers:

(1) Lack of role models, the lack of information, and the lack of knowledge about resources.

(2) Lack of supportive environment and resources (e.g. poverty, limited access to services).

(3) Economic, emotional, and time constraints.

(4) Lack of child care and transport.

Psychological barriers:

(1) Feeling of inadequacy; low self-efficacy.

(2) Taking a passive role, leaving education to schools.

(3) Ignorance of linguistic and cultural differences, school policies and practices, and the role of parents in education.

(4) Scepticism about how they will be treated by the educators.

(5) Perceived insensitivity to parents' needs or wishes.

Christenson (2004) also identified structural and psychological barriers related to barriers arising from educators and school-family relationships. This means that parents are not the only source of problems in teacher-parent relationships. This study focused only on the attitudes and behaviours of parents that affect teacher motivation, and did not address the systemic and teacher-related issues that affect relationships. The aim of this study was to determine the attitudes and behaviors of parents that, in the view of teachers, have a positive or negative impact on teacher motivation.

Method

Research Design

This study determines the attitudes and behaviors of parents that affect teacher motivation through the views of teachers. As the aim was to describe and analyze a limited system in depth, the study used a case study methodology in line with Merriam's (2013) explanation. The use of the case study design provided teachers with the opportunity to understand and explain in detail their experiences, thoughts and feelings about the attitudes and behaviours of parents.

Study Group

The study group of the research consists of 19 teachers working in official secondary schools and secondary schools for imams and preachers in the center of Karatay district, Konya province, Turkey. The maximum diversity sampling method, one of the purposeful sampling methods, was used to determine the participants. In this context, school type (secondary school [SS] and secondary schools for imams and preachers [SSIP]) and socioeconomic level of the environment where the school is located, gender, branch, educational status, and being a parent of a student were determined as diversity factors. The determination of the diversity factors was based on the studies of Bellibas and Gumus (2013) and Can (2009). Information about participants is presented in Table 1. The real names of the participants were kept confidential, and each was given a code name.

Table 1: Personal and professional characteristics of the study group

Participant Name	Branch	Gender	Seniority (years)	Graduation	Institution	Is he/she a parent?	The socioeconomic status of parents
Göktuğ	Informatics Technology	Male	0-5	Undergraduate	SSIP	No	Low
Necip	Religious Culture and Ethics	Male	5-10	Undergraduate	SSIP	Yes	Low
Cemal	English	Male	10-15	Master’s	SSIP	No	Low
Özge	Visul Arts	Woman	20+	Undergraduate	SSIP	Yes	Low
Nazım	Turkish	Male	5-10	Undergraduate	SS	No	Low
Cahit	Technology Design	Male	15-20	Undergraduate	SSIP	Yes	Low
Lale	Turkish	Woman	5-10	Undergraduate	SSIP	No	High
Leyla	Math	Woman	10-15	Master’s	SS	Yes	High
Edip	English	Male	15-20	Master’s	SS	Yes	High
Orhan	Social Studies	Male	15-20	PhD.	SSIP	Yes	Medium
Nilgün	Math	Woman	10-15	Undergraduate	SSIP	No	Medium
Tezer	Social Studies	Woman	15-20	Undergraduate	SS	Yes	High

Attila	Science	Male	20+	Master’s	SS	Yes	High
Sezai	English	Male	15-20	Master’s	SSIP	Yes	High
Alev	Religious Culture and Ethics	Woman	15-20	Master’s	SS	No	Medium
İlhan	Guidance Counselling	Male	20+	Master’s	SS	Yes	Medium
Enis	Physical education and Sport	Male	15-20	Undergraduate	SSIP	No	Medium
Tomris	Math	Woman	0-5	Undergraduate	SS	No	Medium
Yahya	Science	Male	10-15	Master’s	SS	Yes	Medium

Data Collection

Data were collected using a semi-structured interview technique. First, a literature review was conducted and the relevant research was analyzed to prepare the interview questions. The prepared questions were presented to three different experts who have studies on parental involvement in the field of educational administration. After receiving the experts' opinions, pilot interviews were conducted. After the expert opinions were received, pilot interviews were conducted and the questions were finalised by taking these interviews into consideration.The main question decided to be asked in the semi-structured interview is as follows Do the positive/negative attitudes and behaviours exhibited by student parents have an effect on your professional motivation?

During the interview, questions such as "Can you elaborate a little more?" and "Can you explain a little more?" were also asked to allow participants to elaborate their thoughts.

The interviews were carried out face - to - face by the first researcher. Participants were contacted by phone or e-mail before the interview. They were informed about the study. Teachers who agreed to be interviewed were also given written information before the interview. They were also asked to do a think piece on the research. The interviews were carried out in the schools where the participating teachers worked. An appointment was made in advance at a time that was convenient for the teachers. Before the interview, the participants were given the voluntary participant consent form.

The interviews were recorded with a voice recorder with the permission of the participants. During the interview, notes were taken by the interviewer. The interviewer took note of the participants' gestures and facial expressions and their verbal responses. The shortest interview lasted 12 min and the longest 21 min. The recordings of the interviews were then transcribed. There was no transcription of any information that would be an indication of the identity of the participants. The transcribed versions of the interviews were between 4,300 and 12,000 words in length.

Data Analysis

Data were analyzed using content analysis. For this purpose, the written data were first read several times. Meaningful units were coded while preserving their integrity. The coded data were first categorized by the first researcher. The categories were then reviewed and finalized jointly by two researchers.

Merriam's (2013) recommendations were taken into consideration to ensure the validity and reliability of the research. Participant confirmation was obtained during the interview to ensure the validity of the research. During the interview, the participants were also asked confirmation questions such as "Is this what you meant?" and "Is this what I should understand from your words?". To increase internal validity, interviews were continued until data saturation was reached. Purposive sampling was used to increase external validity. Participants were selected from different schools and teachers with different characteristics. In this respect, an attempt was made to make the findings of the research easily testable in similar settings. To increase external validity, an attempt has been made to have a rich and intense narrative presentation of the participants' descriptions. This was done to ensure that readers of the research could better compare the research with other research.

To ensure internal reliability, first of all, the way the data would be analyzed was determined in detail before the participants were interviewed. This was done to ensure internal reliability. In addition, during the process of analyzing the data collected during the research, the second author checked the compatibility of the data with the findings and participated in the process as a second researcher and expert experienced in parent involvement. To ensure external reliability, the research was conducted and reported transparently. In addition, throughout the entire analysis and reporting process, the process was completed by making constant comparisons about whether the findings were compatible with previous research.

Results

Based on the interviews with the teachers, parent behaviors affecting teacher motivation are given below under two headings as behaviors that affect teacher motivation positively and behaviors that affect teacher motivation negatively.

Parent Attitudes and Behaviours that Positively Affect Teacher Motivation

Recognition and appreciation: Teachers reported that when parents recognize and express their gratitude or appreciation for the work and effort they put into their children's education, it has a positive impact on their motivation. This includes parents recognizing and thanking teachers for their students' achievements, high test scores, improved behavior increased achievements, or other positive outcomes. The theme of recognition and appreciation generally emphasizes that parents' recognition and appreciation of teachers' works increase teachers' motivation.

> Leyla: "I really like it when the parents thank me when the student does well in class or gets good grades in exams."
>
> Tezer: "Teacher, what have you done to our child? Our child talks about you all the time during the day, and they say that they get excited when it is time for your class. It is wonderful to hear these words from a parent.
>
> Sezai: "When I met his father in the following process, he said that English was his favorite subject and that he tried to do the homework I gave him before his other homework. I worked hard with this student and I was very happy to be rewarded for my efforts".

> Tomris: "The parent came to school immediately and brought flowers to celebrate the student's success, which made me jubilant.
>
> Özge: "The parents' approval of my work motivated me a lot. At the end of the process, reaching even one person and bringing about a certain change in one person is the main source of motivation".

Participation and support: Teacher motivation increases when parents are actively involved in their children's learning by attending parent-teacher meetings, helping to solve problems or providing help and resources, setting goals, addressing problems together, and supporting solutions. In practice, this means: Parents show their commitment to their children's education and make teachers feel that they are not alone. For example, parents' help with homework shows that they are invested in their children's education and are willing to contribute to their academic success. This willingness increases teachers' confidence and makes them believe that they will succeed. It creates a positive environment for teachers to continue their work with enthusiasm.

> Attila: "When a student is given an assignment, the parents control it as much as they can. They call and ask what they can do. In fact, I have seen parents who are very interested in their students even though they do not know much about the school".
>
> Yahya: "The mother of a student with orthopedic disabilities asked me for permission to follow my classes with her child. She was a very interested parent. When the mother attended the classes with her child, the student's success increased significantly. Parents value education so much that they are so interested in their children".
>
> Tomris: "Sometimes I contact the parents and tell them about the problem their student has. The parent immediately comes to the school and asks me what to do. This shows how much parents care about their students and it makes us very happy to meet such parents".
>
> Enis: "What makes us happy is that some parents tell us that if there is a problem they are ready to do everything they can when we ask for a solution".

Communication: This theme shows that when parents actively communicate with teachers and provide information about their children, this helps motivate teachers. When parents provide teachers with information about their children's private life, health problems, or daily life, they are better able to respond to the child's individual needs, touch the child's life more, find solutions one on one with the parents, and overcome problems by working together.

> Edip: "If we establish a positive communication channel with the parents, we can touch the child's life. It does not necessarily have to be educational. It is also at this stage that we start to look at the student's abilities. We are interested in criteria such as character, behavioral development, and moral development. The fact that the parents inform us and that we can take care of the student makes us happy".
>
> Attila: "We are an overcrowded school in terms of the number of students. We have over 1500 students. You cannot even learn the names of so many students, let alone their problems. In my opinion, it is a very

noble behavior when a parent comes to you and opens up and expresses the problems of his/her child. Although you do not have the opportunity to know the problem personally, the parent informs you and you can overcome the problem by working together. This is a motivating situation for the teacher. I think it is the same for the parents".

Trust in teachers' expertise: Teachers stated that parents should recognize their professional expertize and respect their authority in the classroom. Parents avoiding excessive intervention, trusting teachers judgment and allowing them to fulfill their teaching responsibilities contribute to teachers' motivation.

The emphasis of the theme is that they expect teachers expertize to be trusted and parents to empower teachers to make decisions without undue interference. In this way, the ability of teachers to fulfill their teaching responsibilities autonomously is a source of teacher motivation.

> Edip: "Some of our parents have developed an awareness of education. They say that we are experts in the subject, that they will do what we say for the success of their students and that they will always show their support throughout the process".

> İlhan says: " After the student misbehaves, we call the parents and explain what happened. Sometimes, after the smallest mistake, the parents come to the school and say: 'Teacher, let's do whatever it takes to prevent the problem from growing. When we have this kind of reaction, it is a great boost to our self-confidence.

> Necip: "For example, last year we got a student from our neighborhood into Science High School for the first time. In this case, the family's positive attitude toward us during the examination process was very effective. The phrases they said to us, like we are willing to do whatever you say, we are willing to sacrifice our lives according to your desires, really affected our attitude toward that student. It made us both run to school and love the profession more".

Trust in teachers' expertise also means that when teachers trust parents' professional judgment and take their advice, it increases their motivation and confidence. Trust increases teachers' motivation by making them feel supported and respected in their role.

> Lale: "Parents must trust me. When I feel that, I feel more comfortable".

> Göktuğ: "The main livelihood in this region is animal raising and construction work, which can affect the level of personal care our students receive. When I took the initiative to address this aspect, they expressed their gratitude by saying, 'Teacher, you are doing an excellent work', and it brought me great joy. Some parents cannot go to the city center to provide for their children's needs. But the parents who trust us say, 'Teacher, you understand the child's needs and provide what is necessary, and we will support you. Acting as a member of the student's family and bridging these gaps gives me immense satisfaction.

Valuing holistic development: Arts, sports and culture teachers in particular expressed that they are motivated to pursue their work with passion when parents support extra-curricular activities, promote physical and emotional well-being and recognise efforts to support pupils' holistic development. The theme implies that teachers are more motivated by parents' recognition and appreciation of the wider aspects of a child's development and well-being beyond academic achievement than by a concern solely for exam success. It underlines how important it is for teachers to help children develop intellectually but also to help them develop physically, emotionally, socially, and creatively. Teachers also indicated that they are motivated by parents who prioritize the physical and emotional well-being of their children. This includes parents who encourage healthy habits such as proper nutrition, regular exercise, and adequate rest.

> Göktuğ: "Some parents focus on subjects such as math and science. When the parents support my work, it opens up a new field of study for the student. When I get the necessary support from my parents, I can work with more enthusiasm".

> Sezai: "Conscious parents who give up the idea of preparing their children for constant competition are also motivation for us.

> Cemal: "Once, I had a class counseling session. I had 25 students in my class, and we had a parent meeting. ... One parent raised their hand, and I said, 'Please go ahead.' ... They said that I was constantly involved in cinema and theater and did not allocate time for other things. They said, 'I wish my child was in another class.' ... After that incident, it took me three or four months to recover. I even considered quitting teaching."

> Enis: "We have parents who forcibly take their children to different places and prevent them from participating in sports activities. We have parents who say, 'Just don't go today' and show no concern. A lack of training can disrupt our work, but unfortunately, parents do not appreciate us as much as we would like."

Resources and material support: Teachers have mentioned that providing financial support, such as assisting in acquiring necessary materials, contributing to classroom resources, or helping with equipment repairs, positively impacts the motivation and effective teaching skills of parents. Required materials for the classroom may include textbooks, workbooks, stationery supplies, art materials, science equipment, or technology tools.

> Cahit: "Due to our subject, we produce tangible products. We would like our parents to visit our workshop and support us in obtaining materials."

> Necip: "We had a parent who graciously volunteered to meet all the material needs of the school. It is a great act of generosity for a parent to contribute to beautifying the school like this."

Positive and Respectful Behavior: Teachers are motivated by parents who exhibit positive and respectful behavior both in front of their children and in direct interactions with teachers. Parents who adopt a positive and respectful communication style also contribute to a healthy teacher-parent relationship as well.

> Nazım: "The knowledge that there will be no abuse, bad words or violence from parents makes me more comfortable in my job."

> Leyla: "Even if we have problems with a parent, the student remains unaware of it. The child continues to show you the respect you deserve. Even if the incident with the parent is negative, I am happy when they display this attitude. I believe the parent also respects me."

> Attila: "There is a certain boundary here, and I will not cross that boundary, and the parent will encroach on my territory. As long as the parent and teacher respect each other's personal spaces, there will not be any issues."

Parent Attitudes and Behaviors that Negatively Impact Teacher Motivation

Parent indifference and lack of involvement: The theme indicates that the lack of parental involvement in their children's education and school community negatively impacts teacher motivation. Parents who see their role as minimal or even perceive education as solely the responsibility of the school and teachers can make teachers feel unsupported and undervalued. Examples of parental indifference and lack of involvement include parents not coming to school, not inquiring about their child's progress, not participating in virtual meetings, or not knowing their child's classroom or name.

> Necip: "There are parents whom I have never seen in the classroom, whose names I do not even know. I invite parents to come to school, but they never show up."

> Nazım: "I rarely encounter parents who come to ask about their child's progress."

> Leyla: "Parents do not come to school or refuse to participate in virtual meetings. I have come across parents who do not even know their child's classroom or name."

> Tomris: " What parents generally do is send their children to school and then take no interest in anything else. The developmental period, especially for 7th- and 8th-grade students, requires social support. The biggest negative is that parents ignore this need of the student."

> Teacher İlhan: "I drop off my child at school, and you educate, nurture, teach, and handle everything. Don't bother with the rest. regarding discipline issues with their children, you receive very little feedback from oblivious parents."

Blaming teachers and schools: The theme indicates that some parents tend to shift responsibility and attribute their child's negative behavior solely to external factors such as the school or the teacher, which negatively impacts teacher motivation. These parents, instead of recognizing and addressing their child's behaviour try to blame educators for absolving themselves and their children from any responsibility.

> Tezer: "Children can make mistakes, but these parents try to blame us every time by ignoring their child's faulty behavior to ease their conscience. They always support the student. While parents try to raise princes and princesses, we face the consequences."

> Leyla: "I provided extra resource books to my successful students who were financially struggling. I motivated them to solve more tests. I also volunteered to support them outside class hours. The parents filed

a complaint with the Ministry of Education, claiming that I was not interested in their children. Since that day, I could not focus on private lessons with students."

Cahit: "I noticed that a student did not bring any materials. When I asked why, he said that he was engaged in animal husbandry, that his family worked hard and that he forgot because he was busy. I phoned her mother. The mother said that she would do everything for her child's education and that they would not make him work hard at home. We talked about what they would do and hung up the phone (without any problems). The next day, the child's mother came to the principal and complained about me. The thing she complained about me was that I called her and talked about her child."

Lack of trust in teacher's professional expertize: The theme indicates that when parents violate the boundaries of teachers' professional expertise it negatively impacts their motivation. In conversations, teachers mentioned incidents where parents interfered with their work, questioned their competence, and tried to dictate certain aspects of their teaching or classroom management. According to teachers, such boundary violations weaken their professional autonomy and expertize decreasing motivation and morale.

Lale: "Although it was not in any of the acquisitions of my lesson, (a parent) sent a message saying "Teacher, you did not teach this subject, it would have been better if you had taught it and I wish you had taught it in this way". He is even trying to decide the method and technique I will use, not to mention the subject I will teach. I was obsessed with this message in my head for two days. It really lowered my motivation. It made me feel inadequate. Anyway, after the parent says "Teacher, you know better, but", I think any word that comes after "but" is going to interfere with your work."

Necip: "Once, a parent started telling me how to teach the lesson, how to communicate with the students, how to grade, and so on. I did not flinch and when they finished talking, I asked them what they do for a living. ‘I'm an electrician,’ he said. I said, ‘If I interfered with your work by saying, 'Do this here, do that there,' wouldn't you hit me on the head with the spanner in your hand?’ He laughed and said, ‘I would’. I said, ‘Then don't interfere with my work."

Göktuğ: "While inspecting the students' attire for inappropriate dress, I warned a student about their hair. The parent came to school and, in front of everyone, reacted in a loud and inappropriate manner, asking me why I was concerned about their child's hair. This situation damaged my respect for my profession."

Unbalanced communication and lack of positive feedback: The theme refers to the imbalance in how parents communicate with teachers and the limited or absent positive feedback from parents, which leads to a decrease in teacher motivation. In discussions, many teachers mentioned that parents often complain or criticize when their children are involved in a negative situation or face a problem. However, when students achieve success or display positive behaviors parents tend not to share or express their appreciation toward teachers.

Cemal: "Parents only seem to come to school when something bad happens. They do not inquire about their child's achievements or any school activities. It demotivates us and exhausts us professionally when

> parents who quickly react to negative incidents do not appreciate the good work we do. This situation pushes us toward burnout syndrome."
>
> Yahya: "Some parents can create chaos at school when any incident occurs involving their child. We face situations where they shout, scream, and even insult teachers. Parents do not fully evaluate the incident and directly blame the other party (teachers) and unfortunately, the incident does not only remain in blame. We can be subjected to insults even in front of other teachers and students. Such incidents frequently at the school where I work. We inevitably fear that a parent will enter the classroom and cause a disturbance. There is also the fear that a child will go home and make baseless accusations, leading to the parent coming to school and causing a fight. This situation prevents us from moving freely in the classroom. It affects not only the teacher directly involved in the incident but also other teachers."
>
> Nazım: "When there is a problem caused by a student and the parent comes to school, instead of resolving the issue, they escalate it into a bigger problem. There have been instances where a parent pulled a knife on me and other teachers. We have experienced parental violence firsthand. The parent was called to the school because of his child's indiscipline. The incident ended with the parent pulling a knife on the teachers."

Disregard for teachers' personal lives: The theme indicates that parents' behaviour of disregarding teachers' personal lives negatively impacts teacher motivation. The statements obtained from discussions emphasize that parents exhibit behavior that crosses these boundaries and disregards teachers' personal well-being, which in turn negatively affects teacher motivation. These behaviors include the constant expectation of accessibility and a lack of respect for teachers' personal lives.

> Özge: "A parent asked me about their child's exam results through WhatsApp. Even though the parents could access the results through the e-school system, they felt entitled to ask me about it in the middle of the night. I contacted him, wondering if she had access to the system. She said they could access it but wanted me to send the results. Unfortunately, parents try to establish excessive familiarity with teachers through social media. This certainly affects our morale. When a parent behaves like this, the student eventually starts to lose respect for the teacher."
>
> Lale: "The parent of a student for whom I am the class advisor messaged me at 10:00-PM asking about homework. I had previously informed my parents that I may not respond to messages sent after a certain hour. When they did not receive a response, they messaged again at midnight. When I still did not respond, they attempted to call me. When I asked why they were calling at this hour, they used disrespectful language, saying that it was my duty to answer. As if that was not enough, the next day they complained about me to the school administration, claiming that I was not helpful to them."

The illiterature and understanding of parents: The theme refers to the limited knowledge and awareness of parents regarding their children's education and the general education system. This illiterature and understanding can negatively impact teacher motivation.

Leyla: "In my experience, the root cause of the problems I face lies in the parents' illiterature or their lack of knowledge about their child's educational process. It is easier for a parent who is at least somewhat educated or has a diploma to empathize with their child."

Enis: "I believe that parents who display negative behavior have not received sufficient education or have never sat in these classrooms."

İlhan: "In ignorant parents, there is usually a tendency like this: 'I drop off my child at school, you educate, teach, do everything, look after their appearance, solve their problems. Don't bother me with the rest.' When their child has a problem, you receive very little feedback from oblivious parents."

Edip: "We have parents who are incapable of fulfilling their duties as mothers and fathers. When parents become more aware in this regard, it will increase our motivation as well."

Discussion, Conclusion & Suggestions

Based on the findings from teacher interviews, two conclusions can be drawn regarding parental attitudes and behaviors that affect teacher motivation. First, when parents recognize and appreciate teachers' work, participate in school activities and provide support, engage in effective communication, demonstrate trust in their expertize value holistic development, provide resources and material support, and exhibit respectful behavior it positively impacts teacher motivation. Second, when parents act in a neglectful manner and do not participate in their child's education, blame teachers and schools for educational outcomes, show distrust in teachers' expertise, engage in unbalanced communication, and disregard teachers' personal lives, it negatively affects teacher motivation. The findings align with previous research results that indicate both positive (Ada et al., 2013; Aydemir, 2008; Christenson, 2004; Karabağ-Köse et al., 2018; Kıral, 2019; Kızıltepe, 2011; Mann & Gilmore, 2021; Ünal, 2012a,b) and negative (Ada et al., 2013; Christenson, 2004; Karabağ-Köse et al., 2018; Kızıltepe, 2011; Mann & Gilmore, 2021; Özge-Sağbaş & Özkan, 2022) parental behaviors that impact teacher motivation. Additionally, it can be stated that the results largely support Anastasiou and Papagianni's (2020) finding that teachers support parental involvement but do not want parents to interfere in their work.

When analyzing the parental behaviors that affect teacher motivation, based on the findings from teacher interviews, seven parental behaviors can be identified: recognition and appreciation, participation and support, communication, trust in teacher expertize valuing holistic development, and resource and material support.

Recognition and Appreciation: Expressing gratitude and appreciation for teachers' efforts positively influence their motivation. Feeling valued and appreciated by parents enhances teachers' sense of accomplishment and encourages them to continue working hard. On the other hand, the lack of recognition or appreciation can decrease teacher motivation, making them feel undervalued and unappreciated.

Participation and Support: Active parental involvement and support in their children's education create a positive environment that motivates teachers. Parents who attend meetings, collaborate in problem solving, and provide resources demonstrate their commitment to their children's education, which in turn boosts teacher motivation.

Conversely, the lack of participation and support can lead to feelings of being unsupported and overwhelmed, negatively impacting teacher motivation.

Communication: Open and informative communication between parents and teachers is crucial for understanding each other's perspectives and working together effectively. When parents communicate openly and provide information about their child's situation, it allows teachers to meet the individual needs of the student and overcome challenges. Conversely, unbalanced communication that focuses primarily on criticism without providing constructive feedback can create a hostile environment and decrease teacher motivation.

Trust in Teacher Expertise: Trusting and respecting teachers' professional expertize is vital for teacher motivation. When parents accept and trust teachers' knowledge and skills, it enables teachers to exercise their professional autonomy and make decisions that benefit students. On the other hand, parents who question or excessively interfere with teachers' competence undermine professional boundaries and hinder teacher motivation. Additionally, when parents reach the point of blaming teachers or schools for their child's problems, it can make teachers feel unappreciated and unjustly targeted, leading to a decrease in motivation.

Valuing Holistic Development: Parents who support their child's holistic development and appreciate teachers' efforts in fostering various aspects of growth have a positive impact on teacher motivation. Recognizing the importance of extracurricular activities and promoting students' overall well-being creates a positive partnership between parents and teachers. Conversely, parents who fail to appreciate the significance of holistic development may undermine teachers' efforts in these areas, particularly for teachers of subjects such as art and sports, leading to a decline in motivation.

Resource and Material Support: Financial contributions from parents for classroom materials alleviate resource constraints and positively influence teacher motivation. Parents providing the necessary supplies for their children and contributing to the procurement of classroom materials enable teachers to create a conducive learning environment. The recognition of both parental interest and support, along with the availability of an appropriate educational setting, naturally enhances a teacher's enthusiasm. Conversely, the lack of resources and materials can generate concerns about failure due to limited resources, resulting in disappointment and decreased motivation for teachers.

Positive and Respectful Behaviour: Parents who exhibit positive and respectful behavior including respecting teachers' personal lives, promote a healthy teacher-parent relationship. This positive relationship creates a supportive and collaborative environment that motivates teachers to perform at their best. Conversely, parents' negative or disrespectful behaviours can strain the relationship and negatively impact teacher motivation.

When analyzing parental behaviors that positively or negatively affect teacher motivation, the impact of these behaviors can vary depending on the teacher and the context. Additionally, it should be recognized that these behaviors are not mutually exclusive and can coexist within the same parent. For example, a parent may exhibit supportive behavior in certain situations while displaying negative behavior in others. The impact of parental behavior on teacher motivation can vary based on the frequency and intensity of these behaviors

All the parental behaviors that influence teacher motivation indicates that teachers perceive schools as professional institutions that produce professional services. In other words, teachers see themselves as experts and expect parents to be allies who do what is expected of them without questioning. However, in today's school design as a learning organization, parents are expected to be partners. The role of parents in a learning organization entails their active involvement in their children's education, regular communication with teachers, and having a say in their child's education. While the themes of communication, parental participation and support in this study may suggest that teachers' mental model of the school design aligns with a learning organization, teachers' perspectives reveal that the expected communication and participation from parents are seen more as subordinates who simply do as the teacher says. This finding aligns with the study conducted by Ünal et al. (2010), which indicates that educators do not view parents as stakeholders in educational activities, but rather expect them to be passive individuals who accept their expertize and do not intervene in their work. Therefore, it can be inferred that there has been no change in the school and parent design in educators' perspectives over time. This lack of change is natural as there has been no explicit discussion or policy change regarding school design in Turkey during this period.

The main contribution of this research to the literature lies precisely in this point. Teachers develop expectations from parents based on their mental model of the school, and when parental attitudes and behaviors align with their expectations, their motivation increases. Conversely, when parental attitudes and behaviors diverge from their expectations, their motivation decreases. In this sense, teachers' motivation may be the result of themselves not perceiving parents as equal partners in line with their mental model of the school. When teachers correctly position the school, themselves, and parents, some motivation problems can be resolved.

Christenson (2004) identified "lack of training for educators on how to establish and maintain partnerships with families" as a barrier to the parent involvement. This lack of training also applies to Turkey. In Turkey, teachers do not receive education on how to establish partnerships with families, how to maintain communication and collaboration with them, neither during their pre-service nor in-service training. It is clear that teacher candidates and teachers need to be trained on how to establish partnerships with families, how to maintain communication and collaboration.

Although the findings include the illiterature and understanding of parents as one of the parental behaviors that negatively affect teacher motivation, it is not explicitly mentioned as one of the six effective parental behaviors on teacher motivation. The reason for this is that the lack of parental education and understanding is not a behavior of parents but rather a characteristic. Therefore, it seems more accurate to consider the lack of parental education and understanding as a factor that increases parental behaviors that decrease teacher motivation, rather than labeling it as a parental behavior that negatively affects teacher motivation. Based on the perceptions of teachers whose motivation is affected by the lack of parental education and understanding, it can be said that schools are designed as factories. According to this design, parents are seen as determinants of student performance (Schlechty, 2009). This implies that the views that attribute most students' academic success to family characteristics (Carneiro, 2008; Coleman et al., 1966), which are accepted by policymakers and teachers, overshadow what can be done at school. This acceptance can be observed in the statement of the participant Edip, "We have parents who are incapable of fulfilling their parental duties. When parents become aware, our motivation will also increase." This situation may lead teachers to value and invest less in parent-teacher relationships with socioeconomically disadvantaged parents (Bellibas & Gumus, 2013), as evidenced by their lower investment in the relationship (Mann & Gilmore, 2021; Ünal, 2012b). In other words, teachers who claim that their motivation decreases due to the lack of parental education and understanding may actually be igniting the fuze of parental behaviors that decrease their own motivation by not sufficiently investing in their parent-teacher relationships.

Another assessment related to the theme of parental education and understanding is linked to teachers' academic optimism. Hoy (2008) highlighted the importance of academic optimism in teacher motivation. Teacher academic optimism refers to a self-directed positive belief system regarding the capacity to teach all students despite difficulties, establishing trusting relationships with students and parents, and prioritizing academic tasks (Woolfolk Hoy et al., 2008). In their study, Üzüm and Ünal (2023) found that the fundamental determinant of teacher academic optimism is the teacher's experience of success or failure in their profession. It is natural for teachers who perceive schools and parents as determinants of performance (Schlechty, 2009) to experience failure or worry about potential failure, which can lead to a decrease in motivation. What is unnatural is accepting this situation without trying to create a new school design and provide teacher training on the parental involvement. In fact, researchers such as Swap (1990), Grolnick and Slowiaczek (1994), and Epstein (1995) have proposed models to ensure that parental involvement is not left to chance and that schools take specific measures to guarantee parental participation. For example, Epstein's (1995) model highlights the importance of parent education in eliminating the illiterature and understanding that teachers complain about. In other words, schools and teachers should not only complain about the illiterature and understanding of parents or mention how these factors affect their motivation but also implement practices aimed at addressing these issues. It is expected that policymakers and school administrators design schools as learning organizations and develop training programs that make parents equal partners according to this design.

The contribution of the research to practitioners lies precisely at this point. Schools should be designed in a way that views parents as equal partners. Schools should establish parental involvement policies that implement this design without waiting for appropriate behavior from parents, aiming to both enhance teacher motivation and promote parental participation. Teacher training on the parental involvement also appears necessary for the effective implementation of these policies.

The research has four notable limitations. Firstly, the small sample size of just 19 teachers from a specific region in Turkey limits the generalizability of the findings to different regions and school types. Secondly, relying solely on teacher perspectives may not fully capture the actual attitudes and behaviors of parents affecting teacher motivation, warranting a more comprehensive approach involving parents, students, and school administrators. Thirdly, purposeful sampling with a focus on specific factors may introduce sampling bias, potentially undermining the study's representativeness of parent attitudes and behaviors. Lastly, the exclusive use of semi-structured interviews as the data collection method, conducted in person, could lead to response bias and omitted topics due to time constraints, possibly introducing social desirability bias.

Ethic

This study was ethically approved by the decision of the Necmettin Erbakan University Scientific Research Ethics Committee dates 11/02/2022 and numbers 2022–54.

Author Contributions

This study was produced from the master thesis prepared by the first author under the supervision of the second author.

Conflicts of Interest

There are no conflicts of interest in the research

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The Impact of High School Preparatory Classes on English Achievement, Anxiety, and Motivation

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Abstract

This study aimed to examine the relationship between achievement in language learning, language anxiety, and motivation in high school students who took and did not take preparatory classes. This study used a quantitative method to describe all students’ responses to a list of questions. Ex post facto analysis, a quantitative method design, was used in this study. The study involved 468 students enrolled in the public Anatolian high schools. The data was collected using the Foreign Language Learning Anxiety Scale and the Motivation Scale in English Language Learning. The high school students' English achievement levels were calculated using their end-of-year English grades. The data was analyzed using the T-test, Pearson Correlation, and Regression Analysis. According to the results, preparatory classes motivate students to learn a foreign language. Students who participated in preparatory classes were more inspired than those who did not. Students who took preparatory classes outperformed students who did not take preparatory classes in terms of achievement and achieved more outstanding English-language scores. Moreover, it was revealed that students' anxiety affected their English-language achievement negatively, while motivation increased the achievement of learning English.

Key Words

English language achievement • Foreign language learning anxiety • Foreign language learning motivation • Preparatory classes

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Introduction

There is an increasing demand for foreign languages in today's globalized world with greater international communication. It has become compulsory for nations to encourage the learning and use of English. In Turkey, as in many countries where English is not an official language, English is taught as a foreign language in schools. English is on the curriculum for all grades from primary to higher education, beginning at 2nd grade in primary school and continuing to the tertiary level.

In Turkey, learning English as a Foreign Language has been problematic for decades. Some studies in Turkey tried to determine English teaching and learning difficulties. The results of these studies indicate that the most common difficulties can be summed up as crowded classrooms, insufficient physical conditions, inadequate time allocation for course hours, the lack of well-trained teachers, the lack of realistic objectives, and the lack of students taking their own learning responsibilities outside the classroom (Ağçam & Babanoğlu, 2016; Buyukyavuz & Inal, 2008; Gürel & Demirhan İşcan, 2020; Solak & Bayar, 2015).

In some public high schools, English is taught intensively through foreign language preparatory classes. Preparatory classes are not compulsory for all high schools in Turkey, like some Anatolian high schools, which refer to public high schools in Turkey that admit their students based on the nationwide high school entrance exam score. However, preparatory classes are compulsory for Social Sciences High Schools. It may also be offered by other secondary education institutions approved by the Ministry of National Education (MoNE, 2019). Under the 9th-12th grade English curriculum (2018), students are expected to start their high school English classes at CEFR A1 level and graduate from high school with a minimum CEFR B2+ or higher English proficiency level. However, students often find it challenging to achieve the expected level. The existence of preparatory classrooms has been vital, with the desired outcome of enabling the students to communicate in English and develop skills in the four major language areas: listening, speaking, reading, and writing.

Learning and communicating in a foreign language is not an easy process. According to Zafar and Meenakshi (2012), the impact of individual learning differences on the language learning process makes learning foreign languages complicated and problematic. In other words, success in learning foreign languages is closely and directly related to students' differences.

Emotions that influence learning are referred to as affective factors. Several studies have determined the relationship between language learning and affective variables (Gardner & MacIntyre, 1993; Horwitz, Horwitz & Cope, 1986; Samimy, 1989; Schumann, 1994; Young, 1991). These include emotions, feelings, mood, manner, and attitude. Positive or negative emotions may promote or hinder the process of language learning. While positive emotions such as high motivation, high self-confidence, and low anxiety improve process efficiency, negative emotions such as low motivation, low self-confidence, and high anxiety inhibit efficient language learning (Schumann, 1994).

Literature Review

It will be appropriate to understand the term anxiety to be aware of the effect of anxiety in foreign language classes. Anxiety has been defined and handled by many researchers. Freud (1917) spent much of his life confronting the mysteries of anxiety and concluded at one point, "One thing is certain, that the problem of anxiety is a nodal point, linking up all kinds of most important questions; a riddle, of which the solution must cast a flood of light on our whole mental life" (cited in May, 1977, p. 4). In other words, the problem of anxiety is a nodal point where the most various and essential questions come together, a riddle whose solution will shed light on our entire mental existence. Spielberger (1983) defines anxiety as the "subjective feeling of tension, apprehension, nervousness, and worry associated with an arousal of the autonomic nervous system" (p.15).

Anxiety is considered as one of the most critical factors affecting the learning process in foreign languages (Horwitz et al., 1986; Stroud & Wee, 2006). Learners may experience reduced word production or difficulties in understanding spoken instructions (Horwitz, 1991). Horwitz et al. (1986) propose three causes of foreign language anxiety: communication anxiety, fear of negative evaluation, and test anxiety. Communication apprehension is "a type of shyness characterized by fear of, or anxiety about communicating with people" (p.127). Test anxiety is "the set of physiological and behavioral responses that come with concern about possible negative consequences or failure of an evaluative situation" (Zeidner, 2010, p.1). Fear of negative evaluation involves academic and personal evaluation by students of their performance and competence in the target language. Some of the factors that contribute to student anxiety include communication factors, evaluation factors such as school examinations and test anxiety, personality factors such as learners' beliefs, attitudes, expectations, motivation levels, and fear of making mistakes, and situational factors such as teaching methods and techniques, learning environment, and teachers' attitudes. To deal with anxiety, Young (1991) states that the common denominator among existing foreign language methods or approaches is the emphasis on creating a *low-anxiety classroom atmosphere*. According to Wörde (2003), the importance of a relaxed classroom in reducing anxiety cannot be underestimated. Wörde also suggests that the critical role of the teacher is to relieve anxiety. Studies investigating the relationship between foreign language learning success and anxiety found a statistically significant negative relationship between foreign language anxiety and students' achievements. Some of the studies made in the body of the literature review are as follows;

Batumlu and Erden (2007) conducted a study examining the relationship between foreign language anxiety and students' achievement in English at the university level. The study was conducted with the participation of 150 students from different proficiency levels. The data collection tools of the research were the average of students' first and second midterm marks and the Foreign Language Classroom Anxiety Scale (FLCAS). According to the results, there was a significant negative correlation between students' foreign language anxiety and their achievement in English. It was observed that unsuccessful students' foreign language anxiety was higher than that of successful students. Also, it was found that students' foreign language anxiety did not differ according to their gender.

Demirdaş and Bozdoğan (2013) investigated the relationship between foreign language anxiety levels and language performance. The study's participants were 331 students who enrolled in university preparatory classes at

Abant İzzet Baysal University. Language anxiety was measured with the FLCAS, and the achievement test scores determined the language performance. The findings suggested a statistically significant negative relationship between language anxiety and language performance. It was also found that female students tended to be more anxious in language classes.

Aside from anxiety, motivation is regarded as an essential factor in the language learning process. The term 'motivation' is derived from the Latin verb 'movere,' which means to move. As a simple definition of the term motivation, it can be said that to be motivated means to be moved to do something (Ryan & Deci, 2002). Cook (1991) indicates that some language learners do better than others because they are more motivated (as cited in Kaya, 1995). Motivation relates to language learners' reasons for studying, the length of sustained study, and the intensity of study during the language learning process (Dörnyei & Ushioda, 2011). It is, therefore, easy to assume that one's success in any task is based on one's motivation; and in learning a foreign language, it can be argued that a learner should be motivated to succeed. Bernaus and Gardner (2008) found that motivation strongly predicts English achievement, and that attitude and language anxiety are negative predictors of English achievement. There are two types of motivation. The first is the broad categorization of motivation as instrumental or integrative. The second classification is individual-specific vs. extrinsic motivation (Griffiths & Özgür, 2013). According to Oxford and Ehrman (1995), instrumental orientation is the motivation to advance in one's career or succeed in one's educational process.

On the other hand, motivation to adapt to people who speak the language natively is known as integrative orientation. When you choose to do something for pleasure or develop your skills voluntarily, your motivation is usually inherent. Extrinsic motivation is the opposite of inherent motivation; here, the motivator is external to the individual (Coon & Mitterer, 2011). According to most research conducted by Gardner and his colleagues, students with integrative motivation are more successful language learners than instrumentally motivated students (Ehrman, Leaver, & Oxford, 2003). Studies suggest that integrative motivation is essential for language learning achievement (Brown, 2006). However, Lukmani (1972) found that instrumentally motivated English language learners in India had higher scores in English proficiency exams. One of the possible reasons is their socio-economic status. The social situation determines what kind of orientation learners have.

It is among the findings of many studies (Kennedy, 1996; Masgoret & Gardner, 2003) that there is a strong relationship between motivation and achievement. In a study conducted with Economy and Technology University English Preparatory School students, Aydın (2007) unveiled the profiles of students concerning their motivation, attitude, and perceptions toward learning English. She investigated the possible relationships of these independent variables with students' achievements in language. It was observed that all the factors related to students' motivation, attitude, and perception variables were related to gender, where female students had higher scores than male students. The findings also showed that, when considered separately, there was a positive correlation between motivation, attitude, and perception with students' achievement in English. However, the correlation percentages were not very high.

Zanghar (2012) studied instrumental and integrative motivations among Libyan undergraduate students of English as a foreign language. He also investigated the relationship between Libyan EFL students' motivation and their achievement in English. The findings suggested that Libyan EFL students were highly instrumental and integrative in their motivation to study English, and their integrative motivations seemed slightly higher than their instrumental motivations. According to another study, there was no relationship between the Libyan students' motivation and their achievement in English as a foreign language.

What makes this study original is that it examines the relationship between achievement in language learning, language anxiety, and motivation in high school students who take and do not take preparatory classes. Although anxiety and motivation have been exhaustively studied in foreign language education in Turkey, there remains limited research focusing on the relationship between students' achievement in language learning, language anxiety, and motivation among Anatolian high school students. The primary purpose of this study was to examine the relationship between achievement in language learning, language anxiety, and motivation in high school students who took and did not take preparatory classes. The study also sought answers to the following questions:

(1) Is there a significant difference between the anxiety levels of students who took preparatory classes and those who did not?

(2) Is there a significant difference between the motivation levels of students who took preparatory classes and those who did not?

(3) Is there a significant difference between the English language class achievement levels of students who took preparatory classes and those who did not?

(4) Is there a significant relationship among students' English language anxiety, motivation, and English language class achievement levels?

(5) Do students' English language learning anxiety and motivation predict their English language class achievement?

Method

Research Design

This study investigated the relationship between achievement in language learning, language anxiety, and motivation in high school students who took and did not take preparatory classes. It is a quantitative, descriptive, and correlational study. According to Burns and Grove (2005), quantitative research is the best option for obtaining information with numerical data because it is an objective and formal method. The study employed an ex post facto research design. According to Black (1999, cited in Sehic, 2017, p.124), "an ex post facto study is a type of study where researchers have limited control over the independent variable because it is usually a life event or a life experience of the participant that cannot be manipulated, unlike in studies with an experimental design". The purpose of the proposed quantitative research study with an ex post facto design was to determine whether students taking preparation classes have different motivation, anxiety, and achievement levels than those who do not. This study also employed a survey research method. A questionnaire was used as the primary data collection method for this study.

The Participants

For data collection, 10th-grade students from two public Anatolian High Schools were chosen for the study group. One of the public schools is an Anatolian High School where English preparatory classes are compulsory, and the other is an Anatolian High School that does not offer preparatory classes. In total, 468 students were selected as the study group. A Likert-scale questionnaire was distributed to the eager and available students to participate in the study.

Before considering the research questions, we present some descriptive findings about the students who participated in this study. The frequencies and percentages are shown in Table 1.

Table 1

Demographic Characteristics of the Participants

	Groups	Frequency(N)	Percentage (%)
Gender	Male	227	48.5
	Female	241	51.5
Preparatory Class Taken	Yes	96	20.5
	No	372	79.5
Educational Levels of Mothers	Secondary school graduate and below	245	52.4
	High school graduate	134	28.6
	University graduate and above	89	19.0
Educational Levels of Fathers	Secondary school graduate and below	174	37.2
	High school graduate	156	33.2
	University graduate and above	138	29.6
Total		468	100

As can be seen in Table 1, the participants consisted of 468 10th-grade high school students, of whom 51.5% were female (N=241) and 48.5% were male (N=227). Ninety-six (20.5%) students had taken preparatory classes and 372 (79.5%) students had not. Of the educational level of students' mothers, 52.4% (N=245) were secondary school graduates or below, 28.6% (N=134) were high school graduates, and 19% (N=89) were university graduates or above. Of the educational level of students' fathers, 37.2% (N=174) were secondary school graduates or below, 33.2% (N=156) were high school graduates, and 29.5% (N=138) were university graduates or above.

Data Collection Tools and Procedure

The relevant data for this study were collected in the fall term of the 2019-2020 school year. It took two weeks to collect data for this study. Administering the Likert scale was used as the main element of the data-gathering procedure in both schools. The schools that would be included in the study were contacted and informed, and permissions were received from both the schools and the Istanbul Provincial Directorate of National Education. In order to use the scales, permissions were obtained from the developers of the scales. The researcher administered the questionnaire by giving detailed instructions, and she answered the students' questions about the questionnaire and the study. Students were informed that participation in the study was voluntary. The questionnaires were administered during students' class time. It took students approximately 20 minutes to complete the questionnaire. In order to learn students' English language class achievement, the students were asked their end-of-year English marks in the demographic information section. The relevant deputy principals verified their marks.

The questionnaire consisted of three parts. The first part of the questionnaire elicited the participants' demographic information, such as gender and whether or not they had taken a preparatory language course. The second part contained the Foreign Language Learning Anxiety Scale, and the third part included the English Language Learning Motivation Scale.

The Foreign Language Learning Anxiety Scale (FLLAS) prepared by Baş (2013) was used. The FLLAS uses 5-point Likert-type scales ranging from strongly agree to disagree strongly. The FLLAS consisted of 27 items, and the scale was composed of three factors: personality, communication, and evaluation. The reliability coefficient of the scale was .93, and the Spearman-Brown split-half correlation was .83. Finally, Cronbach's alpha reliability coefficients of the factors were calculated to be between .89 and .83 (Baş, 2013, p.57). The Motivation Scale in English Language Learning (ELLMS) developed by Mehdiyev, Uğurlu, and Usta (2017) was used to analyze the motivation rates of foreign language learners. The ELLMS consisted of 16 items, and the scale was composed of three factors: personal use, attitude, and self-confidence. The total reliability value of the language scale with 16 items and three factors was found to be .83. A Cronbach alpha value of .85 was calculated for the items under the personal use factor, .77 for the items under the attitude factor, and .78 for the items under the self-confidence factor.

Data Analysis

The data was analyzed using the Statistical Package for Social Sciences (SPSS v.26). After the first data entry into SPSS was completed, some statistics for research purposes were calculated. Descriptive statistics were used to find the mean, frequencies, and percentages to determine the language motivation, anxiety, and English achievement levels of students who took and did not take preparatory language classes. The t-test was used to compare continuous quantitative data between two independent groups. Pearson Correlation analysis examined the relationship between students’ English language anxiety, motivation, and English language class achievement levels. Linear Regression analysis was conducted to determine whether the students' anxiety and motivation levels significantly predict their English class achievement.

The skewness and kurtosis values for the Foreign Language Learning Anxiety Scale (FLLAS) were respectively calculated as .33 and 1.48 for the "personality" sub-scale, .28 and .96 for the "communication" sub-scale, .15 and -.35 for the "evaluation" sub-scale, and .20 and 1.98 for the total scale. On the other hand, the skewness and kurtosis values for the Motivation Scale in English Language Learning (ELLMS) were calculated, respectively, as -.56 and -.69 for the "self-confidence" sub-scale, -.65 and .00 for the "attitude" sub-scale, -.62 and -.05 for the "personal use" sub-scale, and -.54 and -.09 for the total scale. The skewness and kurtosis values are all within the recommended threshold of ± 2 (George & Mallery, 2010). The results show that all the constructs of the study are normally distributed.

Results

This section analyzes the data obtained through the Foreign Language Learning Anxiety Scale (FLLAS), the Motivation Scale in English Language Learning (ELLMS), and students' year-end English marks. This section aims to answer the study's research questions by analyzing the questionnaire items.

In order to answer the first research question, 'Is there a significant difference between the anxiety levels of students who took preparatory classes and those who did not?', an independent samples t-test was conducted. The findings are presented in Table 2.

Table 2

T-test Findings of FLLAS according to Preparatory Class Taken

Components of FLLAS	**Groups** Preparatory classes were taken	**N**	**X̄**	**SD**	**SEM**	**t-Test**		
						t	**df**	**p**
Personality	Yes	96	2.71	.76	.07	.267	466	.790
	No	372	2.68	.75	.03			
Communication	Yes	96	2.76	.86	.08	-.830	466	.407
	No	372	2.84	.81	.04			
Evaluation	Yes	96	2.97	.80	.08	-.659	466	.510
	No	372	3.03	.83	.04			
FLLAS Total	Yes	96	2.81	.74	.07	-.478	466	.633
	No	372	2.85	.72	.03			

FLLAS (Foreign Language Learning Anxiety Scale)

According to the results of the t-test, there is no significant difference between the anxiety levels of students who took preparatory classes and those who did not *(t=-.478; p >.05)*. Thus, the results suggest that taking preparatory classes is not an essential factor in foreign language learning anxiety levels in this setting.

In order to answer the second research question, 'Is there a significant difference between the motivation levels of students who took preparatory classes and those who did not?', an independent samples t-test was conducted. The findings are presented in Table 3.

Table 3

T-test Findings of ELLMS according to Preparatory Class Taken Status

Components of ELLMS	**Groups** Preparatory classes were taken	**N**	**X̄**	**SD**	**SEM**	**t-Test**		
						t	**df**	**p**
Self-Confidence	Yes	96	2.83	.77	.07	1.844	171.306	.067
	No	372	2.66	.92	.04			
Attitude	Yes	96	3.80	.85	.08	.917	168.509	.360
	No	372	3.71	1	.05			
Personal Use	Yes	96	3.97	.69	.07	2.443	180.625	.016*
	No	372	3.76	.87	.04			
ELLMS Total	Yes	96	3.63	.59	.06	2.250	184.162	.026*
	No	372	3.47	.75	.03			

ELLMS (English Language Learning Motivation Scale)

According to Table 3, the findings in the *personal use* dimension indicate that taking preparatory classes is a crucial factor in English language learning motivation level *(t=2.443; p<.05)*. According to these findings, students who took preparatory classes obtained a mean score of 3.97 and students who did not take preparatory classes obtained a mean score of 3.76. Based on this finding, it can be said that students who took preparatory classes are more motivated than students who did not take preparatory classes in the *personal use* dimension.

The table also shows a significant difference between the motivation levels of students who took preparatory classes and those who did not *(t=2.250; p<.05)*. Thus, the result suggests that taking preparatory classes affects English language learning motivation. Students who took preparatory classes ($\bar{x}$=3.63) had higher English language learning motivation levels than students who did not take preparatory classes ($\bar{x}$=3.47).

In order to answer the third research question, 'Is there a significant difference between the 9th grade English language class achievement levels of the students who took preparatory classes and those who did not?', an independent samples t-test was conducted, and the findings are presented in Table 4.

Table 4

T-test Findings of 9th grade English Language Class Achievement according to Whether Preparatory Classes Were Taken

Groups	**N**	**$\bar{X}$**	**SD**	**SEM**	**t-Test**		
					t	**df**	**p**
Preparatory classes were taken	96	70.88	10.73	1.09	5.825	219.503	.000
Preparatory classes were not taken	372	62.84	16.10	.83			

According to the results shown in Table 4, taking preparatory classes had a significant effect on the 9th-grade English language class achievement *(t=5.825; p<.01)*. Based on these findings, students who took preparatory classes obtained a mean score of 70.88, and students who did not take preparatory classes obtained a mean score of 62.84. Students who took preparatory classes outperformed in achievement and achieved better scores in the 9th-grade English language class than those who did not.

The fourth research question examined the relationship between students' English language anxiety, motivation, and their 9th-grade English language class achievement levels. Pearson correlation analysis was conducted to determine the existence and level of the relationship between variables. The findings are presented in Table 5.

Table 5

The Results of Correlational Analysis between FLLAS, ELLMS, and English Language Class Achievement

Components		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1-Personality	r	1								
	p									
2-Communication	r	.787**	1							
	p	.000								
3-Evaluation	r	.693**	.719**	1						
	p	.000	.000							
4-FLLAS Total	r	.909**	.933**	.877**	1					
	p	.000	.000	.000						
5-Self-Confidence	r	-.744**	-.671**	-.617**	-.46**	1				
	p	.000	.000	.000	.000					
6-Attitude	r	-.605**	-.424**	-.313**	-.492**	.618**	1			
	p	.000	.000	.000	.000	.000				
7-Personal Use	r	-.302**	-.177**	-.049	-.195**	.288**	.531**	1		
	p	.000	.000	.291	.000	.000	.000			
8-ELLMS Total	r	-.635**	-.473**	-.345**	-.534**	.712**	.877**	.818**	1	
	p	.000	.000	.000	.000	.000	.000	.000		
9-Year-end English Scores	r	-.385**	-.349**	-.317**	-.386**	.447**	.381**	.286**	.442**	1
	p	.000	.000	.000	.000	.000	.000	.000	.000	

ELLMS (English Language Learning Motivation Scale); FLLAS (Foreign Language Learning Anxiety Scale)

Table 5 reveals a significant medium negative correlation between students' foreign language learning anxiety and 9th-grade English language class achievement ($r = -.386$, $p < .01$). Table 5 shows the correlation values ($r = -.385$, $r = -.349$, $r = -.317$, $p < .01$, respectively) between the components of FLLAS, personality, communication, evaluation, and 9th-grade English language class achievement. The values in the table indicate a medium negative correlation between the components of FLLAS and 9th-grade English language class achievement. Personality has the most prominent negative correlation with English language class achievement, whereas evaluation has the least one.

Table 5 also reveals a significant positive medium correlation between students' foreign language learning motivation and 9th-grade English language class achievement ($r =.442$, $p < .01$). According to the findings, the components of ELLMS, which are self-confidence, attitude, and personal use, show a positive medium and low correlations with 9th grade English language class achievement ($r =.447$, $r = .381$, $r= .286$, $p < .01$, respectively). Where these components are higher, students' achievement is higher. It is concluded that self-confidence has the most significant positive effect on English language class achievement. The findings show a significant negative medium correlation between students' foreign language learning anxiety and their motivation ($r = -.534$, $p < .01$).

Regression analysis was conducted to determine whether the students' anxiety and motivation levels significantly predict English class achievement. The findings are given in Table 6.

Table 6

The Results of Multiple Linear Regression Analysis to Check the Prediction Level of FLLAS and ELLMS on Achievement Level

Dependent Variable	Independent Variable	B	SE	β	t	p	R	R^2	F	p
Achievement Level	Constant	41.515	5.658		7.403	.000	.451	.203	59.282	.000
	FLLAS	-.133	.055	-.089	-2.151	.000				
	ELLMS	.597	.062	.449	10.811	.000				

ELLMS (English Language Learning Motivation Scale); FLLAS (Foreign Language Learning Anxiety Scale)

According to Table 6, foreign language learning anxiety and foreign language learning motivation significantly predict the achievement of students in the English language class ($R=.451$, $R^2=.203$, $F=59.282$, $p<.01$). 20.3% of the achievement level variance was predicted by foreign language learning anxiety and foreign language learning motivation.

The regression analyses equation predicting achievement level in terms of foreign language learning anxiety and foreign language learning motivation is given below:

Achievement Level = 41.515+ (.597 x ELLMS) + (-.133 x FLLAS).

Discussion and Conclusions

This section presents the discussion and conclusions considering the research questions and findings.

This study proposed five research questions to investigate the existence of any correlation between foreign language learning anxiety, motivation, and achievement according to whether the high school students had taken English preparatory classes or not. An anxiety scale and the motivation questionnaire were administered to 468 students to obtain data.

The results indicate that taking preparatory classes is not an essential factor in foreign language learning anxiety levels, and it is found that the students who took preparatory classes and those who did not were moderately anxious and did not have low anxiety towards English language learning. These findings are consistent with the results gathered from other studies conducted in Turkey (Çakar, 2009; Şakrak, 2009). Karabey (2011) obtained similar results in her study. She found in her study that the anxiety level of university preparatory class students is classified as moderate.

However, the study shows a significant difference between the motivation levels of students who took preparatory classes and those who did not. Students who took preparatory classes were slightly more motivated than those who did not take preparatory classes. It can be said that the differences between the findings may stem from the differences in the curriculum. In the current study, students who took a preparatory class take the 9th grade and 10th grade English curriculum subjects in those preparatory classes. These students may be more motivated when compared to the students who did not take a preparatory class because they know more about the English language and spend more time with English. Another reason for the difference between the motivation levels of students who took and those who did not took English preparatory classes may be the intense exposure to the English language during the preparatory education. Therefore, for the future high school education, the preparatory classes may be optional in all types of high schools.

According to the results, students in both groups were motivated primarily by personal use. Students who took preparatory classes were more motivated for personal use than those who did not. It was deduced that students learned English mostly for personal use, such as self-development and prestige. Those who had taken preparatory classes were the group that learned English the most for this purpose. In the current study, students who took preparatory classes outperformed in achievement, achieving better scores in the 9th-grade English language class than those who did not take preparatory classes. Although whether students took preparatory classes or not did not affect their English language anxiety levels, it affected their English language motivation levels and achievement in English language classes.

Students with more foreign language learning anxiety tended to have lower achievement in learning English. Where anxiety is higher, achievement is lower. Similar results were found in a study conducted in Taiwan by Tsai-Yu and Goretti (2004). They examined relationship between foreign language anxiety and language learning difficulties of secondary school students. It is revealed that anxious students had low marks, difficulties in learning English, and poor developmental skills.

The findings suggest that if motivation increases, their achievement level in learning English will increase, and motivated students will likely learn English better and achieve better marks in English exams. The negative correlation between motivation and anxiety implies that if students' motivation levels increase, their anxiety will probably decrease. Regarding the sub-dimensions of the foreign language anxiety scale, the most significant negative factor in English language class achievement was personality. Considering the dimensions of the motivation scale, self-confidence positively affected the students' achievement.

The current study also reveals that the English anxiety and motivation levels of the students predicted students' English language class achievement. As a result of the analysis, it can be said that English language anxiety and motivation levels are significant predictors of student achievement.

Recommendations

This study indicates that the students who took preparatory classes had higher motivation and achievement in learning English. In order to contribute to English learning motivation and achievement, this practice, implemented by the Ministry of National Education in some high schools, should be spread to more schools across the country. The motivation of the students who did not take the preparatory classes was lower than those who did. Being aware of the students' low motivation, English teachers working in these high schools should make the course content-rich and fun and adopt a teaching style that increases students' self-confidence.

Although no significant difference was found between the anxiety levels of students who took preparatory classes and those who did not, the anxiety level of the students who took preparatory classes was higher. For future research, complementary methods to the questionnaires, such as classroom observation and interviews, can be implemented to provide clear explanations about participant's opinions. This study can be replicated with different samples from different regions and with a larger sample size from many different schools, such as Religious Vocational High Schools and Science High Schools, to achieve more generalized results.

Ethic

Ethics values and principles were followed through all steps of the research and the preparation of the manuscript. All permissions were also obtained.

Author Contributions

This article was written with the joint contributions of two authors. This paper is prepared from the first author's master's thesis conducted under the supervision of the second author as the thesis advisor.

Conflict of Interest

The authors declare that they have no conflict of interest.

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Psychometric Parameters of the Turkish version of the Reactions to Psychotherapy Questionnaire

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Abstract

This study aims to investigate the validity and reliability of the “Reactions to Psychotherapy Questionnaire” (RPQ) by Furnham and Lay (2016) in Turkish culture. A total of 328 adults (248 females and 80 males) participated in the study. The structural validity of the scale was tested with confirmatory factor analysis. The correlations between “The Attitudes Toward Seeking Professional Psychological Help Scale” (ATSPPH-SF) and “The Thoughts About Psychotherapy Scale” (TAPS) were examined to test the convergent validity. The reliability of the scale was calculated with the internal consistency method and the test-retest method. Similar to the original scale outcomes, the results of the confirmatory factor analysis demonstrated that there is “a form of two-factor structure”, namely, the positive and negative reactions. It has been found that while the positive reactions subscale of RPQ was positively correlated with the Attitudes Toward Seeking Professional Psychological Help Scale (ATSPPH-SF) and negatively correlated with the subscales of Thoughts About Psychotherapy Scale (TAPS), negative reactions subscale was negatively correlated with the Attitudes Toward Seeking Professional Psychological Help Scale (ATSPPH-SF) and positively correlated with Thoughts About Psychotherapy Scale (TAPS) subscales. The internal consistency coefficient for the positive reactions subscale was found to be .88, while test-retest reliability coefficient was .75, positive reactions subscale internal consistency coefficient was .81 and test-retest reliability coefficient was .77. It is found that “Reactions to Psychotherapy Questionnaire” (RPQ) is a valid and reliable assessment in Türkiye.

Key Words

Psychotherapy • Psychotherapy reactions • Reliability • RPQ • Validity

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Two important components of psychotherapy in the session room are the "psychotherapist" and the "patient". The characteristics of these two components significantly affect the healthy functioning of the psychotherapy process. It is known that the professional, personal, socio-emotional, and interpersonal characteristics of psychotherapists affect the functionality of psychotherapy (Heinonen & Nissen-Lie, 2020). In addition to the psychodynamic characteristics of the client in the psychotherapy process, it is seen that the expectations (Çetinkaya & Yavuz Güler, 2020; Norberg vd., 2011), beliefs (Volpe, 2014) and preferences (Russell vd., 2022) of the clients determine their use of psychological help, and the effectiveness of the help they receive. The Reactions to Psychotherapy Questionnaire are one of the possible variables that can affect the psychotherapy process for the client. Reactions to psychotherapy can be thought of as behaviors directed at the psychotherapy process or the psychotherapist.

Psychotherapy researchers have mentioned the effect of clients' reactions to psychotherapy, psychotherapy interventions, and the therapist's actions on the psychotherapy process. The reactions of clients in psychotherapy provide important data about the course of the person's therapy. The uniqueness of the individual differences and reactions of the clients is striking (Hill vd., 1988). At this point, it is important to pay attention to the individual differences of the clients. Clients may reactions differently to the therapist's interventions in terms of their goals and intentions, as their goals and objectives are unique to them (Rice & Greenberg, 1984). At this point, positive results can be obtained by making different interventions for clients who have different reactions due to their individual differences. The process of individuals decision to seek help from a professional regarding psychological problems is a process that depends on many internal and interpersonal factors (Atkinson, 2007). In addition, psychotherapy is described by many as an embarrassing, difficult, and risky process (Kushner & Sher, 1989). It is necessary to understand the reactions of clients well in order to understand that making the decision to start psychotherapy is a stressful process and that the individual cannot start help due to some factors despite the need for help. Psychotherapy researchers have investigated concepts such as attitudes, thoughts, beliefs, intentions, and expectations related to psychotherapy in order to understand the psychotherapy process. While defining the concepts in these studies, they generally made a two-pronged distinction between positive and negative (Elliott, 1985; Hill vd., 1988). Similarly, in this study, reactions to psychotherapy are handled as positive and negative reactions, but additionally, reactions are also looked at from a coping perspective. Thus, the reactions to psychotherapy questionnaire were handled as problem-focused coping and emotion-focused coping and classified as positive reactions and negative reactions.

Positive Reactions

The positive reactions of clients are stated as feeling more comfortable, expressing that they understand themselves better, trying new ways of coping with problems, taking their responsibilities on themselves, and expressing that they have learned new things (Hill vd., 1988). Coping strategies include positive responses, problem-focused behavioral coping, active problem-solving behaviors, and redefining and restructuring the situation. When a client who acts with a problem-focused coping style encounters a problem in the therapy process, bringing this problem to therapy, trying to make sense of the problem, and making attempts to solve it means that the person acts with this style and gives positive reactions. The positive part of emotion-focused behavioral coping includes seeking social support and expressing emotions. In this way, clients can express their feelings and reflections on the problems they encounter during the therapy process. With these behaviors, they have positive reactions to therapy.

Negative Reactions

They call clients' being afraid, anxious, confused, prone to misunderstanding, and clinging to the therapist as negative reactions, but state that these reactions can be seen frequently in the therapy process and that these negative reactions can be eliminated by intervening in the therapy process (Hill vd., 1988). In addition to negative reactions, behaviors such as being late for the sessions, postponing the session or wanting to reduce the frequency of the sessions can be considered negative reactions of the client about the process. According to the coping strategies, there are negative reactions, while the negative end of problem-focused behavioral coping is avoidance behaviors and passive coping responses. The negative end of problem-focused coping is delusional thinking and distancing reactions. A client who gives problem-focused negative reactions may have delusional thoughts about the problem and avoidance of the problem, as well as avoid therapy due to the fact that the problem will be discussed. The client's reaction in such a way affects the therapy process negatively. The negative aspects of emotion-focused coping are displacement, surprise, and avoidance of seeking information. Emotion-focused cognitive coping includes suppressing and denying extrem negative emotions (Akbağ, 2000; Steptoe, 1991). Clients who react negatively in an emotion-focused manner prefer to suppress their emotions and avoid expressing them, as opposed to expressing their emotions. With these behaviors, they have negative reactions to therapy. In this study, it was aimed to adapt the measurement tool named "Reactions to Psychotherapy Questionnaire", which aims to measure the positive and negative reactions of individuals to psychotherapy, into Turkish and examine its psychometric properties.

The Significance of Psychotherapy Reactions in Terms of Therapy

Reactions to psychotherapy have a very important place in the therapy process. The client's response types affect the therapist's interventions and work. People who find psychotherapy positive and see it as the right support for solving their problems will have positive reactions to it and approach getting it, while people who find it negative will have negative reactions to it and avoid it. The role of the psychotherapist at this point is very important. Regarding the psychotherapy process, the client should observe all kinds of reactions well. It can be thought that a therapist who ignores the reactions of the clients may indirectly harm the therapy process. It has been reported that clients' goals and objectives are unique to them, and therefore, they may react differently to psychotherapists interventions in terms of their own goals and intentions (Rice & Greenberg, 1984). It is thought that the determinations to be made as a result of good observation of the clients with different reactions will turn into a therapy intervention and enable the course of therapy to go in a positive direction. This shows the importance of reactions. It is known many factors are known to influence the therapy process in the psychotherapy process. The reactions given by the clients during the psychotherapy process carry important clues for the therapist. Observing and defining these reactions contributes positively to the therapy process. In this study, it was aimed to adapt the The Reactions to Psychotherapy Questionnaire developed by Furnham and Lay (2016), which is very important to detect and intervene in the process of seeking psychological help and to collect information about reactions to psychotherapy, into Turkish and to examine its validity and reliability. There are not many studies on the psychotherapy process in our country. It is important to introduce this important measurement tool, which provides the opportunity to investigate psychotherapy research from the client perspective, into our culture. Psychotherapy research will be supported by adding our study and similar studies to the literature.

Method

Study Group

Participants in the validity and reliability studies of the Reactions to Psychotherapy (RP) consisted of adult individuals as in the original study of the measurement tool. The participant group consists of 328 individuals, 80 (24.4%) men and 248 (75.6%) women. The ages of the participants ranged from 20 to 64, with an average age of 28.34. Data collection tools were applied in print to the people who volunteered to participate in the research. Before the implementation, the participants were informed about the research. Those who want to participate have approved the informed consent form. It was also stated that participants could leave the study at any time.

Measurement Tools

Reactions to Psychotherapy Questionnaire. Reactions to Psychotherapy questionnaire developed by Furnham and Lay (2016) consists of 20 items, which are evaluated on a scale of 7 (Very often) to 1 (Very rare), including the reactions of clients receiving psychotherapy help during therapy. In this scale, there are statements such as "clients feel understood during therapy". Exploratory factor analysis was performed to test the validity of the measurement tool. To determine sample fit, Kaiser-Meyer-Olkin (KMO) measurement (0.86) was performed, confirming sample adequacy. Bartlett's correlation matrix criterion was also found to be significant. ($p < 0.001$). Exploratory factor analysis (EFA) shows that the measurement tool has a two-factor structure. The first sub-dimension is positive reactions, which includes items containing positive reactions to psychotherapy, and the second sub-dimension is negative reactions, which includes items containing negative reactions to psychotherapy. As a result of exploratory factor analysis, all items of RP were found to have acceptable values. Item loads, negative reactions sub-dimension (between 0.55 and 0.81) and negative reactions sub-dimension (between 0.46 and 0.73) have acceptable values. As a result of the studies, the Reactions to Psychotherapy is a data collection tool consisting of "positive reactions" and "negative reactions" sub-dimensions, whose validity and reliability have been proven.

Attitude Scale Towards Seeking Professional Psychological Help-Short Form (ATSPPH-SF). It is a single-factor scale developed by Fischer and Turner (1970), revised and shortened by Fischer and Farina (1995), consisting of 10 items (Fischer & Farina, 2013). The scale is scored between 1 (strongly disagree) and 4 (strongly agree). This scale, which measures individuals' attitudes towards seeking psychological help, includes statements such as "if I am worried or sad for a long time, I would like to receive psychological help".The test-retest reliability of the scale was .80 and the cronbach alpha internal consistency coefficient was .84. A score between 0 and 30 can be obtained from ATSPPH-SF, scoring is done with a 4-point Likert type rating. The high scores obtained from the scale indicate the high level of positive attitudes of individuals towards seeking psychological help. The adaptation study of the scale into Turkish was done by Topkaya (2011). The Turkish form shows a single factor structure as in the original form and consists of 9 items. The internal consistency coefficient of the Turkish version was specified as .76. (Topkaya, 2011).

Thoughts About Psychotherapy Survey (TAPS). TAPS is a measurement tool developed to measure and determine the fears of patients and clients who want to receive psychotherapy help about getting psychological help (Kushner & Sher, 1989). TAPS consists of 19 items and three sub-dimensions. These dimensions are the therapist's response, the image problem, and the strain problem. On this scale, “will the therapist be honest with me?” It includes items such as. The scale is scored between 1 (I don't worry at all) and 5 (I worry a lot). The Cronbach's alpha internal consistency coefficient values for the sub-dimensions of the original form of the TAPS were found to be .92, .87 and .88, respectively (Kushner & Sher, 1989). The Turkish adaptation study of TAPS was carried out by Topkaya (2011). The factor loadings of all items of TAPS were found to be significant by providing the accepted values, however, it was seen that the measurement model including all sub-dimensions also provided acceptable fit values. It was stated that the item-total test correlation values of TAPS ranged between .37 and .65, and the Cronbach’s alpha internal consistency coefficient was found to be .91. Looking at the sub-dimensions of the scale, the Cronbach’s alpha internal consistency coefficients for the therapist's response, image problem and difficulty problem sub-dimensions were found to be .85, .79 and .85, respectively (Topkaya, 2011). In this study, the Cronbach’s alpha value was determined as .914.

Process

In order to adapt the RP, the developer of the data collection tool was contacted, and permission was obtained to adapt the Turkish form of the measurement tool. In order to create the Turkish form of the measurement tool, the original measurement tool was translated into Turkish. The following steps were followed in this process (Sousa & Rojjanasrirat, 2011).

Step 1: Translation of the original scale form into Turkish.

Step 2: Comparison of the Turkish translation of the scale with the original form.

Step 3: Re-translation of the first translated version of the scale into the original language

Step 4: Comparing the reversed version of the scale with its original form.

Step 5: Piloting the final version of the scale translated into Turkish and giving the scale its final shape.

While the Turkish form of the measurement tool was being created, the above steps were carried out by a translation team, respectively. The translation team consists of 9 people, 3 people who translate from English to Turkish, people who translate from Turkish to English, and 3 people who check all these translations and finalize the scale. The Turkish form, which was created as a result of the translation process, was applied to ten different academicians in order to make a preliminary application, and the final form of the scale was created by making necessary arrangements after the evaluations and criticisms received from the participants. In order to test the validity and reliability of the measurement tool, it was applied to 328 participants. To test the retest reliability of the scale, it was applied to university students studying in the same class. The second application of the retest was applied to the same class again two weeks later.

Data Analysis

Reactions to psychotherapy In the Turkish sample, construct validity and conformity validity were tested in order to evaluate their psychometric properties. In this direction, confirmatory factor analysis was performed to test the construct validity of the measurement tool. In order to test convergent validity, the relationships between measurement tools with proven validity and reliability in the Turkish sample, such as the thoughts about psychotherapy scale and the attitude scale towards seeking psychological help, were examined. In order to test the reliability of the measurement tool, Cronbach's alpha, and test-retest reliability, and item analyses were examined. In order to determine the test-retest reliability, it was administered to 57 participants two weeks apart, and the results of the two applications were evaluated. Item-total correlation coefficients were also examined in the context of item analysis. CFA is an extension of exploratory factor analysis (EFA) that evaluates the underlying structure of the data (Lee, 2008). EFA attempts to provide an identification function and obtain information for hypothesising. CFA is used to test whether there is a sufficient level of relationship between these determined factors, which variables are related to which factors, whether the factors are independent of each other, and whether the factors are sufficient to explain the model (Özdemir, 2004).

Results

Construct Validity

Confirmatory factor analysis (CFA) was conducted to test the construct validity of the The Reactions to Psychotherapy Questionnaire. CFA is a functional method used to test whether factors whose structure is previously known are compatible with newly obtained data. (Kline, 2023; Tabachnick & Fidell, 2013). This process was done with a software program called Lisrel. In this direction, CFA was preferred because of the structure of Reactions to Psychotherapy as revealed by Furnham and Lay (2016). In CFA, the results are interpreted by considering multiple parameters and this is the strength of CFA. In this study, the ratio of Chi-square Fit Test to degrees of freedom (x2/sd), The Goodness of Fit Index (GFI), The Comparative Fit Index (CFI), The Incremental Fit Index (IFI), The Tucker Lewis Index (TLI), The Standardized Root Mean Square Residual (SRMR) and The Root Mean Square Error of Approximation (RMSEA) values were used as goodness of fit indices. As a critical value in the interpretation of these values; x2/sd ≥ 5 in 20; Results above .90 for GFI, CFI, and TLI were considered acceptable (Bollen, 1990; Hooper vd., 2008; Hu & Bentler, 1999). In addition to the goodness of fit indices in CFA, the factor loadings of the items that make up the dimensions are required to be significant. According to the preliminary results of the CFA, which was carried out considering these criteria, the goodness-of-fit indexes of Reactions to Psychotherapy were [x2 (169, N = 328) = 432.216, x2/sd = 2.56; GFI = .88; CFI = .88; IFI = .88; TLI = .86; SRMR = .067; RMSEA = .069] and GFI, CFI and TLI indices were found to be below the critical value. However, it was determined that the modification indexes were high in items 1 and 3 of the positive reactions dimension and items 18 and 20 of the negative reactions dimension. In this context, confirmatory factor analysis was renewed by modifying these items. The results of the factor analysis are presented in Figure 1.

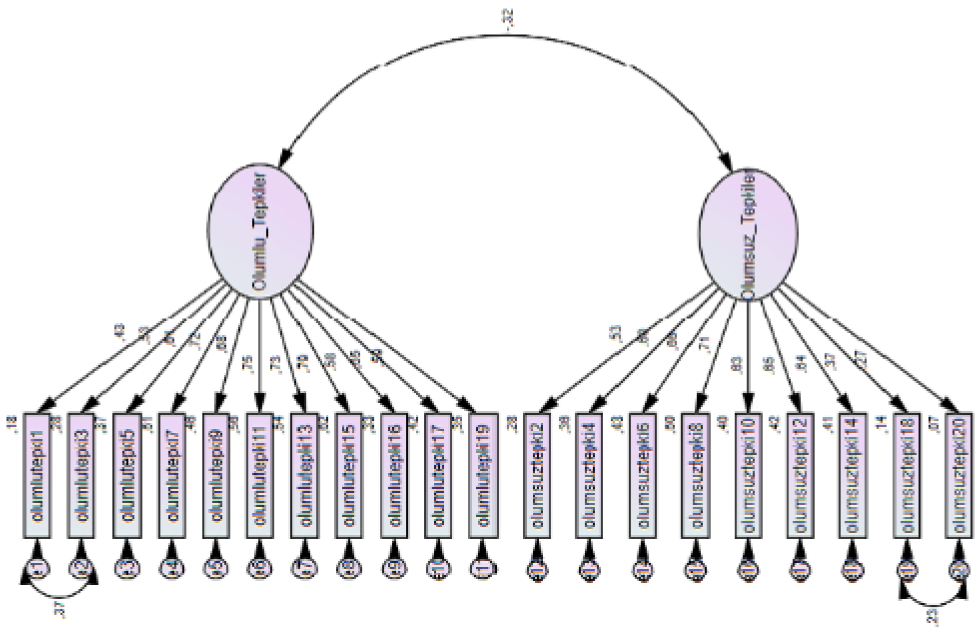

Figure 1. CFA analysis results

As can be seen in Figure 1, it is understood that the factor loads standardized in the dimension of positive reactions vary between .43 and .79 and all factor loads are significant. Similarly, it was determined that the standardized factor loads in the dimension of negative reactions ranged from .27 to .71 and all factor loads were significant. Goodness of fit indices of the measurement tool [$\chi2$ (167, N = 328) = 369.138, $\chi2$/sd = 2.21; GFI = .90; CFI = .91; IFI = .91; TLI = .90; SRMR = .062; RMSEA= .061]. The findings regarding whether the results of confirmatory factor analysis meet the criteria are presented in Table 1.

Table 1

Confirmatory Factor Analysis Results on Reactions to Psychotherapy

Fit Index	Calculated Value	Acceptable Values	Conclusion
χ^2/sd	2.16	χ^2/sd $\leq$ 5.00	Acceptance
GFI	.90	GFI $\geq$ .90	Acceptance
CFI	.91	CFI $\geq$ .90	Acceptance
IFI	.91	CFI $\geq$ .90	Acceptance
TLI	.90	TLI $\geq$ .90	Acceptance
SRMR	.062	SRMR $\leq$ .08	Acceptance
RMSEA	.061	RMSEA $\leq$ .08	Acceptance

Criterion Correlation Validity

In order to test whether the Reactions to Psychotherapy meet the congruent validity requirement or not, the relationships between the Thoughts About Psychotherapy Scale (TAPS) and the Attitudes Towards Seeking Professional Psychological Help-Short Form (ATSPPH-SF) were examined. In this context, positive and negative reactions, which are TAPS sub-dimensions, attitude towards seeking psychological help, which is the total score of ATSPPH-SF, and correlations of TAPS with therapist response, image problem, and strain problem sub-dimensions were also tested. Table 2 shows the results of concordance validity studies.

Table 2

Criterion Correlation Validity Results of the Reactions to Psychotherapy

Variable	ATSPPH-SF	Therapist Response	Image Problem	Strain Problem
Positive Reactions	.399**	-.128*	-.191**	-.246**
Negative Reactions	-.196**	.200**	.252**	.244**

Not. ** p < .05, * p < .001; ATSPPH-SF Attitude Scale Towards Seeking Psychological Help-Short Form

Reliability

In order to determine the reliability of the Reactions to Psychotherapy, the Cronbach’s alpha test-retest reliability coefficients were calculated, and item nalysis was performed. The results of the measurement tool regarding the Cronbach's alpha and test-retest reliability coefficients are presented in Table 3. In addition, the corrected item-total correlataions of the items of the PTSF are also included in Table 3. As can be seen from Table 3, Cronbach's alpha coefficients for both positive reactions (α = .88) and negative reactions (α = .81) dimensions of The Reactions to Psychotherapy Questionnaire are at an acceptable level. In addition, in terms of test-retest reliability coefficient, it was observed that both dimensions had sufficient reliability coefficients (.75 and .77, respectively).

According to the findings of the item analysis of The Reactions to Psychotherapy Questionnaire, the item strengths of the scale vary from the positive reactions dimension (.45 and .71) to the negative reactions dimension (.30 and .63). In the evaluation of item-total correlations, it is stated that items scoring 0.30 and above have high discrimination in terms of the dimension to be measured (Büyüköztürk, 2014). In this regard, it can be said that all items of the scale have sufficient value. According to regression analysis, the assumptions were also tested and found to be met. As a result of all these reliability analyses, it was determined that The Reactions to Psychotherapy Questionnaire was a reliable measurement tool.

Table 3

Reliability results of the Reactions to Psychotherapy

Subscale	Item	rjx	Med	ss	α	Test-Retest
	1	.45	5.00	1.43		
	3	.56	5.29	1.29		
	5	.60	5.23	1.39		
	7	.67	5.60	1.11		
	9	.63	5.11	1.35		
Positive Reactions	11	.67	5.70	1.26	.88	.75
	13	.66	5.77	1.16		
	15	.71	5.68	1.12		
	16	.52	5.70	1.29		
	17	.63	5.49	1.10		
	19	.55	4.79	1.47		
Negative Reactions	2	.48	3.85	1.55	.81	.77
	4	.54	3.97	1.74		
	6	.55	2.39	1.56		
	8	.63	2.88	1.57		
	10	.55	3.77	1.70		
	12	.57	3.09	1.66		
	14	.56	2.96	1.70		
	18	.38	3.31	1.61		
	20	.30	3.14	1.59		

Not. rjx: Item Discrimination Index, Med: Median, Sd: Sum of Squares, α: Cronbach’s alpha

Discussion

The first confirmatory factor analysis results for Reactions to Psychotherapy (RP) showed that the fit values of the first and third items of the positive reactions dimension and the 18th item of the negative reactions dimension were low. It was observed that the modification indices were quite high between the first and third items and between the 18th and 20th items. In this context, CFA was repeated by modifying these items. As a result of the confirmatory factor analysis performed after the modification, the goodness of fit indexes of the scale were found to be at acceptable values.

Modified item 1 is “Clients tell their friends that they notice something new about themselves” and modified item 3 is “Clients say they have more contact with their emotions (which they previously ignored or uppressed)”. Both items belong to the positive reactions sub-dimension of the scale. Looking at the specifics of the items, it is seen that both items are about clients' discoveries about things they did not know about themselves. It can be said that this modification is suitable for both the model and the theoretical infrastructure. Similar comments can be made in the second modification. The 18th item of the negative reactions sub-dimension of the scale includes the statement "The client cannot quit therapy because she thinks he/she is addicted to therapy" and the 20th item includes the statement "He/she states that she finds her therapist very attractive".

The factor loads of the original scale range from .55 to .81 for the negative reactions sub-dimension, and between .46 and .73 for the negative reactions sub-dimension (Furnham & Lay, 2016). As a result of the confirmatory factor analysis conducted on the Turkish version of the scale, it was found that the standardized factor loadings in the positive reactions subscale ranged between .43 and .79. According to the acceptable values stated by (Büyüköztürk, 2014), it was understood that all factor loadings of the positive reactions sub-dimension of the Turkish version of the scale were significant. Similarly, it was determined that the standardized factor loads in the dimension of negative reactions ranged from .27 to .71 and all factor loads were significant. The 20th item remained below the acceptable limit of 0.30, with a factor loading of 0.27. However, the item was not removed from the scale because it was close to the acceptable value and to prevent the integrity of the scale from being compromised. At this point, no intervention was made to remove the item from the scale, considering that the difference between the acceptable value and the factor load was very small, and that the original structure of the scale would be disrupted by removing the item.

When the concordance validity of the Turkish form of the measurement tool is examined, it is seen that the positive reactions sub-dimension and the Attitudes Towards Seeking Professional Psychological Help scale show a significant positive relationship, in other words, as positive attitudes increase, positive reactions also increase. In addition, it was found that the positive reactions sub-dimension and the scale of thoughts about psychotherapy showed a significant negative correlation with therapist reaction, image problem and difficulty problems. On the other hand, the negative reactions sub-dimension was negatively correlated with the Attitudes Towards Seeking Professional Psychological Help Scale; It was found that the scale of thoughts about psychotherapy showed a positive and significant relationship with therapist reaction, image problem and difficulty problem. These findings regarding concordance validity indicate that if the reactions to psychotherapy are positive, it indicates that the fears of seeking psychological help decrease, and if the reactions are negative, the fears of seeking psychological help increase. In other words, if the fear of getting psychological help is high, individuals give negative reactions to psychotherapy, and if the fear of getting help is low, they give positive reactions to psychotherapy. Furnham and Lay (2016) found in the original study that individuals with low anxiety had high positive reactions to psychotherapy. In order to determine the reliability of the Turkish Version of the Reactions to Psychotherapy, the Cronbach’s alpha test-retest reliability coefficients were calculated and item-analysis was performed. It is understood that the Cronbach's alpha coefficients of both positive reactions (α = .88) and negative reactions (α = .81) dimensions of the Reactions to Psychotherapy are at an acceptable level. Similarly, in terms of test-retest reliability coefficient, it can be stated that both dimensions have sufficient reliability coefficients (.75 and .77, respectively). According to the item analysis findings of the The Reactions to Psychotherapy Questionnaire, it can be said that the corrected item-test correlations vary between positive reactions (.45 and .71) and negative reactions (.30 and .63), and distinguish individuals well in terms of the dimension to be measured.

As a result of the study, the Turkish version of the Reactions to Psychotherapy, as in the original study, consists of two sub-dimensions, positive reactions and negative reactions, and a total of 20 items scored between 1 and 7. It is thought that the scarcity of quantitative studies on psychotherapy is largely due to the lack of measurement tools specific to this field. It is thought that this measurement tool will benefit studies to determine the reactions of individuals to psychotherapy and the factors affecting these reactions in order to increase the rate at which individuals benefit from mental health assistance services and psychotherapy in particular. The biggest limitation of this study is that studies examining the psychotherapy process in Türkiye are very limited. In addition, since the psychotherapy process has many dynamics and a complex structure, it needs to be examined multidimensionally. However, in this study we were able to work on a small number of variables, we recommend that different dimensions be addressed in new studies.

Ethic

In this study, scientific, ethical and citation rules were followed; It has been committed that no falsification has been made on the collected data, and that all responsibility belongs to the authors for all ethical violations to be encountered.

Author Contributions

All authors contributed equally to the study.

Conflict of Interest

There is no conflict of interest

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Investigation of the Mediator Role of Authenticity Between Emotional Intelligence and Resilience Levels of University Students

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Abstract

This study examined the mediating effect of authenticity on the relationship between emotional intelligence and university students' resilience levels. While the concept of emotional intelligence is explained as the ability to control and manage emotions, resilience is defined as coping with negative situations and staying psychologically sound, and authenticity is the state of being original. The sample of the study consists of a total of 419 university students, 317 girls and 102 boys, aged between 18 and 25. Emotional Intelligence Trait Scale-Short Form, Short Psychological Resilience Scale, and Authenticity Scale were used as data collection tools. Data were analyzed with Pearson product-moment correlation, Confirmatory factor analysis, and Structural equation modeling. The results obtained from the study showed that there were positive significant relationships between emotional intelligence and resilience, emotional intelligence and authenticity, and authenticity. After this analysis, the mediating effect of authenticity between emotional intelligence and psychological resilience was examined. In addition, it was concluded that authenticity has a partial mediating effect between emotional intelligence and psychological resilience.

Key Words

Authenticity • Emotional intelligence • Resilience

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Introduction

For university students, one of the critical periods in their lives is the initiation stage and adaptation process to university. It goes through very difficult processes in the process of adapting to this new environment. There are many problems experienced in this process, such as leaving family and friends, adapting to university, overcoming responsibilities in daily life, meeting new friends and entering new social environments, managing the budget, having emotional problems, anxiety about academic success, dormitory life, etc. In this period, while trying to cope with the situation given by adolescence, on the other hand, there is a state of preparation for adulthood. At the same time, they are faced with physiological, emotional, academic, and social needs specific to the university environment (Hudd et al., 2000). While some students overcome the difficulties experienced appropriately and constructively, some students go through this process with difficulties. Psychological resilience, which is defined as the state of being resistant to difficulties, is stated as the ability of a person to adapt to changing situations (Karaırmak, 2006). Psychological resilience is stated as the protective factors that an individual uses to improve themself and regulate their mood in crises (Smith et al., 2008). While trying to balance students' developmental tasks, needs, and academic responsibilities, they are faced with intense tension and this tension can sometimes turn into adjustment problems.

Individuals with a high level of authenticity; low self-handicapping behaviors (Sarıçalı, 2014), are more hopeful toward life (Davis & Hicks, 2013), are committed to their values , and focused on leading a meaningful life (Smallenbroek et al., 2016), self-respect (Boyraz et al., 2014), they are said to have properties such as. In the context of all these studies; It is said that the concept of authenticity is a helpful element in the psychological resilience of individuals. Authenticity means that the person acts within the framework of their true self and these behaviors are consistent (Harter, 2002; Kernis, 2003). Authenticity refers to the behavior of the individual by themself and truth, not according to external criteria or expectations (Maslow, 2011). In other words, it is the state of being able to know oneself and be loyal to oneself (Harter, 2002; Wood et al., 2008). It is stated that the more an individual can lead a life by their real self, the more authentic they are. The opposite signifies the false self. The real self is characterized by phenomena such as “speaking your true thoughts and beliefs,” “honestly voicing your opinions,” and “expressing how you truly feel,” while the false self is “false,” “hide your true thoughts and feelings,” and “hide your true thoughts and feelings, but not the true thoughts and feelings of others. characterized by phenomena such as “saying what they want to hear” (Harter, 2005). Rogers (2020) defines a psychologically healthy person as “a person who uses his/her full potential”. Accordingly, for an individual to be psychologically healthy, they must lead an authentic life as they desire, not according to the expectations and wishes of others. In addition, Rogers emphasizes that the individual's acceptance of themselves as they are, embracing their feelings in all aspects, and being self-aware are the factors that point to psychological health. "Awareness" relates to a person's knowledge of their motivations, desires, emotions, and themselves, and their desire to increase their knowledge (Kernis & Goldman, 2006). It is a dimension associated with knowing the positive and negative aspects of the individual's self (İmamoğlu et al., 2011). Rogers (2020) states that people who wear masks and exhibit artificial behaviors in public cannot be themselves. According to this, for the individual to lead a good life, they should get rid of the expectations of others, stop escaping from their self, embrace themselves in all aspects and behave like themselves.

It is stated that many people avoid being self-aware as a result of their fear of the negative emotions they will bring with them. It is emphasized that it is not possible for an individual who does not have self-awareness to lead a meaningful life (Martens, 2004). On the other hand, it is stated that even if the individual is aware of themselves, it is not an easy process to reflect their real self in action in a social structure that works like a wheel (Guignon, 2008). In this context, authenticity can have negative consequences, up to the isolation of the individual from society. On the other hand, it is stated that the individual who does not live authentically will experience existential guilt because they betray their essence and hinder their potential. Therefore, an inauthentic life will cause deep uneasiness in the person. However, the individual will be able to experience their existence in a qualified way by discovering their essence and living an authentic life accordingly (Dökmen, 2003).

In this period, in which university students shape their identities and assume various roles in many systems, being authentic supports finding one's true self and acting accordingly. To have an authentic self, one must first have self-awareness. It is stated that a person who has such an awareness can provide psychological adaptation to the environment they live in more easily and this awareness will positively affect the individual's psychological well-being (Kernis, 2003). It is stated that authentic people have higher self-awareness and are more free than non-authentic people. In addition, it is stated that authentic people live by bringing their real selves to the fore, while non-authentic people live by highlighting their false selves because they act according to the expectations, criteria, and wishes of others. It is emphasized that people living with their fake selves do not accept their selves and therefore they can experience destructive shame about their real selves (Martens, 2004). In this context, it is stated that the self-esteem of people living with their false selves is lower than those who live a life by their real selves. As a result, it is stated that these people are more prone to depression and more hopeless than people who live a life by their true selves (Harter, 2005).

Emotional intelligence provides self-awareness; It is defined as the subset of social intelligence that includes the ability to monitor one's own and others' emotions, perceive them correctly, distinguish between them, and use this information to direct and reflect one's thoughts and actions (Mayer et al., 2004; Salovey & Mayer, 1990). In addition, Kernis & Goldman (2006) found that authenticity was positively associated with various variables such as feeling valued, developing coping strategies, self-worth, self-awareness, identity integration, well-being, low verbal defensiveness, and high relationship satisfaction. specified. In a study, it was found that there is a positive and significant relationship between emotional intelligence and authenticity (Kocaoğlu & Çekiç, 2012). Individuals with high emotional intelligence can communicate more easily and closely with other individuals (Erdoğdu, 2008), have better social skills (Doğan & Demiral, 2007), have higher levels of expressing their emotions and giving appropriate emotional reactions (İşmen, 2004). It is seen that they can adjust their emotions more consistently against changes (İkiz & Kırtıl-Görmez, 2010) and that they can regulate the emotions of the people they interact with (Akçay & Çoruk, 2012). On the other hand, studies have shown that individuals with social anxiety have low levels of authenticity (Plasencia et al., 2011). In another study, it was concluded that the increase in authenticity in bilateral relations led to positive changes in the emotional and thought states of individuals with social anxiety (Plasencia et al., 2016). When examining the studies investigating authenticity among university students, it was concluded that as the level of authenticity decreased, the levels of stress, anxiety (Wood et al., 2008), and depression (Lopez & Rice,

2006) increased. Malak (2011) found in his study with university students that emotional intelligence is an important predictor of self-awareness, interpersonal relationships, adaptation to conditions and environment, stress management, and general mood scores.

One of the most important parts of the human experience of emotion is the ability to regulate emotions in the best possible way, both in their own experiences and in their interactions with other people. Emotion regulation is defined as the processes that determine how long people will have which emotions in which situations, how they will experience these emotions, and how they will express them (Gross, 1998). It has been determined that there is a positive relationship between the mental, emotional, and behavioral communication skills of individuals with a high ability to regulate their emotions (Çetinkaya & Alparslan, 2011).

In all this conceptual framework, no study was found in which the specificity between emotional intelligence and psychological resilience was determined. The research examines the effect of being authentic in terms of the effect of emotional intelligence on psychological resilience. In this respect, it is important that emotional intelligence is not an authentic research in the literature and that it further increases psychological resilience. For this reason, the research first aimed to examine whether emotional intelligence positively predicts resilience, and then the mediator role of originality between university students' emotional intelligence and resilience levels.

Method

Research Design

This study is a survey in the relational survey model that examines the mediating effect of authenticity level on the relationship between emotional intelligence and psychological resilience of university students with the structural equation model. The relational survey model is a “research model that aims to determine the existence and/or degree of change between two or more variables” (Karasar, 2011).

Research Sample/Study Group/Participants

The study group the research consisted of 419 undergraduate students, 317 (76%) females, and 102 (24%) males, studying at Yıldız Technical University Faculty of Education in Istanbul in the 2022-2023 academic year. In the study, in which a convenient sampling method was used, the ages of the students were between 18 and 25, and the mean age was 21.08 (sd=2.24).

Measures

The Brief Resilience Scale (BRS)

The short resilience scale (BRS), adapted into Turkish by Doğan (2015), was developed by Smith, et al. (2008) developed by. It consists of 6 items in a 5-point Likert type. Answer keys are “Not at all appropriate” (1), “Not suitable” (2), “Slightly Appropriate” (3), “Appropriate” (4), “Totally Appropriate” (5). An adaptation study was conducted with 295 university students. The psychometric properties of the scale show that it is a valid measurement tool. As a result of the analysis since all output values were within the desired value range, no improvement was required. When we examine the CFA results for BRS, in terms of fit indices, it is seen that the structure of the measurement tool for this study was confirmed. (χ^2 = 13.423, sd= 8, χ^2 /sd= 1.505, GFI= .98, AGFI= .96, RMSEA= .02, CFI=.98, SRMR= .03, TLI= .98). The Cronbach alpha value was .79.

The Authenticity Scale

The Authenticity Scale, adapted into Turkish by İlhan and Özdemir (2012), was developed by Wood, Linley, Maltby, Baliousis, and Joseph (2008). It is a 7-point Likert type with 12 statements. There are no reverse-scored statements in the scale. It consists of three sub-dimensions, “Self-estrangement”, “Acceptance of External Effects” and “Authentic Life”. The factor structure was also confirmed for the Turkish form. Internal consistency ranged between .62 and .79. In the adaptation study of the scale, Cronbach Alpha internal consistency coefficients were found α = .79 for Alienation, α = .67 for Acceptance of External Effects, and α = .62 for Authentic Living, respectively. As a result of the Confirmatory Factor Analysis conducted within the scope of this research, it is seen that the factor loads vary between .68 and .72. As a result of the analysis since all output values were within the desired value range, no improvement was required. When we examine the CFA results for the authenticity scale in terms of fit indices, it is seen that the structure of the measurement tool for this study was confirmed (χ^2 = 8.052, sd= 3, χ^2 /sd= 1.67, GFI= .98, AGFI= .97, RMSEA= .053, CFI =.97, SRMR= .03, TLI= .98). The Cronbach alpha value was .81.

Trait Emotional Intelligence Questionnaire–Short Form

The Emotional Intelligence Trait Scale-Short Form (TEIQue-SF), adapted into Turkish by Deniz, Özer, and Işık (2013), was developed by Petrides and Furnham (2000a, 2001). Consisting of 30 statements, the scale is a 7-point Likert-type measurement tool. It consists of four factors. The scale consists of sub-factors, which are "Subjective well-being", "Self-control", "Emotionalism" and "Sociability". As a result of the Explanatory Factor Analysis performed to examine the construct validity of the scale, a four-factor structure consisting of 20 items was obtained. The results of the Confirmatory Factor analysis carried out to understand whether this structure fits well with the sample data, on the other hand, showed that the fit to the sample to which the scale was applied was good. In the analyzes for reliability, Cronbach's alpha coefficients of TEIQue-SF were found as .72 for the Well-Being factor, .70 for Self-Control, .66 for Emotionality, .70 for Sociability, and .81 for the whole scale. The test-retest reliability coefficient was found to be .86. As a result of the confirmatory factor analysis conducted within the scope of this research, it is seen that the factor loads vary between .55 and .69. In this way, it was seen that the model's goodness of fit values came to acceptable limits. When we examine the CFA results for the Emotional Intelligence Trait Scale-Short Form in terms of fit indices, it is seen that the structure of the measurement tool for this study was confirmed. (χ^2 = 21.15, sd= 7, χ^2 /sd= 3.65, GFI= .94, AGFI= .86, RMSEA= .06, CFI=.95, SRMR= .04, TLI= .89). The Cronbach alpha value was .84.

Data Analysis

SPSS 26.0 and AMOS (Analysis of Moment Structures) programs were used for statistical analysis of the data. The Structural Equation Model (SEM) was used to analyze the mediating effect of authenticity on the relationship between emotional intelligence and resilience.

In this study, which aims to reveal the relationship networks between university students' emotional intelligence, resilience, and authenticity levels, firstly correlation analysis and descriptive statistics were carried out. This process was done with SPSS 26.0 program. Then, Structural Equation Modeling (SEM) was carried out. SEM is stated as a more powerful quantitative analysis method because it provides the opportunity to make decisions according to more than one parameter (Kline, 2011). Therefore, in the study, the relationship between emotional intelligence and resilience was examined, and then the mediating effect of authenticity between emotional intelligence and resilience was examined. To evaluate the results of SEM, the goodness of fit indices recommended by Hu and Bentler (1999) were considered. In this context, besides chi-square ($\chi 2$) and degrees of freedom, CFI, NFI, TLI, SRMR, and RMSEA values were calculated. As critical values, the ratio of $\chi 2$ to degrees of freedom is less than 5, CFI, NFI, and TLI values are higher than .90, and SRMR and RMSEA values are lower than .08 (Hu ve Bentler 1999; Tabachnick ve Fidell, 2001).

Results

The mean, standard deviation calculated according to the scores the students got from the data collection tools used in the research are given in Table 1.

Table 1

Descriptive Values of Students' Total Scores from the Emotional Intelligence Scale, Brief Psychological Resilience Scale, and Authenticity Scale

	N	Mean	SD
TEIQue-SF	419	22.14	5.40
BRS	419	17.81	3.87
AS	419	25.02	7.03

TEIQue-SF=The Emotional Intelligence Trait Scale-Short Form, BRS= The Brief Resilience Scale, AS= The Authenticity Scale

As seen in Table 1, the arithmetic mean of emotional intelligence scores is Mean= 22.14, the arithmetic mean of resilience scores is Mean = 17.81, and the arithmetic mean of authenticity scores is Mean = 25.02.

Correlations Between Variables

As a result of the analysis of the normality of the distribution for the scales used in the research, it was determined that the distribution showed a normal distribution, and the findings of the relationships between emotional intelligence, psychological resilience, and authenticity were obtained by Pearson product-moment correlation. The result of the correlation analysis is shown in Table 2.

Table 2

Correlations of Emotional Intelligence, Resilience, and Authenticity Levels

	1	2	3
1.TEIQue-SF	1		
2.BRS	.37**	1	
3.AS	.38**	.58**	1

**p<.01

It is seen in Table 2 that the highest relationship is between resilience and authenticity (r: .58, p<.01), followed by the relationship between emotional intelligence and authenticity (r:.38, p<.01), and the relationship between emotional intelligence and resilience is also significant (r: .37, p<.01. Baron and Kenny (1986) agree with their explanation of the prerequisite for correlation required for mediation. Therefore, in this study, the analyzes were tested with the structural mediation model.

Model Tests

Structural Equation Model analysis results of Model 1 and Model 2, which were established to examine the mediating role of authenticity in the relationship between emotional intelligence and resilience of university students, are presented below.

Model 1

The Relationship Between Emotional Intelligence and Resilience

In Model 1,the relationship between emotional intelligence and the psychological resilience of university students was examined. According to Baron and Kenny (1986), if there is a significant relationship between the dependent and independent variables, there may be a mediation relationship. For this reason, first of all, the predictive power of the emotional intelligence status of university students on psychological resilience was examined.

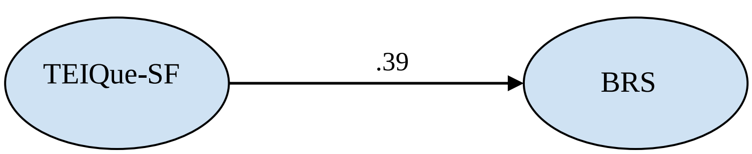

Figure 1. The predictive power of emotional intelligence on resilience through structural equation modelling

Figure 1 shows the predictive power of emotional intelligence on resilience through structural equation modeling. In Table 3, fit values and fit indicators of Model 1 are given. When Table 3 is examined, it is seen that the model is significant according to χ^2 (51.481) and χ^2/df (12) values. Model fit indices show that the model is within acceptable limits/ GFI=.97, AGFI=.97, RMSEA=.04, CFI=.98, SRMR=.02, and TLI=.98). Accordingly, it is seen that emotional intelligence predicts resilience at the level of .39.

Table 3

Indicators of Fit for Model 1

Compliance Values Tokens	Compatibility indicators
χ^2	51.481
sd	12
χ^2/sd	4.29
GFI	.97
AGFI	.95
RMSEA	.04
CFI	.98
SUMMER	.02
TAG	.98

Model 2

Examining the Mediator Role of Authenticity in the Relationship between Emotional Intelligence and Psychological Resilience

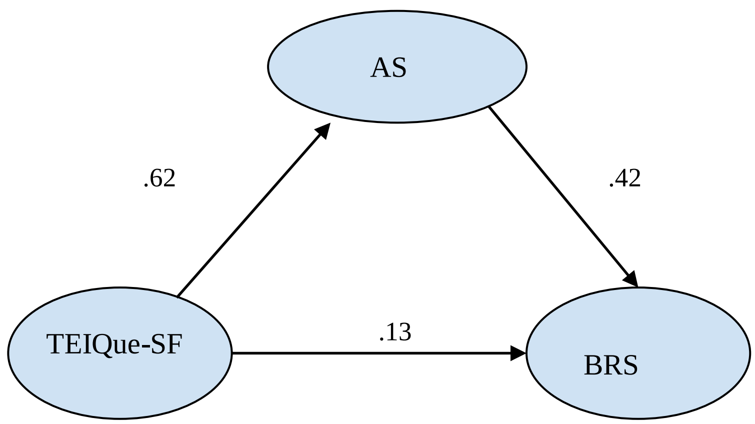

Figure 2. The mediating role of authenticity in the relationship between emotional intelligence and resilience through structural equation modeling

The fit values and fit indicators of Model 2 are presented in Table 4.

Table 4

Indicators of Fit for Model 2

Compliance Values Tokens	Compatibility indicators
χ^2	545.58
sd	267
χ^2/sd	2.04
GFI	.88
AGFI	.87
RMSEA	.04
CFI	.96
SRMR	.04
TLI	.94

When Table 4 of Model 2 is examined, it is seen that the model is significant according to x2 (545.58) and x2/df (2.04) values. When the model fit indices are examined, the GFI value is .88; The AGFI value is .87; The RMSEA value is .04; The CFI value is .96; The SRMR value is .04 and the TLI value is .94, indicating that the model is within acceptable limits.

According to Model 2, in the structural equation modeling in which the mediating effect of authenticity in the relationship between emotional intelligence and resilience is tested, it is seen that the predictive power of emotional intelligence on resilience decreased from .39 to .13. According to this; it can be said that authenticity has a partial mediation effect on the relationship between emotional intelligence and psychological resilience.

Discussion, Conclusion & Suggestions

In the research analysis processes, the relationship between emotional intelligence and psychological resilience was analyzed first, and according to the analysis, it was found that the relationship was weak but positively predicted. It supports that the result is one of the important steps for the use of structural equation modeling. The other examined situation is the relationship between emotional intelligence and authenticity in terms of the correlation value. A weak positive correlation was found between these two variables. In the last stage, the relationship between resilience and authenticity was moderately positive. After reaching positive significant relationships between all these variables, the process was started with structural equation modeling.

Significant relationships were found between emotional intelligence and psychological resilience. Considering these results, we can say that people with high emotional intelligence levels also increase their psychological resilience. When the literature is examined, in the research conducted by Özer and Deniz (2014) on university students, it was determined that students with high emotional intelligence also have high psychological resilience.

In the analysis phase, it was found that authenticity had a partial mediating effect on the relationship between emotional intelligence and resilience in university students, according to the structural equation model. Since it has the potential to treat one or more conditions encountered in the field of psychology, it has been stated as a realistic target to have a mediator variable that reduces the relationship between the dependent and independent variables. it was stated that there was a strong effect (Baron & Kenny; 1986). In this respect, the importance of the fact that authenticity has an effect that reduces the relationship between emotional intelligence and psychological resilience has emerged.

In the descriptions made for psychological resilience, it is expressed as the individuals who have experienced a problem and can cope with negative situations (Masten, 2014; Smith et al., 2008). It can be said that the individual is related in terms of accepting external influences, one of the sub-dimensions of authenticity. In their study, Öksüz & Huzur (2019) found that authenticity is more effective from the feedback it receives from the communication it establishes with its surroundings than family harmony; It has been determined that the support received from family, friends, and social environment positively affects the authenticity of individuals. It has been revealed that psychological resilience is not affected by the level of acceptance of external effects (Demirci et al., 2019).

Accepting external influence and controlling it emotionally at the same time supports the findings that resilience is affected in terms of both authenticity and emotional intelligence.

In a study on emotional intelligence and resilience, Özer and Deniz (2014) found positive and significant relationships between personality sub-dimensions such as extraversion, openness to experience, agreeableness, and responsibility. In another study, the relationships between emotional intelligence and interpersonal emotion regulation, and resilience were examined. It has been determined that there is a moderate positive relationship between emotional intelligence and psychological resilience levels of university students participating in the research. This finding shows that as the level of emotional intelligence increases in university students, the level of resilience also increases (Yüksel et al., 2021). These findings support the research in terms of emotional intelligence exhausting psychological resilience. The research shows that people who show skills such as regulating emotions and managing emotions in terms of emotional intelligence have high levels of psychological resilience. In addition, with the partial mediating effect of authenticity, an important factor in increasing the psychological resilience levels of individuals has been noticed.

As a result, the findings obtained from the structural equation model in the analyzed variables revealed that authenticity has a partial mediating effect on the relationship between emotional intelligence and resilience of university students. From another point of view, it can be said that authenticity also has an effect on the relationship between emotional intelligence and resilience, but it is not entirely due to authenticity. Accordingly, it shows that it is not possible to directly interfere with the emotional intelligence levels of university youth to contribute to their level of resilience, and in cases where facts and events are difficult, intervening in the authenticity levels will be an alternative way.

In light of the findings, it is recommended that researchers who want to conduct research in the future should look at the mediating effect of other variables between emotional intelligence and psychological resilience. It is suggested that programs to increase the level of authenticity can be designed, as well as group guidance and group psychological counseling. Studies can be conducted with different age groups or different samples in terms of demographic variables.

Limitations

There are some limitations of the study. It would be beneficial to express these limitations and to make suggestions for future studies in this direction. First of all, it is necessary to express a limitation arising from the collection of the variables of the research with measurement tools based on personal reports. In measurement tools based on self-reports, the level related to the measured variable is only in question within the scope of that measurement tool.

Another limitation is the cross-sectional data collected. Although alternative models are tested, since the data are not longitudinal, it is necessary to be cautious in characterizing the variables in the model as antecedent and concluding. As a result, the data evaluate individuals quantitatively.

Ethic

Ethical permission was received by the Yıldız Technical University social sciences research ethics committee dated 05.11.2022.

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I declare that I comply with the research ethics rules.

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Examination of the Dear Shameless Death Novel from the Perspective of Parent Modes

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Abstract

The schema modes that emerge as a part of the whole can be observed by triggering the non-functional schema and schema patterns. The modes are grouped into four general categories as child modes, parent modes, coping modes, and healthy modes, and also into subgroups within themselves. In this study, dysfunctional parent modes have been tried to be revealed by examining them through the novel, Dear Shameless Death. It is aimed to show the observable coping modes in the study since the modes are registered through coping modes. For this purpose, the document analysis method, which is one of the qualitative research techniques, was used in the study. In the literature, a study in which dysfunctional parent modes were examined in a literary work could not be observed. In the novel about the life of a family, the characters Atiye and Dirmit come to the forefront more. The dysfunctional parent modes that these characters use and their preferred coping modes were revealed in the study. It was found that the modes used are the result of their early life and learning from their family and environment. Based on the novel, Dear Shameless Death, it was observed that literary works can contribute to the literature by using it in different fields such as education, mental health, and sociology.

Key Words

Dear shamless death • Mode • Parent mode

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Concepts

People develop perspectives about the people around them in line with their beliefs and value systems. Organized groups of concepts related to actions and objects while creating the perspective are called schema (Young, Klosko, & Weishaar, 2013). The concept of schema emerged as cognitive organizations that enable cognitive development and understanding of the world (Piaget, 1975). Schemas, which begin at a simple level in infancy, develop until adolescence and help the individual adapt to his/her environment and life (Soygüt, Karaosmanoğlu, & Çakir, 2009). In terms of features, it is accepted that schemas have a variable structure, are abstract, active, contain information, are comprehensive and thus help harmony (Ortony, 1980). Beck (1967), who worked especially with depression patients, stated that schemas are effective in the individual's perception of the world, classification, organization, and processing into memory. However, schema therapy was developed because the desired performance could not be obtained from traditional cognitive behavioral therapy in studies conducted especially on depression (Young et al., 2013).

Early maladaptive schemas are at the core of schema therapy (Rafaeli, Bernstein, & Young, 2012), which includes cognitive behavioral therapy, psychodynamic, interpersonal, and experimental approaches, as well as attachment and object relations. These schemas are structures that consist of the individual's memories, emotions, cognitions, and bodily sensations, take into account the individual's relationship with himself and others, develop throughout childhood and adolescence, continue to be shaped by the individual's new experiences, and are dysfunctional to a certain level (Young et al., 2013). Among the factors affecting the formation of dysfunctional modes, there are core emotional needs, early negative experiences, (Jacobs, Wollny, Seidler, & Wochatz, 2021) and the emotional temperament of the individual (Van Genderen, Rijkeboer, & Arntz, 2012). Since the schemas learned in childhood were not developed consciously at that time, people accept these schemas as correct and continue to act according to these schemas even if they are uncomfortable with the situation (Young et al., 2013). From early life experiences, factors such as unmet needs in early childhood, lacking parental care-support, conflicts within the family, hostile attitudes, rejection, and violence show that the individual has negative life experiences (Van Genderen, Rijkeboer, & Arntz, 2012).

Individuals have universal core emotional needs that are divided into five basic areas. While core needs are met adaptively for some individuals, they cannot be met for some individuals (Van Genderen et al., 2012). Each individual is born with personality and temperament characteristics that are different from each other and interact with his/her environment. Thus, maladaptive schemas can dominate even in individuals who are not prone to temperamental characteristics, as a result of life experiences (Rafaeli et al., 2012).

As a result of behavioral or emotional triggering of dysfunctional schemas and schema patterns, schema modes emerge as an integral part of the schema (Young et al, 2013). Modes, which are referred to as instantaneous emotional states (Farrell, Reiss, and Shaw, 2014), can reflect more than one schema at the same time, and while some modes emerge as a result of schemas, others emerge as a coping method against schema triggering (Lobbestael, Van Vreeswijk, and Arntz 2007). Modes are collected in four basic areas as child modes (vulnerable child, angry child, impulsive-undisciplined child), parent modes (demanding parent, punitive-critical parent, affectionate parent), maladaptive coping modes (avoidant, overcompensation and surrender) and healthy modes (happy child and healthy adult). Even if the number of modes are increased as a result of the studies, it is observed that the four main classes remain constant (Aalders, and Van Dijk, 2012; Arntz and Jacob, 2019; Lobbestael et al., 2007). Except for healthy adult modes, each type of mode is associated with certain schemas or expresses certain coping modes (Young et al, 2013). Each coping mode is triggered by the underlying emotions (DiFrancesco, Roediger, and Stevens, 2015).

It is thought that the modes that are considered primary childhood modes (angry child, vulnerable child, and impulsive child) develop when the child's basic emotional needs (safety, care, etc.) are not adequately met (Farrell and Shaw, 2012). Understanding what emotions are triggered by the punitive and demanding parent mode while in vulnerable child mode is important to take steps to address the vulnerable child's basic needs within a safe therapeutic relationship (Basile, Tenore, & Mancini, 2019). Maladaptive parent modes, also known as internal critic modes (Farrell & Shaw, 2012; Roediger, Stevens, & Brockman, 2018), may occur with vulnerable child mode or angry child mode, although not always. For this reason, they are likely to be seen together (Jacob, Van Genderen, & Seebauer, 2014).

Dysfunctional parental modes, which are in the secondary mode category (Farrell and Shaw, 2012), have been observed as individuals internalizing parental attitudes towards themselves and the world (Arntz and Jacob, 2019; Younget al., 2013) and continuing to maintain these attitudes in adulthood (Arntz and Jacob, 2019). When an individual's perceptions formed during childhood are triggered in adulthood, the relevant parental mode can be activated (Younget al., 2013). These modes, which put high pressure on the individual (Arntz and Jacob, 2019), cause the individual to feel unwanted or rejected (Jacob et al, 2014), with the feeling of constantly doing wrong (Dadomo, et al., 2016). By taking on the voice of the parent, the individual feels the way his/her parent did to him, punishes himself or the individuals he believes to be guilty, and acts like him (Rafaeli et al, 2012; Young et al, 2013). When these modes, which can also develop due to social and religious authority (DiFrancesco et al., 2015), are activated, they can often trigger maladaptive coping modes (Farrell et al., 2014) as individuals try to prove themselves by ignoring their own needs and putting pressure on themselves (Jacob et al., 2014), thinking their feelings are ridiculous (Heath & Startup, 2020).

Demanding modes, which are divided into two categories as emotion-focused demanding parent and achievement-focused demanding parent (Jacob et al., 2014), focus on rules and standards (Farrell et al., 2014). When individuals are strongly in this mode, they can perceive even positive constructive criticism as frightening (Jacob et al., 2014). Social isolation and defectiveness-shame schemas are thought to be associated with a strong demanding parent mode (Heath and Startup, 2020). This mode is more frequently observed in individuals in social professions such as doctors, social workers, nurses, or counselors (Jacob et al, 2014). It is observed that burnout syndromes are more common in these individuals working in socially interactive professions (Jacob et al, 2015). While in the success-oriented, demanding parent mode, the individual demands excessive success from himself (Jacob et al., 2014). This success is not considered only in academic terms. There is also a demand to be the best in business life or daily things. When the lives of individuals who lead their lives with a focus on perfection are examined, it is determined that they are surrounded by parents who are overly demanding in this regard (Arntz, and Jacob, 2019) and that there is a significant positive relationship between the self-sacrifice scores of the mothers of daughters with high perfectionism scores (Gibson and Francis, 2019). In this context, it is concluded that the shaping of individuals' schemas and modes is not independent of the influence of parents' attitudes.

In the emotion-focused demanding parent mode, which focuses on how individuals should feel and behave (Jacob et al., 2015), the individual feels a sense of failure and guilt when he cannot help because he believes that he must meet his parents' wishes (Neumann, 2012). He constantly conforms to parental expectations and relentless standards to escape the feeling of guilt (Farrell and Shaw, 2012), and in this process, the self-sacrifice mode is triggered (Neumann, 2012). The individual sees expressing and sharing his emotions as a waste of time and focuses on solutions and results (Heath and Startup, 2020). Because of his belief that the needs of others are more important, he may have difficulty setting boundaries in close relationships and expressing his own needs (Dadomo, et al., 2016; Jacob et al., 2014). Because the individual believes that he is responsible for the happiness of other people, he may feel guilty and depressed (Jacob et al., 2015), producing dysfunctional results (Arntz and Jacob, 2019) when he fails. The individual has thoughts that she should put the needs of others before her own needs, that she should be the perfect mother for her children, and that she should not center her own needs (Jacob et al., 2014). Due to his beliefs that he should not criticize others (Jacob et al., 2015), he feels a sense of guilt from the moment he moves away from these ideals (Arntz, and Jacob, 2019). It seems more likely that this mode will be triggered as a result of taking on a parental role in people who were responsible for their parents' mood and well-being in childhood. When the individual is not openly approved, he feels guilty and believes that he is not loved until he sees that everyone is happy and satisfied (DiFrancesco, et al., 2015; Jacob et al., 2014) and accuses himself of being egoistic (Jacob et al., 2015). Since childhood, the individual learns to be responsible for the well-being of others and unstable parental attitudes by modeling (Farrell and Shaw, 2012). In addition, it can also be triggered and develop under the influence of a classmate, dysfunctional authority, or other people involved in one's life (Arntz, and Jacob, 2019).

In the demanding parent mode, the individual may choose the coping mode of thinking negatively about himself and surrendering to the feeling of guilt, or the avoidance coping mode to save himself from these negative emotions (Jacob et al., 2015). The individual may have adopted the overcompensation mode to oppose the parental mode he internalized in the surrender mode (DiFrancesco et al., 2015). In a study conducted on dysfunctional parenting modes, it was concluded that they are related to coping modes (Basile et al., 2019). In times of danger, all living things show fight-flight or freeze reactions. Coping modes corresponding to these reactions are grouped as overcompensation, avoidance-detachment, and surrender (Young et al., 2013). The coping modes that individuals use to cope with emotional burdens and difficult experiences only work in the short term (Jacob et al., 2014). Different coping modes may be preferred at different periods of life (Young et al., 2013). In the surrender mode, individuals accept the maladaptive parental mode rules as absolute truth and comply with them (Jacob et al., 2014; Young and Lindemann, 1992). In the avoidant-detached protector mode, individuals may resort to substance abuse (Arzt, and Van Genderen, 2009), as well as techniques such as not going to work and social withdrawal (Jacob et al., 2014), in order not to confront their emotions. In overcompensation mode, the individual may show behaviors such as aggression, manipulating, exerting power, excessive orderliness, controlling other people, seeing himself as superior to them, dominating, and expecting respect to attack the feeling of deficiency (Jacob et al., 2014; Young and

Seebauer, 2014; Young and Lidermann, 1992). It is possible to reach the healthy adult mode, which is the preferable mode (Loose, Graff, & Zarbock, 2018), whose strength, frequency, and effectiveness differ in each individual, as a result of meeting basic emotional needs in a healthy way (Young et al., 2013). In this mode, the individual has a healthy overview, experiences appropriate emotions and behavior, and does not make predictions (Jacob et al., 2014).

With the increasing interest in the subject of parenting modes, number of studies is also increasing. The issue examined affects not only individuals but also families, the smallest unit of society, and their quality of life. It is thought that identifying the parental modes in the family can provide guidance on how to help against positive or negative situations that may occur in the family in the future. Literary works, just like psychology, observes human behavior in its works. It is stated that psychology and literature are the fields that are most intertwined compared to other fields (Taşdelen, 2015). In this direction, parenting modes will be examined with the novel Dear Shameless Death, which will provide the opportunity to look at future studies from a different perspective. From this point of view, the main purpose of the study is to reveal the parental modes used by Dirmit and Atiye and the factors that are effective in the development of these modes. Specifying the modes in individuals through an existing work will facilitate the understanding of the subject.

Method

This study is a descriptive research in which Latife Tekin's first novel, Dear Shameless Death, was analyzed within the framework of the parental modes identified in the book, published in 1938. The mood characteristics of individuals can be observed through the work. Document analysis is a technique that can be used in both quantitative and qualitative research methods (Sönmez & Alacapınar, 2019). The document analysis is the method that helps researchers to scan written texts containing information about facts and events in detail and to create integrity from this information (Creswell, 2002). Document analysis includes the analysis of written and visual materials (Yıldırım & Şimşek, 2011). Written sources may include books, articles, edicts, poems, inscriptions, and visual resources include pictures, slides, pennants, and stamps (Sönmez & Alacapınar, 2019). Document analysis consists of the stages of selecting the appropriate document to be analyzed, creating categories, determining the analysis unit, and evaluating it (Bowen, 2009). The important point in using the technique is to know what, why and where to use it (Sönmez & Alacapınar, 2019).

The Dear Shameless Death document was handled within the framework of the themes of migration and poverty, focusing on social issues. In the novel, for which an exact date is not given, events begin when Huvat Aktaş marries Atiye and brings her to the village. The couple had five children named Nuğber, Halit, Seyit, Dirmit, and Mahmut respectively. Since the novel focuses more on the experiences of Atiye and Dirmit, the study examined the demanding parental modes (success-oriented, emotion-oriented), punitive parental modes and compassion-oriented parental modes of these two characters. Around the characters of Atiye and Dirmit, whose lives are focused on as the study unit, attention is also paid to the factors affecting their development.

Data Collection Tools and Data Analysis

The novel Dear Shameless Death, written by Latife Tekin, was used as the data collection tool. The novel, which was published in 1938 and was the author's first work, won the Erdal Öz Literature Award. The heroes of the novel are Atiye and Dirmit. Atiye's life from her arrival in the village as a bride until her death and Dirmit's life from her childhood to adolescence were discussed (Tekin, 2013). In this time course, Atiye's process of coming to the village as a bride, her adaptation to the village, having children, her migration to the city, and her adaptation to the city; and Dirmit's compliance with her mother and the rules, her school life, her home life and her interactions with her environment.

Based on the data analysis, and literature information on parenting modes and coping modes, the novel Dear Shameless Death was examined by the researchers and discussed under the headings of success-oriented demanding parent, emotion-oriented demanding parent, punitive parent, compassionate parent, and coping modes. The modes used by Atiye and Dirmit, based on their experiences, were framed by the researchers in the context of dysfunctional parent modes and coping modes. Sample sentences that enable access to the data obtained about the classifications and heroes are included in the findings section.

Results

In this part of the study, the findings obtained as a result of the research are included. The findings were evaluated within the framework of dysfunctional parental modes, based on the characters of Atiye and Dirmit, just like in the book. The character Atiye moved from the city to the village after marrying Huvat. At first, the village women did not want to accept Atiye among them. They considered her ill-omened because of the redness of her cheeks, the fact that she came from the city, and the fact that she was different from them, so they excluded and locked her in the barn. After it was realized that Atiye was pregnant, the villagers started to change their behavior. Atiye, where she learned the punitive parenting mode and could not stand up to her neighbors, started to talk like the villagers and do the jobs they could do, with the coping mode of submission. Atiye, who was more accepted by the villagers after her second baby was a boy, became a respected person by displaying skills that the villagers did not have, such as carpet spinning and sewing. However, rumors continued among the villagers that she might be ill-omened because she sewed different clothes from the villagers did and similarly dressed her children, sent her daughter to school even though no one else sent the daughters to school, and did not give way to the men while walking. Although Atiye did not believe the statement made by a pilgrim who was brought to her home as a result of her frequent fainting while pregnant with Dirmit, saying that if her daughter was born, she would cause all kinds of trouble, this made her uneasy throughout her life, and she constantly reflected similar uneasiness on her daughter.

When the punitive parent mode was activated, Atiye herself punished her children when they were young, deprived them of the things they loved, or found the solution by beating them directly. After they got older, she used whoever had a say in the house to punish the person she thought had done wrong. For example, when Dirmit was a child, Atiye beat her because she went to visit Elmas Bride from the village or locked her in the barn like the villagers did to her, or when she grew up and reached adolescence, she was punished by Atiye by complaining to her brothers for writing poetry or being friends with untrustworthy people. Dirmit's punishments included not writing poetry, not going out, or being beaten by her brother. In return, Dirmit sometimes refrained, did not say anything, waited for the punishment they gave to end, did not even explain to anyone, and sometimes, on the contrary, exhibited her behavior more, and sometimes preferred different coping modes by following the rules her mother wanted. For Dirmit to prefer the coping mode of submission, while Atiye was in the success-oriented, demanding parent mode, she tried to reinforce perfectionism by frequently telling her daughter such sentences as ‘you can’t go wrong with your mother’s words, it is a shame for young girls to ask questions, no one will marry you if you do this’. Although Dirmit tried to talk to her mother from time to time in a healthy adult mode, she could not get similar feedback from the other party. For example, although Dirmit stated that she could tell the broadcast times of the songs on the radio from the formation times of the shadows, her mother did not listen to her daughter and forced her not to listen to the radio, believing that her daughter knew such things because of the ill-omen the villagers talked about. Dirmit was subjected to similar punishments for writing poetry, playing ball, talking to Aysun, visiting Elmas Bride, talking to herbs, and playing with the water pump. In addition to physical punishment, the mother also punished Dirmit by not hugging her because she did not comply with the rules she wanted. Dirmit, who wanted her to hug her, found the solution by going to Elmas Bride. Although her mother was angry at this situation and ordered her not to go to Elmas Bride, Dirmit continued to go to Elmas Bride secretly. Nuğber, the eldest daughter of the house, started to like the neighbor’s son and was caught while meeting him in the park. As a result of the punishment she received from her family, she sat in a corner of the house with the effect of avoidant coping mode and did not open her mouth to defend herself. She went through this process with the emotionless and empty mood that is often encountered in this mode (Young, Kolosko, and Weishaar, 2013). Nuğber later preferred the submission coping mode against this dysfunctional parental mode and generalized this mode to her entire life. When her mother asked her to wait under the tree from midnight to morning for three months just to receive a marriage proposal, she did not object, did not question the situation, and waited under the tree for months. When Nuğber got engaged, Atiye, after realizing that her daughter and son-in-law were different, told Nuğber that she should adapt to her fiancée. Nuğber tried to adapt to her fiancée without any questioning, even if it didn’t make sense to her. Nuğber, who understood that there were problems in her marriage after a while, did not say anything to anyone about this issue and resigned herself to the situation.

Seyit, who sold everything from the workplace to the water pipes because he could not work regularly when he was ill, became desperate after he recovered a little and started to become a bully in the neighborhood because he could not find a job. When Huvat first heard about this situation, he disowned his son, and Atiye punished her son by spitting in his face. Faced with these results, Seyit did not stop bullying, on the contrary, he tried to convince his family and get their support. When Atiye fell ill with this sadness and fell into bed and asked her son to stop using the dagger as a will, Seyit stopped being a bully. When Seyit could not persuade his brother Mahmut to work with him in the construction business, he punished Mahmut by beating him, as he had seen from his family.

Atiye acted with a compassionate parent mode when her children got sick or she could express that she was afraid for them. For example, when she punished Dirmit and locked her in the barn, her daughter got sick. In this process, Atiye coddled Dirmit and assigned Nuğber and Zekiye where she fell short. She did not punish Dirmit again for going out after she recovered. The mother, who locked Dirmit in the hayloft and then released her after she fell ill again, saw that her daughter had been stoned on her way from outside and came home covered in blood, so she set the whole village in an uproar and called her husband to make him pay the villagers back. As a result of these punishments, Dirmit's illness and the mother's decision to stop being angry or punishing are repeated many times throughout the book. Moreover, when Atiye's pain increased, she believed that she would die, so she loved her children while they were sleeping, caressed their heads, and even prayed while caressing Dirmit's face, "You are the one whose face resembles me the most, I wish your fate would not be similar to mine." She tried to make Dirmit successful and save herself because she saw that she could succeed when she worked hard in normal times. She recited prayers for all her children, believing that they would be protected when they attempted to do things that would make them successful. When father Huvat came after he asked Zekiye from her family as a bride for their son Halit, Atiye said that they should not do such a thing without asking him, maybe there was someone he loved. Saying that if there is someone they love, she cannot wrong them, she makes Zekiye and Halit meet secretly without her husband's knowledge and hold a wedding according to their thoughts about each other. As a result of the problems he experienced at the barbershop where he worked as an apprentice, the little boy Mahmut started to sleep late at night and had nightmares from time to time. Thereupon, mother Atiye waited for her son at night and tried to ensure that he fell asleep safely. Dirmit, who learned from her mother to calm Mahmut against his nightmares, calmed him down when he woke up scared. Friendship formed between them these days. When Seyit, who fell while working and broke his teeth, came home with blood from his mouth, Atiye prayed for her son and shed tears until the morning. While no one in the village sent their girls to school, Atiye gave Dirmit bread and sent her to school. When they moved to the city, she enrolled Dirmit and Mahmut in school again and wanted them to study so that they could save themselves. Even though Dirmit loved school very much, when she could not adapt to school and ran away home, Atiye did not give up and took her back to school. She explained to her daughter in terms she knew how she should study, and gave punishments when she deemed it necessary. As a result of her mother's request for Dirmit to study when she fell ill and went to bed, Dirmit achieved outstanding success in her classes. During this process, Atiye took care not to let anyone interfere with her daughter. Because no one interfered with her and the positive attention she received from her mother, Dirmit continued to submit to this dysfunctional parental mode and further reinforced her study behavior. She even started sleeping on the sewing machine she used when studying. Dirmit was so focused on studying that she continued to study in the bathroom when the house got too complicated. Atiye even objected to her daughter reading books and writing poems when she was not studying. She wanted to prevent Dirmit from writing poetry, thinking that this would not bring success and that people would not do such things if they did not have a loved one. After father Huvat started reading religious books, with the support of Atiye, he tried to motivate Dirmit to read religious books to prevent her from reading books outside of class. Although this motivation was initially the money given per page, the amount of money decreased over time and eventually Dirmit stopped reading them.

As for trying to earn a living, Atiye did not leave her husband and her eldest son Halit alone because they could not find a job, and she constantly harassed them about finding a good job and being successful. While Seyit was working as a foreman, Atiye did not let anyone at home talk about her son and tried to reinforce him in this regard by boasting about his son's achievements and praying. She said that her eldest son Halit and Zekiye's baby should be named Seyit because he brought money to the house. She even stated that the tradition of spitting into the mouth of a newborn baby in their village could only fall on Seyit as the person who brings money to the house. A similar situation occurred when Mahmut brought money home. Mahmut, who does not want to work but is forced to work under the influence of dysfunctional parental modes, is a master of overcompensation coping mode and is accepted as the most influential individual in the family, despite being the youngest child of the house, through the power of bringing money home. Everything he did was accepted by both his mother and father, thus reinforcing his success. Mahmut bullied all the members of the family because he had a say in the family and thought that he was being used to earn money for the house although he wanted to play. He did this by forcing Dirmit out of her bed and criticizing his brothers' masculinity.

When the emotion-focused parenting mode was triggered, Atiye fell ill and ended up in bed because she could not fulfill her wishes. When she was about to die, she gathered her family members around her bed, made them feel that they were the cause of her illness, and even tried to create a sense of guilt in her family members and prevent them from doing things she did not want, by saying that if they continued to behave this way, she would not be able to rest after her death. For example, she used this technique to make her son Halit stop growing a beard, to make Seyit give up using the dagger, to make Nuğber to get married, to make Mahmut give up playing the guitar, to make Dirmit end her friendship with Aysun and to ensure that Dirmit is educated. Atiye managed to get everything she wanted by using guilt feelings. Finally, she stated that her behavior had been learned by saying that it would be better to handle this matter before she fell into bed about Huvat, who did not want to give his daughter Nuğber to the person who came to ask for her hand. Family members, who could not understand whether Atiye was really sick or whether she fell into bed to get her wishes fulfilled, tried to fulfill their mother's wishes in case it was real and not to feel guilty in a possible situation. Zekiye, the daughter-in-law of the house, who saw how emotion-oriented demands would be met from her mother-in-law, fell into bed to solve her problems with her husband, talked in her sleeps for days and talked about the time of death approaching. Even though the outcome did not go as she wanted, she learned this from the environment she was in and applied it. Similarly, Mahmut, who did not want to work in construction jobs, started to tremble when he heard the word construction. Although the family members did not speak out when he first did it, Seyit told Mahmut, who was trembling when the last construction issue was talked about, that he could not deceive anyone by trembling and doing so in vain. Hearing these words, Mahmut stopped shaking.

Discussion, Conclusion & Suggestions

In this section, the information obtained is discussed by comparing it with literature information. Findings regarding the parenting modes used and coping modes are discussed under the headings of emotion-focused demanding parent, achievement-focused demanding parent, punitive parent, compassionate parent and coping modes. When the findings were examined, it was seen that most of the individuals in the family used the emotion-oriented, demanding parenting mode more frequently. It was concluded that the use of other dysfunctional parenting modes and the functional parenting mode was relatively low.

When the success-oriented, demanding parent mode was activated, Dirmit fell asleep and woke up at the desk where she was working. Over time, she became overwhelmed by this situation and stopped working and focused on different things that interested her. Studies showed that, just as seen in Dirmit, individuals work at an unsustainable pace in order to achieve perfection, and that they exhibit behavior such as procrastination, inability to start working, or quitting work due to the feeling of perfectionism (Antony & Swinson, 2009; Burns, 2000).

When Atiye's emotionally focused, demanding parent mode became active, her daughter Dirmit, her son Mahmut, and sometimes even her daughter-in-law Zekiye, tried to get what they wanted by applying similar techniques. It was emphasized that the modes related to this are formed through learning. Similarly, in their study, Sundağ et al. (2018) concluded that the parent's schema predicts the child's schema. Although it was seen that the mentioned dysfunctional parenting modes and coping modes seem to be adopted as a result of learning, there are studies indicating that angry and punitive behaviors are passed from generation to generation (Conger et al., 2003). Dirmit often used a detached, defensive coping mode with negative emotions such as anger that emerged when her mother's punitive attitudes became active (Antony & Swinson, 2009).

The novel genre based on real or close to real life is one of the genres that still fascinate readers (Gülşen, 2012). It is thought that books and films can make more positive contributions to individuals' understanding of the subjects by using them in psychology and the education process. The novel Dear Shameless Death (Emir & Diler, 2011), which contains examples of history, literary works, and sociology, enriches the literature with the use of dysfunctional parental modes and the coping modes preferred as a result. When the results are generally examined, it is accepted that characters are not independent of the environment they live in and that their preferred modes are influenced by their parents (Arntz & Jacob, 2019; Young et al., 2013). When we look at the parents in the novel, it can be stated that father Huvat, who does not care enough about his family and prioritizes achieving his own goals, and mother Atiye, who demands compliance with the rules imposed by the society and gives attention to her children accordingly, convey dysfunctional parenting modes to their children. The children who grew up in the family and Zekiye, who joined the family later, also preferred the modes they learned from their parents.

Playing games was not considered normal for Dirmit and Mahmut, and they were punished in different ways when they wanted to play or travel to meet their desires. The negative effects of neglect and violence that individuals encounter in early life are mentioned (Van Genderen et al., 2012). Dirmit was deprived of playing games because she was a woman and she was ill, and Mahmut was deprived of playing games so that he could bring money home. There are emphases that boys are more valuable. These emphases did not change immediately with the influence of culture, even though there was migration from village to city. Things that are considered normal for men are not considered normal for women. Even questioning this was deemed enough to be punished, and Dirmit, who did this, was often punished. As a result, individuals are forced to continue their lives by the rules deemed appropriate by the environment in which they live.

Analyzing many elements in the content of literary works written by individuals who observe society from different perspectives adds richness to the field. Although examining works within the framework of the basic theories of psychology and revealing psychosocial elements may involve some methodological difficulties, it is thought that it will reveal the internalization of the spirit of literary works and the relationship between psychology and literature (Keleş, et al., 2022). As a result of examining this work, we have the opportunity to see the characteristics of the modes on individuals. Seeing the features of the modes on a sample character can provide us with convenience in the field of education. Although the study reveals important results, the book is limited because it is examined within the scope of a single subject. For this reason, the work can be examined from the perspective of different subjects, or different works can be examined from the perspective of dysfunctional parent modes and contribute to the literature. Conducting similar studies can also be considered within the framework of cinematographic works (Morsünbül & Uçar, 2017).

Ethic

Since human data are not collected within the scope of this research, it is not subject to the permission of the ethics committee.

Author Contributions

Each author has made an equal contribution to this study.

Conflict of Interest

There is no conflict of interest.

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Turkish Adaptation of Personal Social Responsibility Scale: Validity and Reliability Study

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Abstract

The concept of personal social responsibility is a crucial notion that significantly impacts both individuals and society as a whole. Individuals' embrace of social responsibility leads to positive developments economically, ecologically, psychologically, and socially. It also plays a protective role factor against potential risks and crises. The purpose of this research is to adapt the Personal Social Responsibility Scale into Turkish and to test its validity and reliability within the context of a sample from Turkey. The research sample comprises 223 individuals between the ages of 20 and 65 years, including 111 males and 112 females, all of whom have a steady income. Translation efforts were conducted in line with the research objective, followed by the use of confirmatory factor analysis and discriminant validity methods to test validity and reliability. The confirmatory factor analysis resulted in the desired fit and item-total correlation values, ensuring the expected differentiation regarding the scale. As a result, a valid, reliable, and practical tool for assessing the level of personal social responsibility within the Turkish sample was developed through this research.

Key Words

Adaptation • Personal social responsibility • Responsibility scale • Social responsibility

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Introduction

In the 21st-century, as opportunities and possibilities have become global, it's evident that problems have also become universal, expanding in scope and impact. From migration and refugee crises to wars, environmental pollution to natural disasters, and terrorism to hunger, multifaceted global issues persistently remain on the agenda of this era (Yeşil, 2021). Addressing these regional or global-scale issues involves responsibilities not only for states and institutions but also assigns certain roles to individuals. This situation accentuates the concept of individual responsibility.

Responsibility is a broadly defined concept described in various dimensions such as personal, social, and moral in the literature (Sheldon et al., 2018). Wray-Lake & Syvertsen (2011) define responsibility as an individual's ability to be accountable for their own decisions and actions, to be seen as trustworthy by others, and to act sensitively toward issues within their control. Another definition portrays responsibility as a person's display of interest in themselves and others, fulfilling their duties, engaging in societal processes, being sensitive to their own and others' pains, attempting to alleviate that pain, and striving for a better world (Lickona, 1991, as cited in Özen, 2015).

Responsibility is generally divided into two categories: personal and social (Hellison, 2011). Personal responsibility primarily encompasses an individual's responsibilities toward themselves (Hamilton & Fenzel, 1988). Personal responsibility involves attitudes and behaviors such as maintaining respect in relationships, practicing self-discipline and self-care, pursuing goals, making independent decisions, and being accountable for them (Costa et al., 1991; Messina, 2004). Essentially, personal responsibility involves an individual's effort to make their own life physically, socially, and mentally healthier and more reliable (Erzurumlu Ceylan, 2022).

Responsibility not only encompasses a personal aspect but also a societal dimension that influences the individual's surroundings and the community in which they live (Özen, 2009). The attitudes and behaviors of individuals aiming for such social benefits are evaluated within the scope of the concept of social responsibility. Social responsibilities are shaped according to the needs and expectations of the societies in which individuals live (Ada & Çetin, 2006). Social responsibility has two distinct dimensions: personal and institutional.

Corporate Social Responsibility (CSR) is a type of responsibility that primarily concerns businesses. CSR signifies the efforts of businesses to address social and environmental issues through organizational activities. Accordingly, organizations and businesses should engage in social responsibility activities aligned with the values and goals of society (Mohr et al., 2001). When it comes to individuals' responsibilities towards the social environment and society, the concept of personal social responsibility, which is another dimension of social responsibility, comes into play.

Personal social responsibility requires individuals to consciously approach and act on social issues. Çınar (2013) defines personal social responsibility as "an individual, based on their character, assuming the consequences of their actions toward society, social groups, or other individuals within their sphere of influence." Actions related to personal social responsibility emerge based on the needs and demands of society and may change over time (Eraslan, 2011). Within personal social responsibility, an individual feels accountable towards others, thereby exhibiting tendencies towards activities rooted in cooperation and sharing (Scales et al., 2000). Eraslan (2011) outlines the characteristics of personal social responsibility as being voluntarism-based, emotional, teachable, collaboration-focused, inclusive of all societal realms, and rooted in awareness-based project management. Considering these insights, personal social responsibility encapsulates a series of endeavors highlighting concepts such as assistance, sharing, solidarity, empathy, sensitivity, and awareness. It shifts the focus away from self-centeredness, prioritizing the overall welfare of society.

Social responsibility has been extensively explored in the literature, with a predominant focus on corporate social responsibility, while the scope of research on personal social responsibility appears limited. Studies on personal social responsibility have revealed its relationship with various variables. Within these inquiries, positive relationships between social responsibility and academic achievement (Wentzel, 1991) and job satisfaction (Aliakbari & Babanezhad, 2013) have been identified, whereas negative correlations have been found between social responsibility and future anxiety (Salah, 2021). Findings from these studies reveal that personal social responsibility is a significant concept that interacts with various areas such as anxiety, success, and professional satisfaction within both society and individuals. This emphasizes the importance of valid and reliable measurement tools in the assessment of personal social responsibility.

Various measurement tools aimed at assessing personal social responsibility can be found in the international literature. Among these, the Responsibility Scale, consisting of 8 items and 2 dimensions developed by Arslan & Wong (2022), and the Personal Social Responsibility Scale, comprising 19 items and 5 dimensions devised by Davis et al. (2020), have garnered attention in recently.

In the field literature, three studies adapted or developed for Turkish audiences have been identified. The Individual and Social Responsibility Scale, originally developed by Li et al. (2008) and adapted to Turkish by Filiz & Demirhan (2016), measures middle school students' levels of individual and social responsibility in a unidimensional consisting of 13 items. The Social Responsibility Scale, developed by Demir (2019), measures the social responsibility of primary school students. The scale, comprising 32 items, consists of two factors: 'effort' and 'self-direction'. Another scale, the Individual Social Responsibility Scale, developed by Eraslan (2011), aims to measure university students' levels of individual social responsibility. This 28-item scale is unidimensional in structure.

Method

Research Model

Firstly, a translation process was completed to ensure linguistic equivalence. Subsequently, confirmatory factor analysis was conducted to demonstrate construct validity, followed by assessing discriminant validity in the final stage.

Translation Process

In the translation process of the Personal Social Responsibility Scale into Turkish, the steps suggested by Brislin et al. (1973) were followed. Accordingly, two independent experts who were competent in the original language translated the scale into Turkish. Subsequently, similarities and differences between the two translated Turkish versions were evaluated and documented by two translators and a researcher. Three experts in the field reviewed the comprehensibility of expressions, word and sentence structures, and cultural compatibility of the translated scale in Turkish. Upon consensus, the translated Turkish version was retranslated into English by two different experts to identify similarities and dissimilarities with the original version. Finally, the scale was refined based on the evaluation of aspects that aligned or diverged from the original version.

Study Group

This study involved 223 participants who were adults and had a regular income. The participants comprised 111 males and 112 females. Their ages ranged from 20 to 65 years.

Measurement Tools

Personal Social Responsibility Scale. The scale originally named the "Personal Social Responsibility Scale" was developed by Davis and colleagues in 2020. The original language of the scale is English. The scale measures 5 subscales: philanthropic, environmental, ethical, legal, and economic. It consists of 19 items in total. The items are rated on an 11-point Likert scale, with no reverse-scoring. Items are scored between 0 and 10, where 0 represents "Strongly Disagree," and 10 represents "Strongly Agree." Items 1, 2, 3, 4, and 5 assess philanthropy; items 6, 7, 8, and 9 assess environmental responsibility; items 10, 11, 12, and 13 assess ethical responsibility; items 14, 15, and 16 assess legal responsibility; and items 17, 18, and 19 assess economic responsibility. The original scale demonstrates a cronbach's alpha coefficient above .79. Factor loadings of the items on the scale range between .56 and .86.

The Selfishness Questionnaire. The original Selfishness Questionnaire was developed by Raine & Uh (2018) and comprises 24 items. Yılmaz (2018) conducted a Turkish adaptation of the scale, which includes 18 items rated on a scale of 1-3. The scale measures three sub-dimensions of selfishness: adaptive, egocentric, and pathological. Following the confirmatory factor analysis (CFA), the fit indices were obtained as $x^2/sd = 1.97$, CFI = .96, NFI = .92, NNFI = .95, SRMR = .05, and RMSEA = .04.

Data Analysis

The confirmatory factor analysis (CFA) method was employed to examine whether the Personal Social Responsibility Scale, whose construct validity was previously tested in its original language, remains valid in Turkish. Confirmatory factor analysis was conducted using the IBM SPSS Amos 24. The following fit indices were used as references for the model to exhibit good fit: $\chi 2$ / df <3; RMSEA and SRMR <.05; AGFI <.90; NFI, IFI, GFI, CFI, and TLI <.95. Acceptable fit indices were defined as $\chi 2$ / df <5; RMSEA and SRMR <.08; AGFI <.85; NFI, IFI, GFI, CFI, and TLI <.90 (Byrne, 2010; Kline, 2011). Subsequently, the correlation between the Selfishness Questionnaire and the Personal Social Responsibility Scale was examined for discriminant validity.

Results

Confirmatory Factor Analysis

A confirmatory factor analysis (CFA) was conducted to test the validity of the scale in the current sample. Figure 1 below illustrates the CFA model.

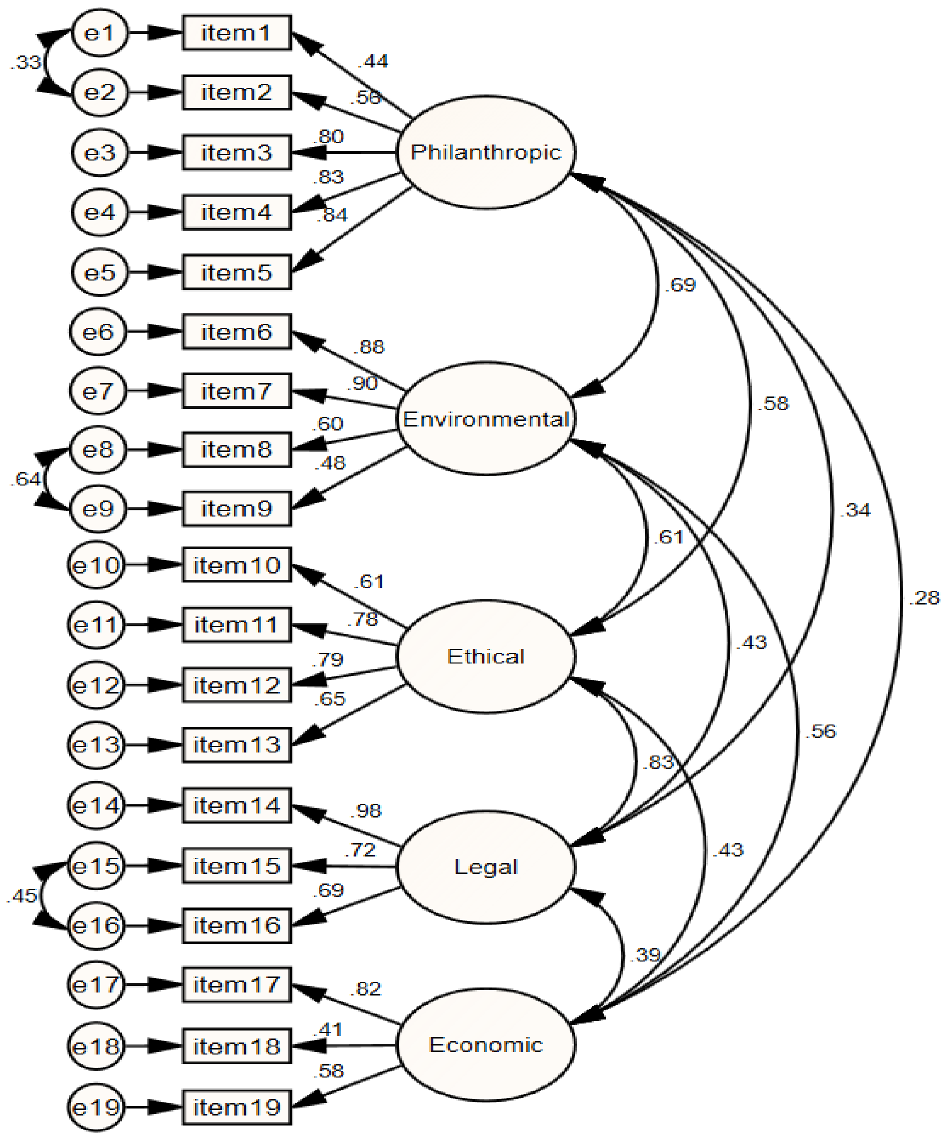

Figure 1. CFA model results for the Personal Social Responsibility Scale

When examining the factor loadings presented in Figure 1; item1= .44, item2= .56, item3= .80, item4= .83, item5= .84, item6= .88, item7= .90, item8= .60, item9= .48, item10= .61, item11= .78, item12= .79, item13= .65, item14= .98, item15= .72, item16= .69, item17= .82, item18= .41, item19= .58 were computed. According to Seçer (2015), factor loadings above .30 are considered sufficient. Because the factor loadings of the items on the scale range from .41 to .98, these values were deemed satisfactory. Moreover, the model fit indices were determined as: $\chi 2$ / df = 1.91, RMSEA = .06, SRMR = .06, AGFI = .85, GFI = .90, NFI = .90, IFI = .93, CFI = .94, and TLI = .93.

Reliability of the Scales

As shown in Table 1, the total cronbach's alpha value for the Personal Social Responsibility Scale was calculated as .88. When examining the subscales, the cronbach's alpha value was found to be .82 for philanthropic responsibility, .82 for environmental responsibility, .79 for ethical responsibility, .87 for legal responsibility, and .61 for economic responsibility. There are studies indicating that an internal consistency coefficient higher than .60 in scales with few items is sufficient for the scale to be considered reliable (Cortina, 1993; Cronbach, 2004; as cited in Üztemur & Dinç, 2022). According to Özdamar (2002), a cronbach's alpha coefficient within the range of .81-1.00 indicates high reliability, .61-.80 indicates moderate reliability, and .41-.60 indicates low reliability. Therefore, considering that the total Cronbach's alpha coefficient for the Personal Social Responsibility Scale was calculated as .88, it can be stated that the scale demonstrates high reliability. Looking at the subscales, philanthropic responsibility, environmental responsibility, and legal responsibility exhibit high reliability, while ethical and economic responsibilities seem to show moderate reliability. In addition, cronbach's alpha value for the Selfishness Questionnaire was calculated as .84 in this study.

Table 1

Cronbach's Alpha's for Personal Social Responsiblity Scale and The Selfishness Scale

Subscale	N	Items	Cronbach's α
Philanthropic responsibility	223	1,2,3,4,5	.82
Environmental responsibility	223	6,7,8,9	.82
Ethical responsibility	223	10,11,12,13	.79
Legal responsibility	223	14,15,16	.87
Economic responsibility	223	17,18,19	.61
Total responsibility	223	-	.88
Selfishness	223	-	.84

Internal Consistency

To demonstrate the internal consistency of the adapted scale, item-total correlations calculated are provided in Table 2. As observed in Table 2, all item-total correlations fall within the range of .25 to .71. Subscale correlations for items range between .33 and .78. An item-total correlation above .40 indicates excellent distinction, between .30 and .40 is considered good, and within .20 to .30 is deemed an acceptable discriminative level (Büyüköztürk, 2015). As all item-total correlations were above .20, no items were removed from the scale. Similarly, cronbach's alpha coefficient did not exceed .88 when any item was removed, indicating that all original items were retained in the adapted scale.

Table 2

Item-Total Statistics for Personal Social Responsiblity Scale

Items	Mean	Std. Deviation	Corrected Item-Total Correlation	Corrected Item-Sub-Dimension Correlation	Cronbach's Alpha if Item Deleted
PHIL_01	3.83	3.72	.38	.50	.88
PHIL_02	6.77	2.83	.50	.59	.87
PHIL_03	7.43	2.59	.63	.67	.86
PHIL_04	7.10	2.77	.60	.70	.87
PHIL_05	7.71	2.27	.71	.68	.86
ENV_06	8.61	1.77	.71	.57	.86
ENV_07	8.16	1.98	.69	.71	.86
ENV_08	7.15	2.51	.57	.74	.87
ENV_09	6.44	3.05	.46	.64	.87
ETH_10	8.49	1.82	.55	.53	.87
ETH_11	8.99	1.48	.55	.70	.87
ETH_12	8.78	1.73	.55	.64	.87
ETH_13	8.74	1.93	.51	.56	.87
LEG_14	9.38	1.19	.53	.74	.87
LEG_15	9.49	1.23	.45	.78	.87
LEG_16	9.34	1.37	.41	.76	.87
ECO_17	7.91	2.08	.42	.53	.87
ECO_18	8.07	2.10	.25	.33	.88
ECO_19	7.79	2.54	.35	.43	.88

* PHIL = Philanthropic responsibility; ENV = Environmental responsibility; ETH = Ethical responsibility; LEG = Legal responsibility; ECO = Economic responsibility.

Discriminant Validity

The correlation between the Personal Social Responsibility Scale adapted into Turkish and the Egocentrism Scale was examined to assess the validity of the adaptation.

Table 3

Correlation between Selfishness and Personal Social Responsibility

		Philanthropic res.	Environmental res.	Ethical res.	Legal res.	Economic res.	Total res.
Selfishness	r	-.26**	-.36**	-.30**	-.21**	-.22**	-.38**
	Sig.	.00	.00	.00	.00	.00	.00

***p<0.01*

Table 3 shows significant and negative correlations between selfishness and total personal social responsibility (r= -.38, p< .01), philanthropic responsibility (r= -.26, p< .01), environmental responsibility (r= -.36, p< .01), ethical responsibility (r= -.30, p< .01), legal responsibility (r= -.21, p< .01), and economic responsibility (r= -.22, p< .01).

The fact that the correlations are significant and in the desired direction can be considered as another evidence for the validity of the adapted scale.

Discussion, Conclusion & Suggestions

Personal social responsibility is an important concept that significantly impacts both the individual and society in various ways. Individuals who are socially responsible lead to positive developments economically, ecologically, psychologically, and socially. It also plays a protective role against potential risks and crises (Özen, 2010; Soyyiğit, 2019). In this context, fostering individuals with high personal social responsibility and increasing awareness about it will contribute to the proliferation of fair, democratic, and humane social structures, ultimately resulting in the proliferation of healthy and happy individuals.

A review of the international literature reveals that various measurement tools have been developed to measure this aspect of individuals. The 'Personal and Social Responsibility Questionnaire (PSRQ)' developed by Li et al. (2008) is a 14-item scale that measures personal social responsibility. On this scale, the first 7 items, which are rated on a 6-point Likert scale, measure social responsibility, while the remaining 7 items measure personal responsibility. The scale is used to measure the responsibility levels of children between the ages of 9 and 15. Another 8-item scale developed by Arslan and Wong (2022) measures two dimensions, personal and social, and can be used in the adult population.

Regarding studies conducted in Turkey, the Individual and Social Responsibility Scale developed by Li et al. (2008) mentioned earlier has been adapted into Turkish by Filiz and Demirhan (2015). Eraslan (2011), on the other hand, created a unidimensional scale named the Individual Social Responsibility Scale, consisting of 28 items. In another study, Demir (2019) developed a 32-item, two-dimensional scale to measure the level of social responsibility among fourth primary school students.

The scale developed by Davis et al. (2020), which was the subject of this adaptation study, can measure 5 sub-dimensions: philanthropic, environmental, ethical, legal, and economic. The fact that personal social responsibility, which is a multidimensional concept, can be handled together with these 5 sub-dimensions and can be used on adults with income is seen as the strength of this scale. Therefore, the purpose of this study is to adapt the Personal Social Responsibility Scale developed by Davis et al. (2020) to the Turkish and Turkish cultural context.

In accordance with the purpose of the study, a translation study was conducted, CFA and discriminant validity analyses were applied for reliability and validity. The findings indicate that the adapted scale possesses sufficient statistical properties to measure personal social responsibility along with its philanthropic, environmental, ethical, legal, and economic sub-dimensions. In this context, the adapted scale is particularly suitable for use by researchers engaged in social sciences.

The adaptation study of the Personal Social Responsibility Scale was conducted on adult individuals with regular income in Turkey. According to the July 2023 statistics of the Turkish Statistical Institute (TÜİK), the employment rate of women in Turkey is 31.5%. (TÜİK, 2023). There is no evidence that the adapted scale can measure the personal social responsibility of unemployed men and women. In addition, since the study involves social issues and is based on self-assessment, the possibility that the collected data may be misleading should considered. Furthermore, the fact that some statistical values were close to the lower acceptable limit negatively affected the reliability of some sub-dimensions. This is thought to be due to cultural differences. A Turkish personal social responsibility scale that can eliminate the limitations of the current study can be developed in the future.

Ethic

Before this research, permission was obtained from Necmettin Erbakan University Social and Human Scientific Research Ethics Committee in accordance with the decision numbered 2023/489.

Author Contributions

Both authors contributed equally to each section of this article.

Conflict of Interest

The authors declare that they have no conflict of interest.

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Annex 1: Personal Social Responsibility Scale (Kişisel Sosyal Sorumluluk Ölçeği)

1) Bir sivil toplum kuruluşu ile iş birliği yapmaktayım.

2) Param ya da zamanımla sosyal ve kültürel aktiviteleri desteklerim.

3) Ailemi ve arkadaşlarımı hayırseverlik faaliyetlerine katılmaları için teşvik ederim.

4) Sosyal ve çevresel amaçları destekleyen hayır kurumlarına bağış yaparım.

5) Başkalarına yardım etmek için çaba gösteririm ve para harcarım.

6) Günlük yaşamımda ve tüketimimde çevreyi korumaya dikkat ediyorum. /ederim.

7) Çevre kirliliğini azaltmak için kişisel fedakarlıklar yaparım.

8) Çevreye zararlı olma ihtimali olan ürünleri satın almam.

9) Çevresel nedenlerden dolayı bazı ürünleri satın almayı bıraktım

10) Etik ilkeler, benim için hayatta doğru şeyi yapabilmem adına çok önemli olmuştur.

11) Çocuklarımı etik konusunda eğitirim (ya da çocuklarım olsaydı eğitirdim).

12) Ailemizin tüm üyeleri başkalarına karşı dürüst olma konusunda eğitilir.

13) Kendi yararıma bile olsa asla başkalarına zarar vermem

14) Yasal yükümlülüklerimi yerine getiririm.

15) Vergilerimi her zaman öderim.

16) Her zaman yasalara uymaya çalışırım.

17) İhtiyacımdan daha fazlasını tüketmem.

18) Daha sonra kullanacağımı bildiğim ürünleri satın alırım.

19) Kazandığımdan fazla harcamam.

Note: The scale can be used by researchers and educators without permission, provided that they cite the source and maintain scientific ethics (Ölçek, kaynak göstermek ve bilimsel etiği korumak şartıyla, araştırmacılar ve eğitimciler tarafından izin alınmadan kullanılabilir).

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Bibliometric Analysis of Studies Focusing on Critical Thinking in Early Childhood

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Abstract

This study aimed to examine studies on critical thinking in early childhood through bibliometric analysis. In the research, 251 studies on the concept of "critical thinking" were selected according to the inclusion criteria and analyzed with the VOS-viewer program. In the study, co-author, co-reference, co-citation and co-word analysis of the studies on the concept of "critical thinking" was carried out according to the distribution of the ten most cited authors and publications, years, published sources and countries. According to the results of bibliometric analysis on critical thinking, it was concluded that the birthplace of the subject and the most productive country is the USA. According to the co-author analysis, it was concluded that Daniel and Gagnon were the authors who contributed the most to the subject, Lipman and Kuhn according to the result of co-citation analysis, and Dovigo and Karadağ according to the result of co-citation analysis. In addition, according to co-word analysis, the most recurring keywords in the studies were critical thinking, early childhood education, creativity, early childhood, cognitive development, teacher training, preschool. As a result of the research, it was concluded that the number of studies on critical thinking in early childhood is low and there should be an increase in studies with children as the sample.

Key Words

Critical thinking • Early childhood education • Preschool period

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Introduction

The only way for societies to raise individuals suitable for today's ever-changing conditions and to survive in the existing competitive order and lead the world is only possible through the reforms they carry out in their education systems. The basic understanding of these reforms should be to raise individuals who can understand the period they live in well, who are aware of the needs of society and can think differently, who have adopted lifelong learning, who have the necessary competencies to access information quickly. In fact, all these skills mentioned emphasize the need for individuals equipped with skills suitable for the 21st century (Çiftçi et al., 2021; Uçak & Erdem, 2020). In this sense, it is observed that the concept and competencies of critical thinking, which was initiated by the United States and became an issue prioritized by European countries over time, began to be more visible in research at the end of the 90s and became one of the prominent concepts of the last decade in the relevant disciplines (Güven & Bülbül, 2023; Metiri Group & NCREL, 2003; OECD, 2005; Partnership for 21st Century Skills, 2006; Voogt & Roblin, 2012).

Conceptually dating back to Socrates, the concept of "critical thinking" has been influenced by the explanations of many thinkers until today and its current meaning in the literature has emerged. However, Dewey, one of these thinkers, mentioned that the interactions of individuals with their environment affect the quality of their thoughts. Referring to the importance of experiences in learning processes, Dewey considers experiencing processes as a set of questioning actions that encourage thinking (Dewey, 1933; Tozduman-Yaralı, 2020). It is observed that this concept, which is the subject of philosophy and education disciplines, enriches its content with different definitions (Ennis, 1985; Facione, 1984; Lewis & Smith, 1993; Paul, 1989; Watson & Glaser, 1980) and is sometimes used in response to other thinking skills such as problem solving (Daniel & Auriac, 2011; Tozduman-Yaralı, 2020). In this regard, it is very important to describe the current aspects of the studies on the concept of critical thinking and to make inferences for future research.

When the current studies from Türkiye on the concept of critical thinking are examined, it is seen that they include the fields of science education (Açışlı-Çelik, 2022; Karagöz et al., 2022), philosophy of religion (Duran, 2021), language, reading and writing skills (Akça-Üşenti & Davaslıgil, 2021; Çevirme, 2021; Kurudayıoğlu & Temur, 2021; Şahin, 2021), architecture (Acar et al., 2021), and health (Karadağ et al., 2018). Current studies in the international literature include the fields of information reliability of digital resources (Feijoo et al., 2023), academic performance in higher education (Lopez et al., 2023), art (Jiang & Alizadeh, 2023), teaching methods (Almulla, 2023; Ssemugenyi, 2023), and health (Taylor et al., 2023). Current literature in the field of early childhood focuses on what engineering practices experienced in early childhood teach children (Ramanathan et al., 2023), an intervention program to encourage children to adopt a healthy lifestyle (Jakobovich et al, 2023), cultural awareness (Adam & Byrne, 2023), play-based curriculum (Geletu, 2023), scientific thinking and scientific competencies (Carvajal-Sanchez et al., 2023; Su & Yang, 2023), STEM activities (Nikolopoulou, 2023), and independent learning behaviors (Özcan, 2022).

It is noteworthy that the studies from Türkiye in the international literature dealing with the concept of critical thinking are fewer in number compared to the general literature and are addressed in fewer related subject areas. In this sense, it is important to evaluate the concept from a broad perspective and to identify the deficiencies in the subject areas of recurrent studies. In addition, it is foreseen that determining the key concepts with which the concept has been associated from past to present, interpreting them in the context of events, situations and views that affect the prominence of this concept, and emphasizing the focused subjects with concrete evidence will contribute to the relevant literature. In this regard, methods that enable us to analyze masses of information have become widespread since these methods classify the masses of data according to certain qualities and reveal influential researchers, studies, subject areas and keywords. Therefore, it helps researchers to discover the untouched aspects of their subject areas by alleviating the burden of literature review. The bibliometric analysis method is one of these methods (Öztürk & Kurutkan, 2020). Today, the fact that data can be stored in electronic media and accessible by everyone has led researchers to summarize the masses of data in their fields of study. Thus, it is possible to summarize a concept, subject, or keyword with the data of the last century and to guide the future. When an evaluation is made in this context, it is considered important to describe the general views of the studies on critical thinking in early childhood and to conduct content analysis. In addition, the scarcity of research on critical thinking in early childhood education has led researchers to conduct this study to fill the gap in the relevant field. Based on the importance of the subject, the questions of the research can be expressed as follows;

1. What are the ten most cited authors and their publications related to "critical thinking", and what topics are discussed in these publications?

2. What is the distribution of studies on "critical thinking" according to years?

3. What is the distribution of studies on "critical thinking" according to the sources in which they are published?

4. What is the distribution of the studies searched with the keyword "critical thinking" according to the country with the highest number of publications?

5. What is the distribution of the studies searched with the keyword "critical thinking" according to the authors who co-published?

6. What is the distribution of the studies searched with the keyword "critical thinking" according to the authors who are co-cited?

7. What is the distribution of the studies searched with the keyword "critical thinking" according to co-citation analysis?

8. What is the distribution of the studies searched with the keyword "critical thinking" according to common keywords?

Conceptual Framework

Critical Thinking

The mental processes that individuals carry out by using symbols to replace the situations or events happening around them and the way they produce solutions to problems are called thinking (Batur & Özcan, 2020). Thinking, which is a human-specific action, enables individuals to make comparisons, comprehend a situation in all its dimensions, make connections, analyze and synthesize. In the definitions of different researchers, it is described as an active, goal-oriented, organized and existential process (Kurnaz, 2013). The word critical, on the other hand, means being able to distinguish, judge and evaluate (Kaya, 1997).

Various definitions have been made to explain the concept of critical thinking, which has different dynamics. While Ernis (1989) defines the concept as the ability of individuals to think logically and deeply in decision-making processes, Watson and Glaser (1980) define it as the combination of knowledge, skills and attitudes. Another similar definition belongs to Kazancı (1989). Facione (1998) explains it as a self-controlled, goal-oriented act of evaluation. McPeck (1981) describes it as the act of thinking deeply about a subject or any information with a skeptical approach.

Critical Thinking in Early Childhood

The potential for the concept of critical thinking, which is expressed as a high-level thinking ability, is acquired in the process that continues throughout a person's life. In other words, this ability, the foundations of which are laid in infancy, progresses within the framework of the developmental limitations of each period (Tozduman-Yaralı, 2020). Infants initially make sense of the world through their senses and movements, but later try to understand it through cyclical reactions. With the emergence of planned and purposeful behaviors, they are aware of their desires and can combine their existing schemas for their goals. Then, infants who can distinguish between the goal and the means learn to use means to reach their goals. These behaviors can be expressed as the basis of their ability to make predictions and inferences. Infants can comprehend the world, which they made sense of with their experiences until the age of one and a half, by thinking with representations (Avcı, 2007; Berk, 2013; Miller, 2017; Tozduman-Yaralı, 2020; Wood, 2003).

When the development of critical thinking in early childhood, when children learn to express their emotions to achieve their wishes or express what they feel is evaluated, it is seen that they lay the foundations of critical thinking by comparing justified or unfair behavioral patterns when they reach the age of four. In addition, at the age of four, children learn to realize that teasing and upsetting others for various reasons is bad behavior, and they learn conflict and problem solving to cope with peer rejection. When they reach the age of five, they learn to question stereotyped thoughts, to question justified and unfair actions, to produce solutions to possible problems, to act together with their peers in finding solutions to stereotypes and to offer suggestions with adult support. At the age of six, they can develop the ability to compare true and false beliefs within groups and to behave respectfully when asking questions about differences. When they reach the age of seven or eight, they learn to use their newly acquired reading skills to learn prejudices and stereotypes and to participate in group activities to draw attention to otherizing situations at school or in society (Bredekamp, 2015; Tozduman-Yaralı, 2020).

Studies on critical thinking in preschool children have generally focused on cognitive development, language development and the development of social skills. In these studies, it is observed that the positive outcomes of the "philosophy with children" program as a method that develops critical thinking are addressed (Doherr, 2000; Fields, 1995; Lipman & Bierman, 1970; Williams, 1993). In addition, in Williams' (1993) experimentally designed study, it was found that the children in the experimental group of the philosophy with children program improved their ability to produce alternative ideas for a problem, their creative reasoning, and their reading skills. In addition, Galinsky (2010) stated in his study that perspective-taking skills are a prerequisite for the development of critical thinking skills in children. It was concluded that children with healthy development in terms of perspective-taking skills can empathize by understanding the reasons for others' feelings and thoughts. However, this skill represents the affective aspect of critical thinking by forming the basis of the dimension expressed as open-mindedness by Ennis (1985). As can be seen, supporting critical thinking in children is very important for their development. Therefore, it is very valuable to evaluate the subject from different perspectives in the literature and to increase the number of studies on the subject.

Method

In this study, studies on the concept of "critical thinking" in the Web of Science database were examined using content analysis and bibliometric analysis methods.

Bibliometric Analysis

Information is a cumulative structure that increases day by day. For the mass of information to be functional, the relevant documents must be accessible, controllable and measurable. All these criteria require several calculations. One of these methods is networks, i.e. bibliometric analysis. Bibliometrics is the analysis of scientific research with numerical calculations. In this method, qualitative and quantitative analyses are performed to determine the effects of researchers, groups, institutions and journals studying the subject. The results of the analyses offer an exploratory perspective to the relevant field professionals. It not only reveals the prominent research, authors, institutions and collaborations, but also gives an idea about the influence of publications on each other. It also allows researchers to base their conclusions on bibliographic data (Al et al., 2019; Krauskopf, 2018; Öztürk & Kurutkan, 2020; Zupic & Čater, 2015).

In this sense, although there are various studies in which bibliometric analysis is used in different disciplines, it is noteworthy that there are no studies in which bibliometric analysis is used on critical thinking and critical thinking in early childhood. Therefore, this study, in which the science mapping technique is used, will contribute to the field by revealing structural connections with the classifications and visuals it presents.

Bibliometric Analysis Methods

There are basic methods used to analyze the documents obtained by examining the databases through specific keywords. These are (Zupic & Čater, 2015);

1. *Co-reference analysis*: It is to reveal how much the research affects subsequent studies through the frequency and patterns of citations.
2. *Co-citation analysis*: It is an indicator of strong relationships between co-cited authors, publications and documents. It is the measurement of the number of co-citations in any pair of documents.
3. *Co-author analysis*: It is a measure of collaboration in research. It is also an indicator of a strong social bond.

4. *Co-word analysis*: It is the creation of a conceptual structure by using the words in the title, abstract, full text and keywords of the documents. In this study, citation analysis, co-citation analysis, co-author analysis and co-word analysis, which are among the bibliometric analysis methods, were used.

Procedure

In the process of analyzing the research data, firstly, the studies in the WoSCC database in September-2023, which will be evaluated within the scope of the analysis, were searched without applying any inclusion and exclusion criteria. As a result of the search, a total of 21,293 studies on "critical thinking" were found. Then, for the studies limited to "Topic", another search was conducted using the code “TS= ("critical thinking” AND "early childhood" OR "preschool" OR "pre-school" OR "kindergarten" OR "kindergarden"). Finally, a total of 251 studies were reached in line with the inclusion criteria. The inclusion criteria used in determining the studies in the research are as follows:

1. The studies should be included in the WoSCC database,
2. The studies should be related to the concept of "critical thinking",
3. The studies should not have any restrictions on year, language, citation, index or country criteria,
4. The studies should be included in the categories of articles, articles in early view, books and book chapters.

Performing a specific search using a specific keyword, that is, making a selection according to the purposeful sampling method, and determining the studies to be evaluated within the scope of the study in the context of the inclusion criteria are indicators of external validity. In addition, data and analyzes are stored electronically in order to verify the research data. In addition, all processes (code, date, etc.) for the preparation of research data are described in detail in the procedure.

Data Analysis

In the study, descriptive analysis of the sources was carried out using the WoSCC database. VOS-viewer program was used for bibliometric analyses of the studies according to countries, co-authors, co-citation, co-quotation, co-word and for the creation of visual maps. In order to eliminate possible errors regarding the codes of the studies, the "tab limited file" was reviewed and the analysis of the study was carried out on the file with the .txt extension.

Findings

The studies on critical thinking in early childhood in the Web of Science Core Collection (WoSCC) database were analyzed in the study. In this context, articles, articles in early view, books and book chapters on the subject were included in the study conducted by using the keyword "critical thinking". As a result of the search in the WoSCC database, 251 studies on critical thinking published between 1981 and 2023 were found. In the light of this information, the analyses were examined under two headings: descriptive and bibliometric findings.

Descriptive Findings

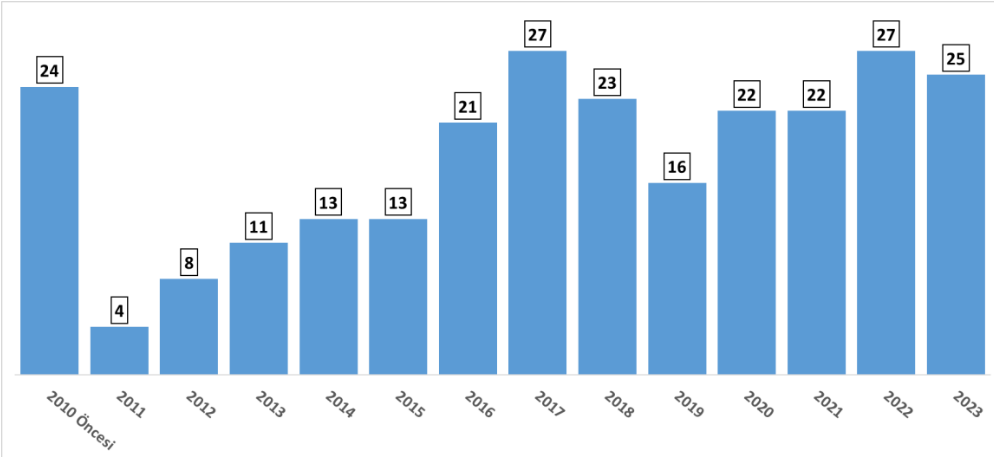
The citation information and number of citations for the top ten most cited studies on "critical thinking" in early childhood evaluated within the scope of the research are given in Table 1. In these studies, it was indicated that the effective use of digital tools will improve critical thinking in children depending on age, and that schools and museums support children's creativity and critical thinking skills in the context of Reggio Emilia approach, and technology-based education supports critical thinking. In addition, the effect of preschool teachers' critical thinking tendencies on the development of media literacy skills, the effect of computer-assisted software on problem solving and self-regulation skills of preschool teachers, information technologies in the context of the use of 21st century skills, and opinions on the Philosophy with Children training program given to preschool teachers were included in these studies (Table 1).

Table 1

Ten Most Cited Publications

	Articles	**Number of Citations**
1	Reid Chassiakos, Y. L., Radesky, J., Christakis, D., Moreno, M. A., Cross, C., Hill, D., ... & Swanson, W. S. (2016). Children and adolescents and digital media. *Pediatrics*, *138*(5).	155
2	Ulu, H., & Baş, Ö. (2020). Relationships between pre-service teachers' purpose of social network sites usage, critical thinking tendencies, and media literacy. *Hacettepe Unıversıty Journal of Educatıon*, *35*(3).	132
3	Feliu-Torruella, M., Fernández-Santín, M., & Atenas, J. (2021). Building relationships between museums and schools: Reggio Emilia as a bridge to educate children about heritage. *Sustainability*, *13*(7), 3713.	131
4	Yilmaz-Na, E., & Sönmez, E. (2023). Unfolding the potential of computer-assisted argument mapping practices for promoting self-regulation of learning and problem-solving skills of pre-service teachers and their relationship. *Computers & Education*, *193*, 104683.	121
5	Weber, A. M., & Greiff, S. (2023). ICT skills in the deployment of 21st century skills: A (cognitive) developmental perspective through early childhood. *Applied Sciences*, *13*(7), 4615.	114
6	Koyuncu, E., & Demircan, H. (2022). An evaluative case study on ınvestigating preschool teachers' views on philosophy with children. *Educatıon and Scıence*, *47*(210).	112
7	Weeks, M., Ooi, L. L., & Coplan, R. J. (2016). Cognitive biases and the link between shyness and social anxiety in early adolescence. *The Journal of Early Adolescence*, *36*(8), 1095-1117.	109
8	Sönmez, E. (2021). Technology-enhanced CT: A systematic review. *Thinking Skills and Creativity*, *41*, 100913.	106
9	Flynn, S. (2021). Convergent identities, compounded risk: Intersectionality and parenting capacity assessment for disabled children. *Children and Youth Services Review*, *129*, 106185.	106
10	Oja, M. (2019). Muutused hariduselus ja ajalooõpetuse areng Eesti iseseisvuse taastamise eel 1987–91 [Abstract: Changes in educational conditions and the development of teaching in history prior to the restoration of Estonia’s independence in 1987–1991]. *Ajalooline Ajakiri. The Estonian Historical Journal*, (3/4), 365-401.	106

When the number of studies on critical thinking was analyzed by years, it was concluded that more studies on the subject were conducted after 2010. While it was seen that 2017 and 2022 were the years with the highest number of studies on the subject with 27 studies, there were more than 10 publications on the subject every year and there was a significant increase in studies after 2015 (Graph 1).



Graph 1. Distribution chart of studies by years

Education Sciences, Thinking Skills and Creativity, European Early Childhood Education Research Journal are the most cited journals in the top ten journals on critical thinking. From Türkiye, Education and Science Journal and Hacettepe University Journal of Education are among the most cited journals on the subject (Table 2).

Table 2

Distribution of Studies according to Publishing Institutions and Number of Citations

Publication Institutions	Number of Articles	Number of Citations
Education Sciences	13	660
Thinking Skills and Creativity	7	578
European Early Childhood Education Research Journal	9	460
Education and Science Journal	4	288
Computers & Education	3	239
Frontiers in Psychology	3	229
Hacettepe University Journal of Education	2	204
Early Childhood Education Journal	6	202
Philosophy for Children	4	193
Children and Youth Services Review	2	180

Bibliometric Findings

According to the VOS-viewer analysis on critical thinking, the country with the highest number of studies is the United States of America (cc:628; tcs:9). Germany (cc:165; tcs:1), Australia (cc:141; tcs:2), People's Republic of China (cc:34; tcs:3), Switzerland (cc:14; tcs:2), South Korea (cc:13; tcs:3) and New Zealand (cc:9; tcs:1) are the countries with the highest number of citations after the USA (Figure 1). Figure 1 also shows that the countries with the highest density of citation links are the USA and Germany. When the time map according to the country was examined, it was observed that the most recent studies on critical thinking after 2020 were published in the People's Republic of China, Switzerland, South Korea and the Philippines. The oldest studies related to critical thinking in early childhood belong to the USA, Germany and Australia (Figure 2).

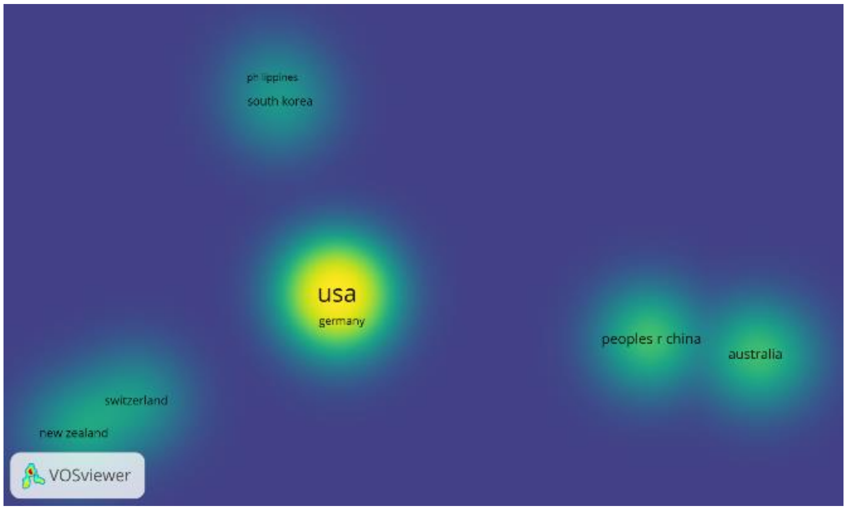


Figure 1. Density map of the countries with the highest number of publications

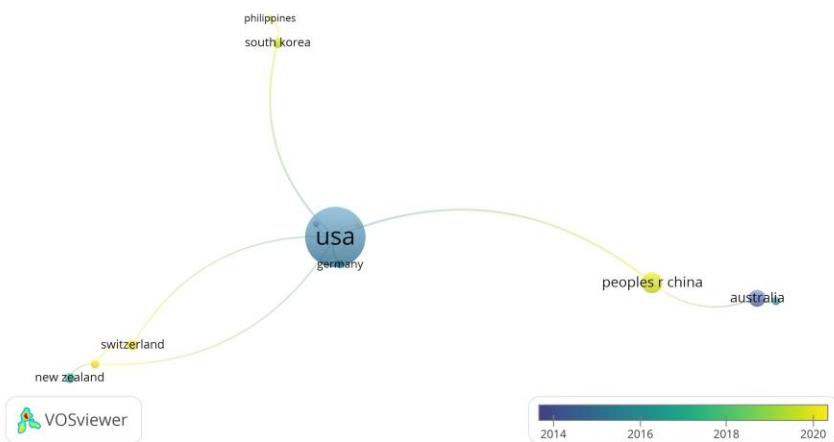


Figure 2. Time map according to the country of publication

When the author link analysis on critical thinking was examined, it was seen that Marie-France Daniel and Mathieu Gagnon were the authors who contributed the most to the subject (Figure 3). The authors published three studies on the subject together and had a total of 10 citations (f:3; cc:10; tcs:3) (Daniel et al., 2012; Daniel & Gagnon, 2011; Daniel et al., 2017). Philip Balcaen (f:3; cc:5; tcs:0) and Mohamed Ridha Ben-Maad (f:3; cc:4; tcs:0) are the most influential authors on the subject, although they do not have co-authorship with any author.

Figure 3. Visual mapping of author link analysis (co-author analysis)

According to the results of the co-reference analysis regarding critical thinking in the Web of Science Core Collection (WoSCC) database, it was observed that two interrelated clusters were formed. Since the studies of the authors in the red and green clusters in the figure express the connection between the publications cited by the same publication, total connection strength (tcs) in the studies is important in co-citation analysis. As a result of the co-reference analysis, the author with the highest connection strength in the red cluster (cc:8; tcs:11) is Kuhn's (1999) study "A developmental model of critical thinking". It is followed by Ennis' (cc:8; tcs:8) "A logical basis for measuring critical thinking skills", Vygotsky's (cc:11; tcs:7) "Mind in society: Development of higher psychological processes", Dewey's (cc:9; tcs:6) "How we think: A restatement of the relation of reflective thinking to the educative process", Pithers' (cc:6; tcs:6) "Critical thinking in education: A review". In the green cluster, the study titled "Thinking in education" by Lipman (2003) has the highest connection strength (cc:7; tcs:14). It is followed by Daniel's (cc:7; tcs:11) "Philosophy, critical thinking and philosophy for children" and Freire's (cc:7; tcs:7) "Pedagogy of the oppressed" (Figure 4).

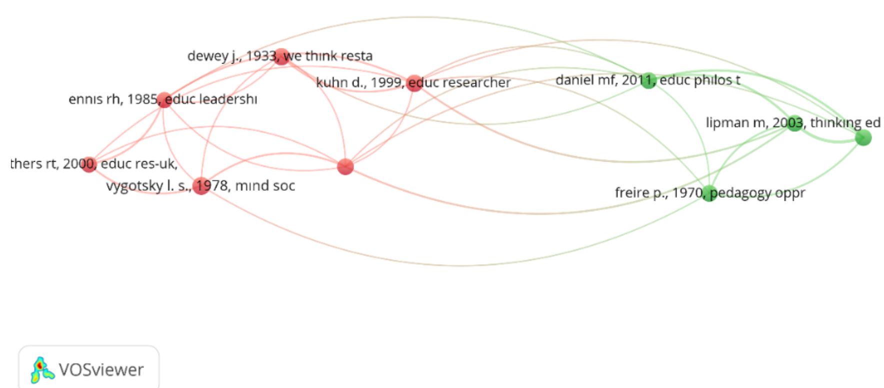


Figure 4. Co-reference analysis

According to the results of the citation analysis of the studies on critical thinking in the WoSCC database, it was seen that five different colored groups were formed depending on the relationship between the cited authors. The size of the circles varies according to the number of citations and connection strenght. It was determined that the most frequently cited publications and and the authors whose works have the highest connection strength are the studies of Dovigo (cc:15; tcs:4) and Karadağ (cc:5; tcs:4). On the other hand, although Convertini's study (cc:12; tcs:1) has a high number of citations, its low connection strenght does not produce a meaningful result for co-citation analysis (Figure 5).

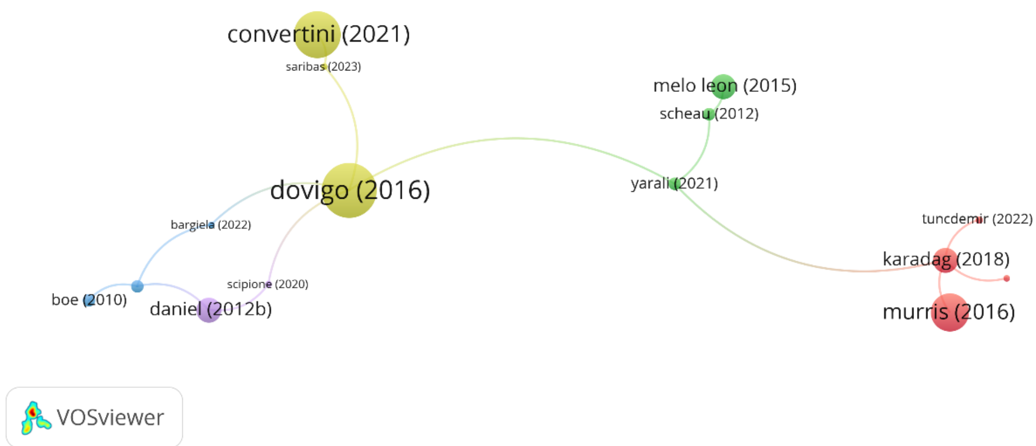


Figure 5. Co-citation analysis

When the studies conducted in the context of critical thinking in early childhood were analyzed, it was seen that five different colored clusters were formed. The formation of nodes between these clusters reveals the most frequently repeated words together in studies. Clusters of the same color represent words repeated together in similar studies. According to the analysis results, the most frequently repeated words are critical thinking (f:64; tcs:51), creativity (f:13; tcs:18), creative thinking (f:7; tcs:12), young children (f:5; tcs:3), preschoolers (f:5; tcs:1) in the blue cluster; teacher training (f:10; tcs:6), higher education (f:7; tcs4), e-learning (f:6; tcs:4) in the red cluster; preschool (f:9; tcs:7), philosophy for children (f:6; tcs:6) in the purple cluster; the words early education (f:21; tcs:13), assessment (f:5; tcs:1), kindergarten (f:5; tcs:4) in the green cluster; early childhood education (f:19; tcs:12), education (f:5; tcs:4) in the yellow cluster, cognitive development (f:7; tcs:11), reasoning (f:5; tcs:7) in the orange cluster (Figure 6). According to the results of co-word analysis by year, it was determined that the words creativity, teacher training, young children, early childhood education, reasoning, and preschoolers are frequently repeated words in recent studies (Figure 7).

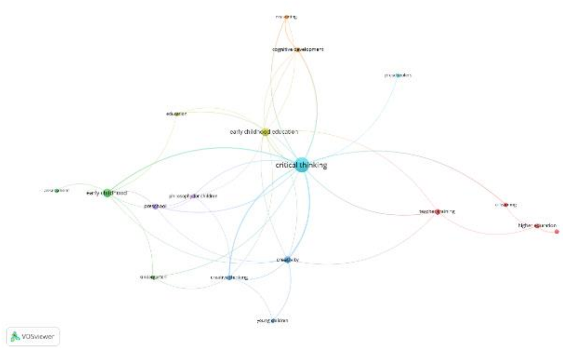


Figure 6. Co-word analysis

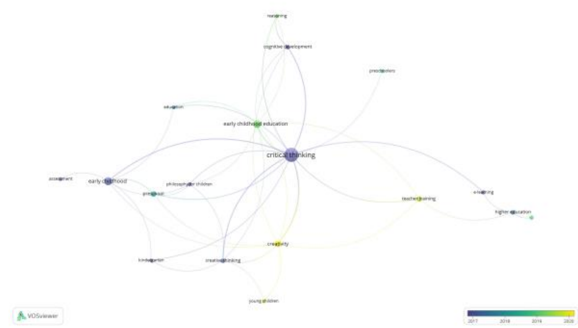


Figure 7. Co-word time map

Discussion and Conclusion

Bibliometrics is an effective method that analyzes data such as the titles, authors, citation numbers, keywords and country of publication of scientific publications prepared on a specified subject, and determines the most productive author, author collaborations, and the most productive country or institution on the subject. Another prominent feature of bibliometrics is that it enables the identification of prominent topics, developing aspects of the research field, and untouched study areas related to the subject in line with the criteria determined for the field of study. It also provides information about the development process of the subject by revealing its conceptual infrastructure, intellectual and social aspects (Gupta, 2021). In this study, based on the features of bibliometrics, the bibliometric analysis method was preferred to determine how the concept of "critical thinking" is addressed in early childhood studies because it is an effective method in revealing issues that have not yet been studied in the field.

In the study, firstly, the citation information of the top ten most cited studies is included. When these studies are examined, it is seen that in the most cited study on critical thinking in early childhood, Reid Chassiakos et al. (2016) emphasize digital media as a tool that blends traditional intellectual attitude with contemporary knowledge. The study highlights the role of carefully selected content~~s~~ for the balanced and controlled use of digital media in supporting the development of critical thinking skills in children. The second most cited study on the subject is the study by Ulu and Baş (2020), in which they aimed to determine the relationship between the purposes of use of social networking sites by teacher candidates and their critical thinking tendencies and media literacy skills. This study and similar studies describe that media literacy has a significant impact on building knowledge, gaining different perspectives, and understanding how information represents reality, which is shown as determinants of critical thinking (Hobbs, 2010). In social media tools, there is a relationship between visual images and cultural images. For this purpose, media literacy is an important variable for individuals to gain a critical perspective on differences and to improve themselves in the social context (Knochel, 2013; Quitadamo, 2002). Another study with the highest number of citations emphasizes the role of the Reggio Emilia approach in supporting critical thinking (Feliu-Torruella et al., 2021). The study indicated that learning activities in schools that plan for children to be intertwined with museums support critical thinking and creativity skills in children. For this purpose, the study emphasizes the need to build a bridge between museums and schools for children so that children can analyze the strengths and weaknesses of the program. When the other most cited studies were examined, it was seen that the studies frequently focused on teacher candidates. In these studies, it was concluded that computer-assisted argument mapping applications contributed to the development of preschool teacher candidates' learning and problem-solving skills (Yilmaz-Na & Sönmez, 2023). It is also stated that the software developed for this purpose helps teacher candidates to answer the critical questions asked to them in the sessions they attend and their active participation in the process helps to support their critical thinking. In the study, it was reported that such software is effective in deciding the most appropriate solution to a problem (Freeley & Steinberg, 2013). It is also emphasized that it is an effective tool that allows existing knowledge and experiences to be blended with new knowledge (Pecore, 2013). As a result, it seems that such tools brought by digitalization are effective in the acquisition of critical thinking today. When the most cited studies on the concept of critical thinking were examined, it was seen that the number of studies covering the early childhood period was limited. The participants of the studies were mostly determined as teacher candidates or it was determined that theoretical information about the conceptual framework of critical thinking was given in the studies (Koyuncu & Demircan, 2022; Sönmez, 2021; Weber & Greiff, 2023). In their study, Koyuncu and Demircan (2022) discussed Philosophy with Children, which is a prominent approach in the literature on critical thinking. In the experimental study conducted with pre-school teacher candidates, teachers stated that the philosophy-based sessions they would organize in their classrooms could be used in pre-school education and that it was a practice that could positively affect the development of children. As a result, it was seen that critical thinking was generally associated with digitalization and technology-based studies in the most cited studies. Therefore, it is thought that the reason why these studies are the most cited is because critical thinking is a current concept and the number of studies in education increases with the advancement of technology. In addition, when the most cited studies were examined, it was seen that the studies were published after 2016. This result is similar to the distribution of studies on critical thinking by the years.

When the studies on critical thinking are analyzed by years, it is observed that there is a significant increase in studies after 2015 compared to previous years. The reason for this increase may be that critical thinking is now shown among the 21st century skills that individuals should have (Partnership for 21st Century Learning, 2015). According to the statement of the World Economic Forum, as of 2016, problem solving and critical thinking skills are among the basic qualities that employers pay attention to and that individuals should have. It is also stated that by 2025, the share of having certain skills in determining the competence of individuals is 40%. The most prominent of these skills are analytical thinking, innovation, active learning and learning strategies, complex problem solving, critical thinking and analysis, creativity, originality, leadership, use of technology, stress resilience and adaptability (WEF, 2020). It can be seen that the characteristics that individuals are expected to develop are basically related to critical thinking skills and tendencies. In this sense, the acquisition of critical thinking at an early age will enable the development of globally qualified individuals. For this purpose, although it is still unclear when and how critical thinking should be taught as a developable skill, Lipman et al. (1980) are among the first to advocate that children should be taught critical thinking from an early age. It is important for children to acquire critical thinking skills at an early age in order to explain and shape how they think. Similarly, Galinsky (2010) emphasizes the importance of critical thinking by listing critical thinking among the seven life skills that every child needs. Therefore, studies should focus on practices aimed at developing critical thinking starting from early childhood.

When the journals with the highest number of publications on critical thinking are examined in the study, it is seen that Education Sciences, Thinking Skills and Creativity, European Early Childhood Education Research Journal are the journals that stand out with the highest number of citations on critical thinking. In Türkiye, The Journal of Education and Science and Hacettepe University Journal of Education are among the most cited journals on the subject. As can be understood from the journals, critical thinking is associated with education in terms of purpose and scope. The existence of a specific journal related to the subject area indicates that the subject is original and attracts attention.

When the high number of studies on critical thinking was examined on a country basis, it was seen that the country where the subject was born and the country with the highest number of citations was the USA. The most current studies on the subject were published in the People's Republic of China and Switzerland. The studies of Metthew Lipman, an American philosopher and founder of Philosophy for Children (P4C), have shed light on many studies conducted with preschool children on critical thinking. In addition, the studies of American philosophers and scientists Ennis, Dewey and Kuhn, who form the theoretical basis of critical thinking, explain the USA's prominence in the research. Kaplan (2017) revealed that the most studies on critical thinking approach were conducted in the USA, which supports the results of this study. The main reason why the USA is at the forefront in this regard is that important steps have been taken towards critical thinking practices in the country since the 1940s. In addition to the Delphi panel held by the American Philosophical Association in 1987, which defined the scope of critical thinking, the importance given to the development of critical thinking as an educational goal in the "A Nation at Risk", "Participation in Learning", "Higher Education and the Revitalization of America" reports published since the 1980s (Kraak, 2018) can be shown as the reason why the USA stands out in the research. When the author connection analysis on the subject was examined, it was concluded that Marie-France Daniel and Mathieu Gagnon were the authors who contributed the most to the subject. In the studies the authors conducted together, it was discussed whether it is possible to develop an abstract concept such as critical thinking in five-year-old children through an interactive and dialogue-based perspective (Daniel et al., 2012), the extent to which the implementation period of the Philosophy for Children Program in the preschool period contributed to children's cognitive development was evaluated (Daniel & Gagnon, 2011), and the effect of a dialogue-based philosophical practice carried out with kindergarten and primary school children on children was analyzed (Daniel et al., 2017). As a result of the studies, it was emphasized that critical thinking can be acquired at an early age and that effective methods should be developed for this. Philip L. Balcaen and Mohamed Ridha Ben Maad were determined as the most influential authors with their studies on critical thinking, although they do not have a co-authorship bond. Balcaen and Hirtz (2007) trained 36 teachers from kindergarten to 12th grade in order to support critical thinking and the effective use of information communication technology and discussed the results in their study. In his study, Ben Maad (2020) pointed out that raising awareness of different languages in kindergartens is a practice that improves children's cognitive capacities and contributes to their critical thinking processes. As a result of the co-author analysis conducted in the study, it was seen that different methods were used to teach critical thinking in pre-schools since it is an abstract concept. In the studies, it was determined that dialogue-based practices were more effective in developing critical thinking in children. For this reason, authors with a co-authorship network reveal in their studies that critical thinking can be taught to young children through different methods. In addition, when the studies of authors who do not have a co-authorship network were analyzed, it was determined that shaping their studies within the framework of current issues was effective in coming to the fore with the number of citations. It is thought that the evaluation of technology and multiculturalism, which have an impact on every field at the global level, in the context of critical thinking is effective in the prominence of these studies.

When the co-reference results related to critical thinking were analyzed, it was concluded that there were two clusters that interacted with each other. The prominent authors in these clusters are Lipman (2003) and Kuhn (1999). In his study, which is cited as the most cited source in different studies, Kuhn (1999) emphasized the difficulties that preschool children experience in gaining and maintaining awareness of the sources of the information they have. In this study, it was concluded that four-year-old children were able to observe the reasons concretely and could easily answer questions about a claim. For example, when a 4-year-old child sees a picture of a zebra, he/she can prove it because zebras have stripes that make them different from other animals. In this respect, Kuhn (1999) laid the foundation for critical thinking in early childhood with this study. Lipman (2003) is another author whose study is frequently used in the literature. In his study, Lipman (2003) stated that critical thinking skills are needed to lay the foundations of philosophical thinking in children. According to Lipman, children identify the possible causes of a problem through critical thinking, form hypotheses and search for possible solutions. Thus, philosophical studies enable children to think more and reflect on their views. Therefore, conducting philosophical inquiries helps children develop critical thinking skills by enabling them to listen to others, evaluate others' views, become aware of their own thinking processes and organize their own thoughts (Trickey & Topping, 2004). It is thought that the reason why Kuhn stands out in the co-reference analysis is that he brought a different model for teaching and evaluating critical thinking to the field. According to Kuhn, skills and tendencies should be acquired together in critical thinking. Both his contribution to the literature and his combination of critical thinking with early childhood are among the reasons why he stands out in this study. It is very important that Kuhn also addresses critical thinking in early childhood by taking into account developmental periods. The reason why Lipman's study stands out in this study is that it combines philosophy with critical thinking and aims to teach it to children. At this point, Lipman introduced a new method to the field of teaching philosophy, which is a set of abstract concepts, to preschool children. In this method, it is proven that stories guide children's philosophical questioning. Therefore, these authors have come to the forefront of studies of critical thinking in early childhood.

Dovigo (2016) and Karadağ and Demirtaş (2018) are the prominent authors in the citation analysis of studies on critical thinking. In his study, Dovigo (2016) stated that providing a discussion environment in early childhood has an important role in developing cooperation and critical thinking skills if teachers lead the process and actively participate. In their study, Karadağ and Demirtaş (2018) emphasized the importance of using P4C as a method that develops critical thinking skills in children. In this study, it was also stated that the use of texts such as stories as a tool to develop children's questioning is a versatile practice that supports language and reading skills. Dovigo's study is important because it guides the studies on critical thinking in education. In this study, Dovigo stated that, as in other education levels, the development of critical thinking in primary and pre-school periods is possible if a discussion environment can be created. As can be seen, as a result of the citation analysis, it is accepted that inquiry and dialogue-based practices draw attention in studies dealing with critical thinking in early childhood and that interaction with children plays an important role in the acquisition of critical thinking. As a result, it is thought that the studies citing these studies as sources also use similar methods in the acquisition of critical thinking and address similar aspects of critical thinking.

When the common word analysis of the studies conducted in the context of critical thinking in early childhood was examined, it was found that the most frequently repeated words were critical thinking, creativity, creative thinking, young children, preschoolers in the blue cluster, teacher training, e-learning, higher education in the red cluster, philosophy for children, preschool in the purple cluster, early education, assessment, kindergarten in the green cluster, early childhood education, education in the yellow cluster, and cognitive development, reasoning in the orange cluster. When the studies were examined, it was stated that digital learning-based applications can provide a learning environment that supports creativity and critical thinking skills, knowledge transfer, acquisition of digital experience skills and skills to develop a positive attitude towards learning, and deep learning in children aged 3-6 years (Behnamnia et al., 2020a). In another study, Behnamnia et al. (2020b) found that digital game-based learning supports preschool children's creativity and critical thinking skills, and that such practices help children develop motivation and positive attitudes towards learning. In addition, it was emphasized in the studies that the development of critical thinking skills in teacher education improves their reflective thinking skills, and that gaining critical thinking in education should become a goal (Gomez-Gomez & Botero-Bedoya, 2020). In other studies where critical thinking was discussed together, the importance of e-learning in education was emphasized. In these studies, it was indicated that e-learning environments develop cooperative behaviors in children and support critical thinking skills. In addition, these studies emphasized the importance of e-learning environments in helping children take individual responsibility and make their own decisions (Camuñas et al., 2012). In another remarkable article on critical thinking, the level of understanding of implicit messages in stories by children from preschool to third grade was compared. It was determined that preschool children were able to understand explicit information and find implicit messages in the story, but as the age increased, children were able to develop systematic thinking and logical reasoning (Szabo & Brakas, 2020). Based on the keywords related to critical thinking, studies emphasize that different teaching methods are necessary depending on the development of technology today. Innovative learning tools that have entered our lives have an effective role in the development of critical thinking in individuals at all levels of education, starting from the pre-school period. The predictive effect of digital tools or software on critical thinking, which is generally mentioned in the findings of the studies, confirms this view. It was also determined that critical thinking skills in the preschool period were mostly related to skills such as cooperation, problem solving and motivation. These skills are thought to be an important factor in helping individuals take responsibility for their learning today. Considering all these, it was concluded that critical thinking in early childhood is a much deeper issue than discussed in the literature.

In this study, the reflections of the studies concerning critical thinking on early childhood were discussed. The relevant literature was examined from a broad perspective and the findings were tried to be explained within the framework of prominent publications. In this regard, it was seen that critical thinking is an important concept in early childhood years, but there is a limited number of studies on the subject. It is thought that enriching the sample diversity to explain the subject comprehensively will make a significant contribution to the field.

Limitations and Recommendations

In this study, studies on the concept of "critical thinking" in the WoSCC database were analyzed. In future studies, conducting the analysis together with other databases will enable the concept to be analyzed from a broader perspective. In this study, WoSCC was chosen as it provides a reliable data source in bibliometric analysis. In future studies, it is recommended to focus on the areas that have not been studied in early childhood to contribute to the field. In this way, it is thought that the range of studies on critical thinking in early childhood can be expanded and the concept can be analyzed from a broader perspective.

Ethic

The research does not require ethics committee approval.

Conflict of interest

The authors declare that there are no conflicts of interest.

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Mobile Assisted Language Learning Needs Assessment in Secondary Education

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Abstract

Mobile-assisted language learning (MALL) has entered students' educational life with a rising momentum. For this reason, it is necessary to determine the needs of English language curricula, teachers, and students in terms of mobile-assisted language learning. In this study, a convergent parallel design of mixed methods was used. The study group of research consists of 130 high school students and 5 teachers working in secondary education institutions. A mobile application adoption scale was used for the data collected from the students. Semi-structured interviews were conducted with teachers. As a result of the research, it was concluded that students find mobile applications useful and adopt them, and teachers need to be informed about the MALL. It was also found that mobile applications should support the target learning outcomes and cover all four language skills.

Key Words

Mobile learning • Mobile assisted language learning (MALL) • Needs assessment

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Introduction

A need is a discrepancy between the present situation and the ideal situation. Finding out how to close a performance or learning gap is the process of needs assessment. It also includes the essential needs and how to address them (Gupta, et al., 2007; Kılıç, vd. 2021). Needs assessments are useful because they provide a framework of needs before making important decisions (Watkins, et al., 2012). The concept of needs assessment developed in the mid-1960s as a direct extension of the social action legislation of the time. Since then, needs assessment has become widely used in education for both purpose and application (Stufflebeam, et al., 1985).

The goal of a needs assessment is to gather data from a variety of sources on what is happening in the program (Song & Zhou, 2022). Curricula are all the learning experiences that schools deliberately prepare for the individual to reveal and develop his/her potential (Bobbitt, 1918). Curricula have four components: objectives, learning experiences, content, and evaluation (Demirel, 2007). Curriculum development is not a static process. Especially in student-centered programs since students' interests and needs are constantly changing, needs analysis should be done at the beginning of the program and during the design, implementation, and evaluation processes. (Leotta & Dolidze, 2022) Therefore, needs assessment has an important place in the development of programs. In addition, needs analysis should be conducted continuously due to the structure of the program, social and individual reasons, nature, science, art, and technology (Sönmez, et al., 2019). Changes in technology, especially as it evolves very quickly, may require updating needs analyses.

The use of technology by students as a source of information on its own has also affected 21st-century learning (Putra & Santosa, 2020). Today's young people, as defined by Prensky (2001), are digital natives who speak the language of the digital world, which includes computers, the internet, video games, etc. Since these digital natives are born directly into technology, they do not have the same learning, thinking, or even working skills as the generation that educated them. According to some researchers, Generation Z, born after 1996 and others after 2000, grew up with social networking and cannot tolerate a world without the internet and cell phones (Ryndak & Saldaeva, 2020). Currently, the students in our classrooms represent the screen generation, defined as "screenagers", who prefer to learn from the screen instead of learning from books and to write with a keyboard instead of writing with a pen (Yoon, et al., 2013). Traditional methods will not be sufficient to bring this generation's skills such as critical thinking, communication, and collaboration to the desired level (Drugaș, 2022). Similarly, when teaching English to young people who cannot imagine a world without mobile technologies, current developments should be utilized and what they do not know should be taught with the tools they know best (Kacetl & Klímová, 2019). Mobile learning will allow teachers to approach their students in their language and will enable more effective language teaching.

Mobile learning is a difficult concept to define. While some researchers in the literature draw attention to the fact that mobile learning is done with mobile devices, others emphasize that it is the learner's learning independent of time and place (Hsu, 2016; Arvanitis & Krystalli, 2021). The word "mobile" refers to the capacity to move about freely and without restriction. Mobile learning is the use of mobile devices in any field of study (Gangaiamaran & Pasupathi, 2017). Mobile learning is realized by accessing information and learning materials at any time and place through wireless mobile technologies (Ally, 2009). Examples of mobile devices include personal digital assistants, smartphones, tablets, and laptops (Chinnery, 2006; Viberg & Grönlund, 2012). Moreover, e-book readers, recording devices, game consoles, and voice recorders can also be shown among the technologies that support mobile learning (Çakmak, 2019).

MALL is a teaching and learning technique that supports and enhances language learning with smartphones or other mobile devices (Kacetl & Klímová, 2019). The mobility and information accessibility offered by mobile technologies play a significant role in improving English language instruction and learning. (El-Hussein & Cronje, 2010). According to Kukulska-Hulme (2010), MALL can be used in three contexts. These are the community context according to its formal or informal use, the teacher-led context, and the learner context with the student using it according to his/her preference. Regardless of the context, the internet provides access to thousands of resources for learners, providing countless authentic materials such as e-books, podcasts, downloadable files, exercises, songs, and movies (Lestari & Wardhono, 2020).

There are many studies on MALL. For example, a literature review on MALL (Czerska-Andrzejewska, 2016), and a meta-analysis of MALL for English as a foreign language learners' listening skill development (Li, 2023) were conducted. There are also some studies on vocabulary learning using MALL (Wang & Shih, 2015; Çetinkaya & Sütçü, 2018; Li & Hafler, 2022). Ali, et al. (2020) examined the effect of MALL in an informal learning environment. The effect of MALL on students' speaking skills was investigated by Shadiev, Liu, & Cheng, (2023). Students' perception on MALL was studied by Akman, & Karahan, (2023). However, there are relatively fewer studies on determining the needs of MALL. A small-scale needs analysis was conducted to determine which activities students do the most in MALL (Park & Tammy, 2014). The importance of needs analysis for developing materials for English lessons has been studied (Darici, 2016). In a study with EFL learners, it was investigated whether the MALL had a significant contribution to students' critical thinking skills (Agustina, et al., 2022).

Changing learner characteristics and technological developments will require the spread of mobile applications in schools. In this case, it is thought that determining the needs of mobile-supported instruction will contribute to the field in case of updating or reconstructing official programs in the future. In this study, the needs of the program, teachers, and students in the implementation of mobile-assisted language learning in secondary English courses were investigated.

Problem statement of the research: What are the needs of the program, teachers, and students in the implementation of mobile-assisted language learning in secondary English classes?

Subproblems

1. What is the level of students' use of mobile applications?

2. What are the teachers' views on the components of the English curriculum of MALL use in secondary education?

a) What are the views of teachers on the objectives component of the English curriculum of using MALL in secondary education?

b) What are the views of teachers on the content component of the English curriculum of using MALL in secondary education?

c) What are the views of teachers on the learning experiences component of the English curriculum of using MALL in secondary education?

d) What are the views of teachers on the assessment component of the English curriculum using MALL in secondary education?

3. What are the teachers' views on teachers' competencies in the application of MALL in English courses in secondary education?

4. What are the necessary precautions to be taken for the implementation of MALL in English courses in secondary education?

5. What are the expected features of the mobile applications to be used for MALL in English courses in secondary education?

Method

Research Design

In this study, the convergent parallel design of the mixed method was used. In mixed research, data collection, analysis, and interpretation are done for both quantitative and qualitative methods (Creswell & Creswell, 2018). Mixed method quantitative and qualitative research designs are used to increase the quality of the research (Yıldırım & Şimşek, 2018). In the convergent parallel design, qualitative and quantitative data can be collected simultaneously and then combined and analyzed (Creswell & Creswell, 2018). The survey model, one of the quantitative research designs, was used. The survey model is used to determine the current situation (Sönmez & Alacapınar, 2017). A case study, one of the qualitative research designs, was used. The case study is a design to provide a more detailed understanding of the situation in cases where the boundaries of the content of one or more situations are not clearly drawn (Yin, 2002).

Participants

The research was conducted in a public school in Central Anatolia, Türkiye. Since the researcher worked with the students and teachers in the institution, the convenience sampling method was used. In convenience sampling, also called easy sampling, the researcher can work with people who are economical and easily accessible (Yıldırım & Şimşek, 2018). There are different study groups in the quantitative and qualitative dimensions of the study. The quantitative study group consisted of a total of 130 male students from the ninth, tenth, eleventh and twelfth grades of secondary school. Their ages range from 13 to 17. In the qualitative dimension, five teachers working in secondary education were interviewed. All teachers were female, and their ages range from 30 to 55.

Research Instruments

Since the research was mixed, two different tools were used to collect both quantitative and qualitative data. To collect quantitative data, the "Mobile Learning Adoption" scale developed by Çelik et al. (2016) was used. The KMO value of the test was .93 and the Cronbach Alpha value was .94. The scale consists of four sections. These sections are as follows: m-learning decision stage, m-learning decision type, m-learning attribute of innovativeness, and m-learning adoption attributes. The last part of the scale consists of eighteen items, 5 sub-dimensions, and a 7-point Likert-type rating was used. The sub-dimensions of this section are relative advantage, compatibility, trialability, complexity, and observability. In this study, the fourth section of the scale, adoption attributes of the mobile learning dimension, was used.

In the qualitative dimension of the study, the interview technique was used to collect information. The interview technique provides in-depth verbal information about a subject when it is carefully structured (Marczyk, et al., 2005). A semi-structured interview form was used to collect teachers' opinions. Although the questions in semi-structured interviews are prepared in advance, the researcher can ask additional questions related to the subject of the research during the interview (Gupta, et al., 2007). In addition, in semi-structured interviews, the researcher can compare the data obtained by asking the same question to different participants (Kothari, 1985). In this study, a semi-structured interview form prepared by the researcher was used. Expert opinion was taken in the preparation of the form.

Data Analysis

Descriptive statistics were used to analyze the quantitative data of the study. The data were analyzed with the SPSS 26 package program. Qualitative data were analyzed by content analysis. In content analysis, researchers examine artifacts of social communication. Typically, these are written documents or transcriptions of recorded oral communications (Berg, 2001). The main purpose of content analysis is to examine such documents and bring similar data together to form a common category (theme) and to obtain a whole from the data (Yıldırım & Şimşek, 2018). The interviews with the teachers were transcribed into written media. A separate Word file was created for each teacher's voice recording. The names of the teachers were not used, and each teacher was given codes T1 and T2. Categories were created from teacher opinions. In addition, the participants' opinions were quoted in the findings without any changes.

Validity and Reliability

In this study, several measures were taken to increase validity and reliability. The reliability coefficient of the scale was calculated in the scale application. The researcher recalculated the reliability value of the scale. The Crombach Alpha value of the scale applied to 130 participants was found to be .849. This value being greater than .60 indicates that the scale is reliable (Tavşancıl, 2006). Expert opinion was taken while preparing the interview form. The author conducted content analysis twice, one month apart. A Cohen's Kappa value of 0.85 was observed between these analyses. This Cohen's Kappa value between the first and second analyses indicates a high level of consistency by the author and demonstrates reliability in the content analysis. In the findings, the opinions of the interviewed teachers were quoted. The research process was explained in detail. Participant confirmation was obtained.

Findings

Findings Related to The First Sub-Problem

Descriptive statistics were used for the first sub-problem of the study "What is the level of students' mobile application usage?". Data analysis was conducted in the SPSS 26 package program. Table 1 presents the findings obtained for the first sub-dimension of the scale, relative advantage.

Table 1

Analysis Results of Students' m-Learning Relative Advantage Opinions

Items	N	Min	Max	M	SD
Learning through mobile technologies increases my efficiency.	130	1.00	7.00	5.18	2.134
I find m-learning beneficial.	130	1.00	7.00	5.20	2.207
M-learning increases the quality of what I do.	130	1.00	7.00	5.03	2.045
The use of mobile devices contributes to my career.	130	1.00	7.00	4.87	2.237

Table 1 shows the descriptive statistics results for the students' responses to the relative advantage dimension of the mobile application adoption scale. According to the results of the analysis, the statement "I find m-applications useful" has the highest mean (m=5.20). The statement "The use of mobile devices contributes to my career" has the lowest mean (m=4.87). The second sub-dimension of the scale is compatibility. Descriptive statistics were calculated for students' responses in this dimension. The findings obtained are given in Table 2.

Table 2

Analysis results of students' m-Learning compatibility views

Items	N	Min	Max	M	SD
The use of mobile devices is compatible with my traditional teaching methods.	130	1.00	7.00	4.53	2.289
The use of mobile devices is compatible with my learning preferences.	130	1.00	7.00	5.03	2.075
I possess the knowledge required to use the m-learning method.	130	1.00	7.00	5.01	2.138
I use m-learning effectively with my existing knowledge.	130	1.00	7.00	4.95	2.026

Table 2 shows that the averages for the answers given by the students are very close to each other. The mean (m=5,03) of the student's answers to the statement "The use of mobile devices is compatible with my learning preferences" has the highest mean. The lowest mean (m=4.53) belongs to the item “The use of mobile devices is compatible with my traditional teaching methods”. The third sub-dimension of the scale is compatibility. Descriptive statistics were calculated for students' responses in this dimension. The results are presented in Table 3.

Table 3

Analysis Results of Students' m-Learning Trialability Opinions

Items	N	Min	Max	M	SD
I possess adequate means to try mobile technologies in the educational process.	130	1.00	7.00	4.55	2.268
I can access m-learning applications any time I like.	130	1.00	7.00	5.01	2.064
I first try an m-learning application and then I use it.	130	1.00	7.00	4.69	2.119

Table 3 shows the descriptive statistics results of the students' responses to the trialability dimension of the mobile application adoption scale. According to the results of the analysis, the statement "I can access m-learning applications any time I like." has the highest mean (m=5,01). The statement " I possess adequate means to try mobile technologies in the educational process." was found to have the lowest mean (m=4,55). The fourth sub-dimension of the scale is complexity. Descriptive statistics were calculated for the answers given by the students in this dimension. The findings obtained are given in Table 4.

Table 4

Results of Analysis of Students' m-Learning Complexity Views

Items	**N**	**Min**	**Max**	**M**	**SD**
It is difficult for me to use m-learning applications.	130	1.00	7.00	3.49	2.276
It is easy for me to use m-learning applications.	130	1.00	7.00	5.32	1.929
It is easy for me to access information I need via mobile devices.	130	1.00	7.00	5.27	2.027

Table 4 shows the descriptive statistics results for the students' responses to the complexity dimension of the mobile application adoption scale. According to the results of the analysis, the statement "It is easy for me to use m-learning applications" has the highest mean (m=5,32). The statement " It is difficult for me to use m-learning applications." has the lowest mean (m=3,49). The fifth sub-dimension of the scale is observability. Descriptive statistics were calculated for the answers given by the students in this dimension. The findings obtained are given in Table 5.

Table 5

Analysis Results of Students' m-Learning Observability Views

Items	**N**	**Min**	**Max**	**M**	**SD**
I can observe that the use of mobile devices for educational purposes benefits those around me.	130	1.00	7.00	4.36	2.231
I can tell others about the benefits of m-learning.	130	1.00	7.00	4.38	2.175
I share with those around me the applications about the educational uses of mobile devices.	130	1.00	7.00	4.01	2.278
Those around me help each other in regard to m-learning applications.	130	1.00	7.00	4.15	2.277

Table 5 shows the descriptive statistics results for the students' responses to the complexity dimension of the mobile application adoption scale. According to the results of the analysis, the statement that "I can tell others about the benefits of m-learning" has the highest mean (m=4.38). The statement " I share with those around me the applications about the educational uses of mobile devices." has the lowest mean (m=4.01).

Findings Related to the Second Sub-Problem

For the second sub-problem of the study, "What are the teachers' views on the components of the English curriculum of the use of MALL in secondary education?", the opinions of the teachers were taken. The categories and frequencies obtained from the opinions are shown in Table 6.

Table 6

Teachers' Views on the Program Components of the MALL

Program component	Category	Frequency
Objectives	Permanent learning	3
	Supporting objectives	2
	Addressing all four skills	1
Content	Relevant to dairy life	3
	Oriented to student needs	3
	Rich material	2
Learning experiences	Games	3
	High motivation	2
	Different learning styles	2
	Growth characteristics	2
	Active participation	2
	Self-paced learning	1
Assessment	Immediate feedback	3
	At any time and place	2
	Practice	2

Table 6 presents the categories and frequencies obtained from the teachers' views on the curriculum components; the objectives, content, learning experiences, and assessment. The categories of permanent learning (f=3), supporting objectives (f=2), and addressing four skills (f=1) were obtained from the opinions on the objectives component of the curriculum. Regarding the content component of the program, three categories were reached: relevant to daily life (f=3), oriented to student needs (f=3), and rich material (f=2). The categories related to the educational situations component of the program are games (f=3), high motivation (f=2), different learning styles (f=2), growth characteristics (f=2), active participation (f=2), and self-paced learning (f=1). In the evaluation component of the program, a total of three categories were reached: immediate feedback (f=3), at any time and place (f=2), and practice (f=2).

Some teachers' opinions on the components of the English curriculum in the use of MALL in secondary education:

T1 *"I think it supports the learning outcomes."*

T2 *"There are a lot of resources on the internet, and I think authentic materials make it easier to connect the subjects with daily life."*

T3 *"When determining the application or web tools, the needs of the students are met when the target audience's language learning age is taken into consideration along with what they have learned and their needs in daily life."*

T4 *"Considering that students have a deep interest in the virtual world and digital tools, supporting language teaching processes with various programs, web 2.0 tools, rich materials, and content that appeals to multiple senses will increase the motivation of teachers and students, make their work easier, and make the acquired knowledge and developed skills more permanent."*

T5 *"Mobile-supported language teaching helps in selecting and organizing the content according to the student's interests."*

T3 *"Various vocabulary games can be used for students to understand the words and sentence structures that they need to acquire in the lesson more easily by having fun and to make them more memorable."*

T4 *"The student actively participates in the process."*

T5 *"At this stage, mobile-assisted instruction facilitates the work of the instructor and the learner in evaluating whether the student has reached the target or not. Quick feedback is received and it is easier to reach explanatory feedback."*

T2 *"It is nice to get instant feedback."*

Findings Related to the Third Sub-Problem

For the sub-problem of the study "What are teachers' views on teachers' competencies in the implementation of MALL in English courses in secondary education?", the opinions of the teachers were analyzed. Table 7 shows the categories and frequencies obtained from these opinions.

Table 7

Teachers' views on teacher competencies

Category	**Frequency**
Teachers aren’t sufficient	5

When Table 7 is examined, only one category was reached from the opinions of the teachers regarding teacher competencies in MALL implementation. This category is teachers aren’t sufficient (f=5). Teachers who took part in the research all concurred that teachers are not sufficient for MALL.

Some of the teachers' opinions about the competencies of teachers in the implementation of MALL in English courses in secondary education:

T1 *"Teachers need to be informed about mobile applications."*

T2 *"Teachers should be informed about current issues and innovations."*

T3 *"I do not think that teachers are competent in mobile-assisted language teaching. Some studies can be done to ensure that teachers are competent in this regard. For example, in-service training can be given and its implementation can be followed."*

T4 *"I do not think that teachers are sufficient."*

T5 *"I do not think that teachers are competent about mobile applications in any way. There may even be teachers who are not aware of them."*

Findings Related to the Fourth Sub-Problem

For the sub-problem of the study, the opinions of the teachers were analyzed for the sub-problem of "What are the precautions that need to be taken for MALL applied in English courses in secondary education?". Table 8 shows the categories and frequencies obtained from these opinions.

Table 8

Teachers' Views on Precautions

Category	Frequency
Unlimited and uninterrupted internet	4
Using mobile devices only for teaching purposes	4
Everyone has a mobile device	2

When Table 8 is examined, it is seen that three categories were reached according to the opinions of the teachers about the precautions to be taken in MALL. These categories are unlimited and uninterrupted internet (f=4), using mobile devices only for teaching purposes (f=4) and everyone has a mobile device (f=2). Teachers considered uninterrupted and unlimited internet as a necessary measure to be taken for the lesson to be effective. The use of mobile devices only for teaching purposes was another factor they drew attention to. Two teachers also stated that everyone should have a mobile device.

Some of the teachers' opinions about the measures to be taken for MALL applied in English course in secondary education:

T1 *"It should only be for educational purposes."*

T2 *"Measures can be taken to prevent students from using the mobile for different purposes during the lesson. In addition, student's access to the internet while using the mobile should be unlimited, secure, and uninterrupted."*

T3 *"The Internet should be unlimited, of course, considering that we will use it in every lesson, the Internet is necessary for every lesson."*

T4 *"The Internet is necessary, and every student should have a phone. Without these, the lesson will be interrupted. One student says my internet is out and the other says I don't have a phone. "*

T5 *"Having a language classroom for students and teachers and having technological devices with the necessary equipment can contribute to the process. Thus, there is no internet problem. Teachers and students can also be given individual mobiles for language teaching."*

Findings Related to the Fifth Sub-Problem

Teachers' opinions were analyzed for the sub-problem of the study "What are the expected features of mobile applications to be used for MALL applied in English course in secondary education?". Table 9 shows the categories and frequencies obtained from their opinions.

Table 9

Features that Teachers Expect from Mobile Applications

Category	Frequency
Functional/user friendly	5
Comprehensive	4
Student relevance	3
Economical	2
Ad-free	2

When Table 9 is examined, five categories were determined from the data collected for the expected features of mobile applications. These categories are functional/user-friendly (f=5), comprehensive (f=4), student relevance (f=3), economic (f=2), and ad-free (f=2). Teachers expect mobile applications to be functional and easy to use, that is, user-friendly. In addition, teachers also stated that the applications should be comprehensive enough to contain information about the subject and even allow students to make self-evaluations. Mobile applications are also expected to be suitable for students' interests, experiences, and learning styles and to be meaningful for students. Two teachers expressed the view that applications should be economical and ad-free.

Some teachers' opinions on the features expected from mobile applications:

T1 *"There should be accessibility to all kinds of information in the application so that it is not necessary to switch from one application to another. Following too many applications and switching from one to another can cause discipline problems in the classroom. It should address all skills reading, listening, speaking, and writing."*

T2 *"It should be practical. I think the student should be able to grasp how to use it easily so that we don't spend a lot of time explaining the application. Another situation that I am very annoyed with mobile applications is the interruption of advertisements. These ads can sometimes distract even me, for these reasons, it would be preferable to be ad-free."*

T3 *"Mobile applications should be suitable for the student's level, interest, and life. It should be functional and vital so that it can be transferred to daily life... There seems to be no single application that addresses all four skills."*

T4 *"It should provide continuity so that the student should not be disconnected from the subject. It should be economical for both the teacher and the student in some areas and the applications should be free and ad-free.*

Because some applications are free of charge up to a certain level and require purchases to be made within the application to access more information. But most importantly, it should be meaningful for the student."

T5 *"Mobile applications should have features such as being always at hand, offering the opportunity to learn from anywhere and at any time, being economical, being able to create a learning style suitable for oneself, and providing the student with the opportunity to self-evaluate and peer evaluate."*

Discussion, Conclusion & Suggestions

Discussion and Conclusions

It was tried to determine what the needs of the program, teachers, and students are in the implementation of MALL in English courses in secondary education. The first research question of the study is about student needs. For this, a five-dimensional Likert-type scale was applied to the students. As a result, students found mobile applications useful, but they thought that mobile applications contributed less to their careers. Students mostly think that mobile applications fit their learning preferences. Keegan (1999) was also of the opinion that mobile learning will be the learning system of the future. While some students can access mobile applications whenever they want, some students think that they do not have enough opportunities to try mobile technologies in the educational process. In the interviews with teachers, teachers emphasized that each student should have their device. This shows that although mobile devices are very common, not every student has their own mobile device or smart mobile device. Students find it easy to use mobile applications. While students think that they can tell others about the benefits of mobile applications, they tend not to share applications for educational use.

Teachers' opinions were consulted to determine the needs of the program in the implementation of MALL in English courses in secondary education. For the objectives component of the curriculum, teachers think that MALL contributes to students' permanent learning, supports learning outcomes, and addresses four skills. The use of technology, especially mobile phones, in classroom activities can help to learn goals such as helping all stages of learning where learning is difficult, improving students' achievement, and reaching students who would not otherwise have the chance to participate in education (Nuraeni, et al., 2020). Mobile technologies increase the efficiency of learning activities with ease and comfort of access to information (Shih, et al., 2015). According to Saienko & Lavrysh (2020), providing rich content, responding to students' interests and needs, and increasing their motivation can be considered positive aspects of mobile learning. Given that most language learners today have their own smartphones or tablet devices, the implementation of mobile-assisted language learning helps teachers create more motivating and engaging materials (Valizadeh, 2022). Online authentic materials also provide access to language expressions such as collocations, sayings, idioms, allusions, innuendos, humor, and sarcasm, which are frequently used in the target language in daily life but are limited in lesson hours when teaching the target language (Blake, 2016).

In the dimension of educational situations, it was emphasized that mobile applications can be used in games and increase student motivation. Students think that games should be included in the course in terms of creating a positive atmosphere and relaxing and serving learning goals (Todea & Demarcsek, 2017). They also reported that mobile applications appeal to different learning styles, are suitable for student developmental characteristics if the right applications are selected, provide effective participation, and allow students to learn at their own pace. In the evaluation dimension, they concluded that mobile applications provide instant feedback, there is no time and space limit, and evaluations are practical.

Mobile learning is effective if it enables students to actively participate in the lesson and if a teaching environment suitable for student characteristics is prepared (Aslan & Göksu, 2016). Preparing tasks, exercises, or activities for students in MALL is a process that requires special effort and care (Taj et al., 2016). For this, the teacher himself/herself needs to know both mobile applications and Web 2 tools. They also need to make preliminary preparations about which applications they will use for which language skills (speaking, listening, writing, and speaking), how often, for which objectives, when (in and out of class), and how they will use them. Moreover, teachers do not find teacher competencies sufficient for MALL. They suggested training for teachers on this subject. They also want to be informed about current issues and innovations. In addition, teachers have a responsibility to encourage students to become digitally literate by teaching them to learn through technology (Gilster, 1997). Since mobile devices are designed without the direct purpose of teaching and learning, students may not know how to do the learning expected of them on the phone. In fact, the teacher has to adjust the learning to the devices that the students have (Miangah & Nezarat, 2012). Mobile learning is a specialty learning that is evolving quite rapidly and there are an ever-increasing number of conferences, seminars, and workshops to keep up with developments in the field (Kukulska-Hulme, 2020). Considering all these, teachers should not be left alone in encouraging students to use mobile applications and should be ensured to participate in such training.

They stated that uninterrupted and unlimited internet should be provided for the measures to be taken while implementing MALL. One of the negativities experienced in mobile learning is the absence or interruption of the internet (Ekren & Kesim, 2016). Teachers think that mobile devices should only be used for teaching purposes in class. It may be possible for schools to provide students with the internet to use it only for class purposes. They also stated that every student should have a mobile device. In cases where not everyone has a smartphone, students can be asked to bring any device that connects to the internet with the "BYOD model", which stands for "Bring Your Own Device" in English (Arvanitis & Krystalli, 2021).

Teachers expect mobile applications to be user-friendly and functional. Teachers pointed out that apps should be comprehensive. Apps that address all four skills and provide access to all the information students need about the subject will reduce the number of apps used and prevent wasting time switching from one app to another. Many mobile apps are designed to teach grammar and vocabulary and are in the form of tests, which means that other skills are neglected (Chen Hsieh, et al., 2017). In addition, it was reported in teacher opinions that there should be features such as self-assessment and peer assessment. Peer assessment provides students with a perspective on how their ideas are perceived by others and how they should make corrections (Azar & Nasiri, 2014). Therefore, all language learning aspects should be prioritized by app designers and developers, and while creating apps, they should be both creative and comprehensive (Alnufaie, 2022). Another feature expected from mobile apps is that they should be learner-friendly. Mobile applications should be suitable for student interest, age, and developmental characteristics.

In addition, mobile applications should be affordable and should not contain advertisements to avoid distraction. Teachers also drew attention to the fact that the first few levels of some apps are free of charge and the following levels require in-app purchases.

As a result, students think they do not have problems while using mobile applications. Even though they think that mobile learning is suitable for their learning styles, they do not have enough awareness to share educational applications with each other. Teachers can provide more guidance to students about mobile learning and mobile applications. Teachers should both make preliminary preparations and know mobile applications while organizing in-class learning experiences or directing extracurricular use of mobile-supported language learning. In this regard, teachers can be directed to activities such as conferences and workshops. To sum up, an application that includes all language skills and is comprehensively prepared with functions such as self- and peer-assessment can increase motivation in the course and prevent problems such as distraction that some mobile learning can cause. These issues can be taken into consideration in the applications to be developed for MALL. For all these to happen, the internet should be provided by the schools.

Recommendations

In this study, student, teacher, and program needs of MALL were examined. Analyzing the needs of school administrators and families to determine the needs in MALL could be the subject of another study. In addition, the fact that mobile devices are personal devices may require the inclusion of counseling services at schools. In addition to teachers and students, the research can be expanded with subject area experts and program evaluation experts. The needs of mobile applications can also be analyzed in different courses.

Ethic

I declare that the research was conducted in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

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Adaption of the Loneliness in Intimate Relationships Scale (LIRS) to Turkish

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Abstract

The aim of this study is to investigate how loneliness is experienced in intimate relationships adapt, validate and assess the reliability of the Loneliness in Intimate Relationships Scale developed by Rokach, Sha'ked and Ben-Artzi (2022) for Turkish culture. The study group consists of 363 participants (229 females, 124 males) selected through an appropriate sampling method, ranging in age from 18 to 54.The translation-back-translation method was used during the process of translating the scale into Turkish. This scale consists of three factors with 14 items: separation, hurt, and guilt. The factor structure of the original scale was examined through confirmatory factor analysis, and it was found that the model exhibited acceptable fit. According to the analysis results, item factor loadings ranged from .46 to .64, showing variability. The reliability analysis resulted in a Cronbach's Alpha coefficient of .85 to establish the validity of the scale for the sample, the Beck Depression Inventory and the Experiences in Close Relationships Revised-II Scale were administered to a total of 123 individuals. Based on the analysis, it can be said that the original scale has acceptable criterion-related validity based on its positive relationship with anxious attachment and depression. The results of the study indicate that the Turkish version of the Loneliness in Intimate Relationships Scale has validity and reliability properties, making it suitable for use in scientific studies conducted in Türkiye.

Key Words

Loneliness • Intimate relationships • Validity • Reliability

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Intruduction

A human being is a social creature who forms and sustains intimate relationships with their surroundings so a person becomes human with another (Gençtan, 2014). When we consider an individual's life, it becomes apparent that they engage in various relationships during different stages of life. These relationships can include family, friendships, as well as partnerships driven by expectations and needs. The form of relationship known as intimate or romantic relationships is defined as interactions that require mutual consent and are often characterized by expressions of love and existing or expected sexual behaviors (Collins, et al., 2009). Intimate relationships are a fundamental need for every individual. While this need initially arises as a way to fulfill physiological requirements for survival, over time, it extends beyond physiological needs to become a necessity for meeting both psychological and social needs (Hacıoğlu, 2019).

From an evolutionary perspective, it is known that our ability to survive is also dependent on forming successful intimate relationships with other individuals. However, at times, maintaining these relationships can become a challenging process, leading to inevitable loneliness (Rokach & Goldberg, 2021). Loneliness is a universal phenomenon faced by individuals of all age groups, from children to the elderly (Akgül, 2020). Individuals can experience feelings of loneliness even when they are in intimate relationships, as if nobody is there. While attempting to form intimate relationships with others, sometimes these efforts can lead to negative outcomes, resulting in people exhibiting a tendency toward loneliness (Baumeister & Leary, 1995 as cited in Kavaklı, 2019). Loneliness is a subjective experience and, therefore, has been defined in various ways by scientists. Looking at these definitions, Jones and Hebb (2003) described loneliness as originating from an individual's internal processes, as an unwanted experience, a deficiency or lack in social relationships, and as a result of one's expectations. Weiss (1973) argued that the concept of loneliness should not be considered as a single dimension. According to Weiss, loneliness should be examined in two dimensions: social and emotional. Social loneliness refers to a sense of deficiency arising from problems in social relationships, while emotional loneliness is a mood stemming from the absence of a close bond (Weiss, 1973; Demirbaş & Haşit, 2016). "It has been stated that loneliness is fundamentally a result of an individual's own choice, even though it may involve solitude and leading a life isolated from social groups" (Gençtan, 2014 pp.106-107). On the other hand, Ünlü (2015) suggested that loneliness is not one-dimensional but rather a synthesis of the desire to form intimate relationships with others in cognitive, emotional, and behavioral contexts. Taking these definitions into account, when making a common description that characterizes loneliness, it can be said that loneliness is an emotion felt when an individual cannot fulfill their need for closeness in social relationships (Kılınç, 2005; Koçak, 2008; Kozaklı, 2006).

In Rokach's (2007) study on the loneliness experienced by women who have been subjected to abuse, it was noted that loneliness can be detrimental to individuals' lives. It was suggested that loneliness can deplete an individual's life energy, leading them to various negative experiences. Particularly, loneliness can expose individuals to a chaotic situation created by feelings of jealousy and possessiveness, causing harm to partners, especially in the context of love and closenes. In a qualitative research study by Erbaş (2019) that examined the relationship between internet usage and loneliness, it was reported that participants who reported+ feelings of loneliness in romantic relationships attributed their experiences of loneliness to a lack of communication, similar to their relationships with friends or family. Additionally, individualswhofelt lonely in romantic relationships mentioned that this feeling stemmed from factors such as separation, indifference, cultural differences, and gender disparities. In Güren's (2017)study, it was concluded that factors such as family support, the opportunity for social sharing, and spousal support have an impact on the perception of loneliness among married individuals. Loneliness in marriage is a condition that naturally emerges over time, and one of the biggest reasons for this feeling of loneliness is the lack of an understanding of personal space. Additionally, factors such as being disregarded, taking a back seat, and indifference also play a role in how spouses feel lonely (Sezen, 2020). When examining the research in the field, more emphasis has been placed on the relationship between loneliness and attachment, and meaningful results have been achieved. The 'Experiences in Intimate Relationships II Scale,' adapted by Selçuk, Günaydın, Sümer, and Uysal (2005), consists of two subscales: anxious and avoidant attachment, with a total of 36 items. This scale has revealed that loneliness in relationships is associated with an individual's attachment style.

When reviewing the recent scale adaptation and development studies conducted in Türkiye: A measurement tool titled "Social and Emotional Loneliness Scale for Adults (Selsa-S)," developed by Akgül (2020), underwent an adaptation study for Turkish culture. Çelikbaş and Tatar (2021) developed the "Loneliness Scale," "Loneliness Preference Scale," and "Social Isolation Scale," and conducted development and initial validity studies. Kaşıkçı and Zaferoğlu (2021) introduced the "Positive Loneliness Scale." Ekşi (2022) adapted the "RULS-6 Loneliness Scale (6-Item Short Form)." Sarıçam (2023) conducted a study on "Loneliness in Adults After COVID-19," specifically focusing on the psychometric properties of the UCLA Loneliness Scale Short Form.

This study aims to adapt, validate, and assess the reliability of the Loneliness in Intimate Relationships Scale developed by Ami Rokach, Ami Sha'ked, and Elisheva Ben-Artzi to Turkish culture. The study intends to provide a tool for evaluating individuals' perception of loneliness in intimate relationships, aiming to understand their experiences of loneliness in social interactions.

Method

Research Participants

The study group was formed using the non-probability sampling method known as convenient sampling. In this method, participants are selected based on their motivation and relevance to the study (Creswell, 2017). In this context, individuals with at least one relationship experience were chosen when selecting the sample group for the research. The study was conducted with 363 participants aged between 18 and 54 who voluntarily participated in the research, with an average age of 27. Examining the gender distribution of participants, it consisted of 229 females (63.1%) and 134 males (36.9%), showing a distribution close to the original scale. Data was collected from.

Process

The process of adapting the Loneliness in Intimate Relationships Scale to Turkish began by obtaining permission from the responsible author, and communication was established through email. The translation process utilized the translation-back translation method. The scale was translated into Turkish by individuals with expertise in both

English language grammar and the relevant field. For each item, translations were compared based on the responses provided by all experts, and the most appropriate translation was selected by the researchers to create a Turkish form. The translation process involved a total of 5 experts, including 1 foreign language English teacher, 2 Turkish English teachers, 1 translator-writer, and 1 psychological counselor. Translations were consolidated into a single form through a panel study conducted by 3 psychological counselors. The Turkish form created in this process was then back-translated into English independently by two experts without influence from the previous translation process. Comparisons were made, and a Turkish form was reconstructed based on the translations. The final form of the scale was created by considering the recommendations of experts in Measurement and Evaluation, Turkish Language and Literature, Guidance and Psychological Counseling, taking into account language and grammar structure. During the data collection process, a pilot application was first conducted with 10 participants to test the comprehensibility of the scale. Subsequently, the main scale was administered to a sample of 353 individuals, and data were collected. For criterion validity, data were collected from 64 individuals for the Beck Depression Inventory and 59 individuals for the Relationship Experiences in Intimate Relationships Scale. The collected data were analyzed using the SPSS 26 program in a computerized environment analysis.

Data Collection Tools

Loneliness In Intimate Relationships Scale (LIRS): In this study, a scale developed by Rokach, Sha'ked, and Ben-Artzi (2022) called the Loneliness in Intimate Relationships Scale (LIRS) was adapted into Turkish and named the "Yakın İlişkilerde Yalnızlık Ölçeği." The development of the scale involved a four-stage process. In the first stage, structured interviews were conducted with 108 participants (70 women) aged 19-59 in Israel to obtain qualitative data, leading to the second stage. In this stage, quantitative data were collected from 215 participants (181 women) aged 20-64. Thirty percent of these participants reported being in a regular relationship. A 66-item scale was created with the obtained data and reduced to 14 items using exploratory factor analysis. This final form was then administered to the participants in Study 2. The scale, applied in Study 3 to the English-speaking Israeli population for structural evaluation, consisted of a total of 306 voluntary participants (158 women, 148 men). Finally, in Study 4, data obtained from Study 3 were used to test the criterion validity, and the psychometric properties of the scale were analyzed. The scale is scored on a scale of 1-6 and consists of 14 items and 3 subscales. The minimum score that can be obtained from the scale is 14, while the maximum score is 84. The subscales include separation, hurt, and guilt. To calculate for each subscale, the average of the ratings of the relevant items is taken. Higher scores reflect more feelings of separation, hurt, and guilt. In the original study, reliability values (α = 0.86, 0.87, 0.64) were found for the subscales of separation, hurt, and guilt, respectively. Overall, the English version of the scale is considered a high-validity and reliability measurement tool.

Experiences In Close Relationships-Revised II: Created by Fraley and colleagues (2000), was conducted by Selçuk, Günaydın, Sümer, and Uysal (2005). The scale comprises a total of 36 items, with 18 items measuring avoidant attachment and the remaining 18 measuring anxious attachment. For the avoidant attachment dimension, the average of even-numbered items is calculated, while for the anxious attachment dimension, the average of oddnumbered items is used. The reverse-coded items in the scale are 4, 8, 16, 17, 18, 20, 21, 22, 24, 26, 30, 32, 34, and 36.

Thescaleuses a 7-point Likert scale, with ratings ranging from 1 "strongly disagree" to 4 "neither agree nor disagree" and 7 "strongly agree." To ensure validity, principal component analysis was conducted on the 36 items, resulting in 7 factors with eigenvalues above 1. Subsequent statistical procedures reduced the factor count from 7 to 2. In the validity studies, it was found that the anxiety dimension showed a negative relationship with self-esteem and relationship satisfaction, and a positive and significant relationship with fear of rejection, separation anxiety, and people-pleasing. In the avoidance dimension, a negative relationship was observed with self-esteem and relationship satisfaction, while a positive and significant relationship was found with fear of rejection and enjoyment of loneliness. Additionally, it was determined that the avoidance dimension did not show a significant relationship with separation anxiety and people-pleasing. The internal consistency values for the avoidance and anxiety factors were calculated as 0.90 and 0.86, respectively. In a test-retest study conducted with 86 participants, the reliability value for the anxiety dimension was found to be 0.82, and for the avoidance dimension, it was 0.81. The finding indicating that individuals with high avoidance scores enjoy loneliness more is indicative of their tendency to be distant from attachment figures, self-sufficiency, and aligning with the fantasies of attachment theory, emphasizing their parallel tendencies.

*The Beck Depression Inventory:*Developed by Beck and colleagues (1988), aims to assess clinical observations and data to measure the severity of anxiety in psychiatric groups. The Turkish adaptation was carried out by Hisli (1989). The study involved 289 participants, second-year students at Ege University Faculty of Arts, with an age range of 17-23. The inventory consists of 21 items rated on a 4-point Likert scale. Factor analysis using the principal components method revealed 6 factors. Each item is scored from 0 to 3, and the total score is easily calculated. The maximum score that can be obtained from the inventory is 63. When calculating total scores, 0-9 points indicate minimal depression, 10-16 indicate mild depression, 17-29 indicate moderate depression, and finally, 30-63 indicate severe depression. The internal consistency coefficient of the inventory was found to be high. In the original study, the Beck Depression Inventory was used as one of the criterion validity measures to establish the relationship between loneliness and depression, confirming a relationship between loneliness and depression, consistent with the findings of the original study.

Data Analysis

Within the scope of the study, the Kaiser-Meyer-Olkin (KMO) Sample Adequacy test was applied to determine the suitability of the data obtained from 363 individuals for factor analysis, and the KMO value was calculated as .853 ($p < .0001$), while the Bartlett test yielded a result of 1753.725. To determine the normality of the distribution, the Kolmogorov-Smirnov Normality Test ($Z = 0.853$, $p = .001$) was conducted, considering that the sample size was above 50. The result, being above 0.70, indicates satisfactory level. The results of the Kaiser-Meyer-Olkin and Bartlett tests demonstrate that the sample size is adequate and suitable for factor analysis.

Construct Validity

To assess construct validity, confirmatory factor analysis (CFA) was conducted. The Loneliness in Intimate Relationships Scale consists of three factors: separation, hurt, and guilt. The goodness-of-fit indices, including the chi-square value, Normed Fit Index (NFI), Incremental Fit Index (IFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR), were considered in order to confirm the original structure. The AMOS program was employed for confirmatory factor analysis. The factor structure presented in Figure 1 indicates that factor loadings of the scale ranged between .44 and .83.

Finding

The values indicating the fit indices are presented in Table 1. According to the analysis results, it was determined that the fit index values of the three-dimensional model of the scale (model $\chi2/df = 3.03$, RMSEA = 0.074, CFI = 0.912, TLI = 0.889, SRMR = 0.04) were sufficient and acceptable. When examining the factor loadings of each item in Figure 1, it can be stated that each item ranges from M8: 0.44 to M1: 0.83. Fit indices are used to evaluate how well the model fits the data. RMSEA is one of the fit indices, and low RMSEA values indicate a good fit of the model to the data. An RMSEA value of 0.084 supports this.

When looking at the critical ratios between factor loadings in the scale consisting of three factors, separation, hurt, and guilt, it is found that the relationship between factors in the range of 0.41 to 0.64 is significant.

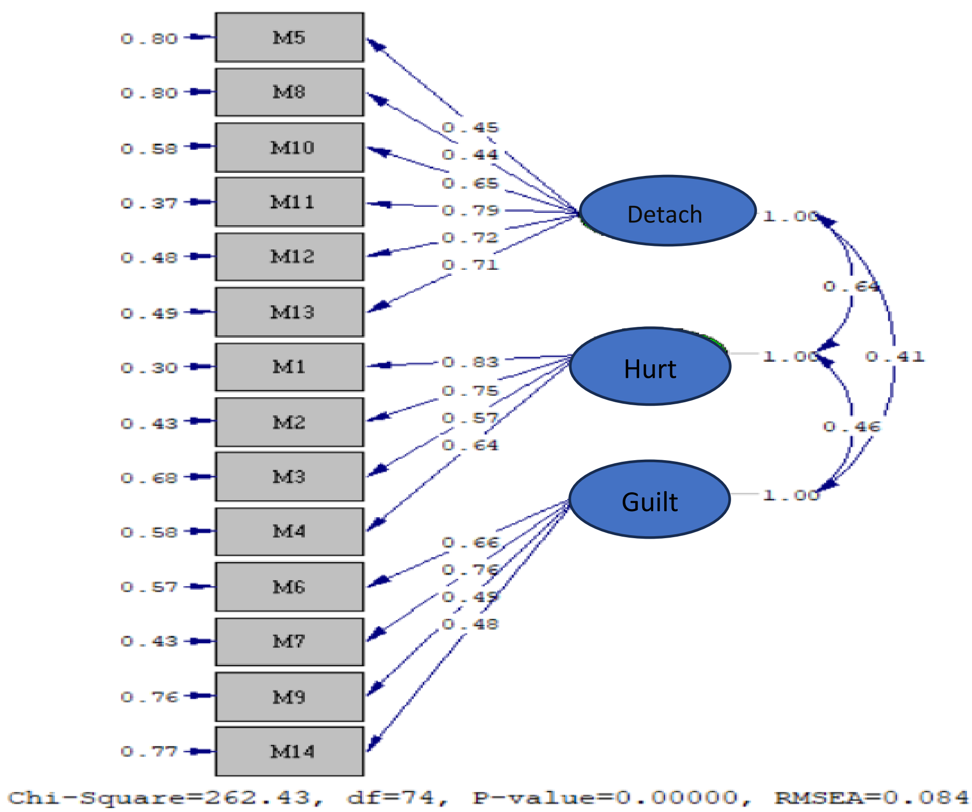

Figure 1. Path diagram and factor loadings for the Loneliness in Intimate Relationships Scale

Table 1

Factor Items and Item Factor Loading Values

	Factor		
Item	**Detachment**	**Hurt**	**Guilt**
M1		0.83	
M2		0.75	
M3		0.57	
M4		0.64	
M5	0.45		
M6			0.66
M7			0.76
M8	0.79		
M9			0.49
M10	0.65		
M11	0.79		
M12	0.72		
M13	0.71		
M14			0.48

"There are no reverse-scored items. It is rated on a scale of 1 to 6. 1- Totally Not Describes My Situation. 6-Totally Describes My Situation."

The loneliness levels between the lower and upper groups of the Loneliness in Intimate Relationships Scale were examined. Loneliness levels of 98 individuals in the lower group were compared with those of 98 individuals in the upper group using t-tests. As a result, it was observed that the distribution of the upper 27% group ($\bar{X}$ = 41.58, SS = 2.568) had significantly higher maladjustment scores than the lower 27% group ($\bar{X}$ = 28.41, SS = 6.311) (t_{112} = 23.44, p = .000, d = 0.91). As seen in Table 2, these findings are supportive evidence for the validity of the scale. Additionally, in the analysis based on sub-dimensions, participants in the upper group had higher scores for separation, hurt, and guilt compared to those in the lower group.

Table 2

T-test Results for the 27% Lower and Upper Groups

Group	N	X̄	SS	Std. Error	t
Lower Group	98	28.11	6.3	.63	19.56
Upper Group	98	41.58	2.56	.25	

When examining the average differences between the lower and upper groups in Table 2, significant differences in favor of the upper group are observed at the item level of the scale. This finding indicates that individuals in the upper group have lower levels of loneliness according to the items of the loneliness scale. In other words, individuals in the upper group experience less loneliness, have stronger social relationships, and possess a better social support network. This finding suggests that the scale is effective in capturing differences in loneliness levels between the lower and upper groups.

There were positive and significant relationships between the total score of the scale and separation ($r = .88$, $p<.001$), hurt ($r = .80$, $p < .001$), and guilt ($r = .65$, $p < .001$). Additionally, positive and significant relationships were observed between separation and hurt ($r = .57$, $p < .001$) and between guilt and hurt ($r = .34$, $p < .001$). Furthermore, a positive and significant relationship was detected between hurt and guilt ($r = .38$, $p < .001$). Results of Reliability Analysis*;* The Cronbach's Alpha coefficient and McDonald Omega values were calculated for the reliability analysis. For all scale values, both Cronbach's Alpha coefficient and McDonald Omega were found to be .85. When considered separately for each subscale, the Cronbach's Alpha coefficient was found to be 0.81 for the separation subscale, 0.78 for the hurt subscale, and 0.66 for the guilt subscale. These results indicate both the overall scale and its subscales exhibit high levels of reliability.

Table 3

Inter-Scale Correlation Coefficients

Sub-dimensions	Anxious Attachment	Beck Depression
Hurt	.51**	.26*
Detachment	.54**	.37**
Guilt	.39**	.24*

The relationships between the Loneliness in Intimate Relationships Scale, Experiences in Close Relationships-Revised II, and the Beck Depression Inventory were examined to assess criterion-related validity. The Experiences in Close Relationships-Revised II, one of the scales used for criterion-related validity, consists of two subscales: avoidance and anxiety attachment styles. In this study, the relationship with the anxious attachment sub-dimension was examined, revealing a moderate correlation. Upon reviewing Table 3, a significant relationship was found between the loneliness scale's sub-dimension of hurt ($r=51$, $p<.001$) and anxious attachment. Similarly, significant relationships were observed between the total scores of the Beck Depression Inventory (r=26, p<.001) and the loneliness scale's sub-dimension of avoidance (r=54, p<.001) with anxious attachment. Additionally, a significant relationship was found between the loneliness scale's sub-dimension of guilt (r=39, p<.001) and anxious attachment, as well as the total scores of the Beck Depression Inventory (r=24, p<.001).

Discussion

The primary objective of this research is to evaluate the applicability and consistency of the Loneliness in Intimate Relationships Scale, as developed by Rokach, Sha'ked, and Ben-Artzi (2022), within the context of Turkish culture. To determine the scale's structural validity, confirmatory factor analysis (CFA) was utilized. The outcomes of the CFA revealed that the original three-dimensional structure of the scale remained intact in its Turkish adaptation. The fit indices indicated satisfactory values, substantiating the scale's validity within the study's parameters.

Additionally, the criterion-related validity was established by employing the Beck Depression Inventory and the Experiences in Close Relationships Revised-II Scale. Correlation analysis demonstrated a positive and noteworthy association between the Beck Depression Inventory and the Loneliness in Intimate Relationships Scale. Similarly, a substantial and positive correlation was observed between the Loneliness in Intimate Relationships Scale and the Experiences in Close Relationships Revised-II Scale's anxious attachment subscale. Attachment theory elucidates the link between feelings of loneliness in intimate relationships and different attachment styles, indicating that early attachment experiences can shape adult relationships. Individuals with secure attachment experiences generally foster healthy, supportive intimate relationships, thereby experiencing reduced loneliness. Conversely, those with insecure attachment experiences might encounter heightened feelings of loneliness, particularly individuals with anxious or avoidant attachment styles often experience loneliness within intimate relationships. Furthermore, existing literature supports the association between loneliness and depression, a connection that was also identified in this study. Statistical analyses disclosed substantial distinctions between lower and upper groups, reinforcing the reliability of the Loneliness in Intimate Relationships Scale. The examination of Table 3 distinctly illustrates the correlation between loneliness and depression. Comparisons of scores between lower and upper groups, assessed via independent t-tests, revealed statistically significant differences across all scale items, further validating the scale's reliability in intimate relationship assessments.

This study illustrates the applicability and reliability of the Loneliness in Intimate Relationships Scale within the context of Turkish culture. Confirmatory Factor Analysis (CFA) has validated the scale's structural integrity, and its criterion-related validity has been established through meaningful associations with the Beck Depression Inventory and the Experiences in Intimate Relationships II Scale. These outcomes underscore the scale's significance in both psychological research and clinical investigations. The sensation of loneliness significantly impacts an individual's overall quality of life and psychological well-being. Hence, assessment tools such as the Loneliness in Intimate Relationships Scale play a pivotal role in evaluating and addressing loneliness within intimate relationships. The findings contribute substantially to comprehending the factors linked to loneliness within Turkish culture, fostering the formulation of relevant interventions.

In summary, this study affirms the suitability and dependability of the Loneliness in Intimate Relationships Scale within Turkish culture while also highlighting a noteworthy correlation between loneliness and depression. Consequently, this scale serves as a valuable instrument for assessing loneliness within intimate relationships and conducting associated research.

Conclusion & Suggestions

The outcomes of this investigation signify the Turkish adaptation of the Intimate Relationships Loneliness Scale as a valid and dependable assessment tool, as uncovered through the analyses conducted. The assessment encompassed the scale's validity, its psychometric attributes, and its interconnectedness with relevant variables. The study selected participants engaged in romantic relationships or with past relationship experiences to evaluate the scale's efficacy within this specific cohort. The outcomes from the confirmatory factor analysis verified the congruence of the Turkish rendition of the Intimate Relationships Loneliness Scale with its original structure. Additionally, it was established that the fit indices maintain satisfactory levels, asserting their validity within the study cohort. These discoveries underscore the reliability and validity of employing this scale within Turkish cultural contexts. Furthermore, they underscore the importance of conducting more extensive research utilizing a phenomenological approach to delve into the intricacies of the loneliness experience and unravel coping mechanisms. Such investigations would offer valuable insights into various facets of loneliness and individuals' coping strategies.

This scale offers researchers and clinical practitioners a valuable tool to comprehend and intervene in the realm of loneliness within intimate relationships. Utilizing this scale for gauging the extent and nature of individual loneliness levels is pivotal. It stands as a pivotal instrument in pinpointing the factors that impact the experience of loneliness within intimate relationships and elucidating how individuals cope with this feeling. This study represents a comprehensive exploration into the landscape of loneliness within intimate relationships, effectively bridging a considerable gap in the mental health domain. The outcomes underscore a correlation between loneliness in intimate relationships, depression, and intertwining attachment styles. These results stress the significance of understanding and addressing loneliness in intimate relationships during therapy and counseling sessions. Future studies should consider delving deeper into variables such as the degree and nuances of loneliness.

Moreover, exploring the relationship between loneliness, depression, and attachment using diverse measurement tools is essential. This methodological approach will contribute to a more profound comprehension of loneliness within intimate relationships and foster the formulation of effective intervention strategies. It's recommended to expand the utilization scope of the Intimate Relationships Loneliness Scale in future research. For example, validating and gauging its reliability across varied age brackets, cultural demographics, or different relationship types holds significance. Additionally, conducting qualitative research to glean richer insights into individuals experiences in coping with loneliness would be invaluable.

Ethic

All procedures in this study involving human participants were carried out in accordance with the ethical standards of Marmara University Research Ethics Committee with file number 2023/07 and the 1975 Declaration of Helsinki.

Author Contributions

This paper was derived from the first author's master thesis. The second author is the thesis advisor.

Conflict of Interest

The authors declare that this research was conducted in the absence of any commercial or financial relationships that could be interpreted as a potential conflict of interest.

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Analysis of the English Language Needs of Grade 12 Learners in Lebanon

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Abstract

This research investigates the language needs of Grade 12 English Second Language Learners (ESL) in Lebanese public schools, aiming to identify gaps between the curriculum and student requirements. Employing a qualitative case study approach, using document analysis, interviews, and questionnaires, the study reveals critical shortcomings within the Lebanese English curriculum. Findings indicate widespread dissatisfaction among both teachers and students with the curriculum, highlighting significant gaps and inconsistencies between ministry objectives and practical implementation. The curriculum fails to resonate with students' real-life experiences, resulting in disinterest and boredom. Outdated teaching methodologies, a disparity between public and private schools, and an emphasis on exam-oriented learning limit students' exposure to effective learning techniques. Recommendations include increasing English lesson frequency, assessing students' reading levels, incorporating diverse reading strategies, providing more reading materials, and integrating technology into teaching. Suggestions also advocate for authentic materials exposure to enhance language skills. Both teachers and students emphasize the urgent need for an updated curriculum emphasizing real-world application, critical thinking, and interactive learning. Addressing these concerns is crucial to delivering a more effective English language education aligning with students' contemporary needs and preparing them for future academic and practical endeavors.

Key Words

Curriculum • ESL • Needs assessment • Needs analysis • Lebanon

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Introduction

After the philosophy of education in a country is decided, educators need to start the process of curriculum development, nevertheless, the bedrock of this process is getting to know not only the society's and country's needs, but primarily the students' needs should be determined since all life conditions around them are changing. In Lebanon, teachers cannot continue to teach students using a curriculum that was designed 23 years ago and has not changed yet. Hence, there is a need to start from the very basis of the curriculum development process and analyze the students' specific needs on several levels and in different subjects. By determining the English language needs of grade 12 learners in Lebanon, this first-to-be-done research can serve as a reference for further curriculum development studies and it can be a roadmap for planning not only a new English language curriculum but for the entire curriculum to guarantee a curriculum that suits the student's abilities, augment their skills, cater to the society's needs and secure Lebanese students a better future.

According to Shabaan (2013), curriculum committees aim to create an 'ideal curriculum,' placing significant emphasis on contextualizing it within the classroom setting, which stands as the linchpin of the entire curriculum development process. Shabaan underscores that the implementation of the curriculum uncovers system discrepancies needing attention. As a result, curriculum developers inherently consider curriculum development and evaluation as integral processes within any educational framework. This highlights the crucial aspects of achieving instructional goals, implementing necessary corrections, and consistently evaluating the curriculum.

After this initial foundation for curriculum development is laid, as emphasized by Oral and Yazar (2017), conducting a needs analysis becomes essential for fine-tuning the curriculum design based on identified requirements. Demirel (2020) further emphasizes that needs assessment studies ascertain the alignment of curriculum objectives with actual societal, individual, and subject-specific needs. It is through this comprehensive understanding of these dimensions that effective decision-making is facilitated.

Kılıç et al. (2019) stress the transformative power of needs assessment in driving change and decision-making by identifying missing needs and envisioning a better future. Yet, they underline the distinction between needs assessment and needs analysis. Matsuky (2018) elaborates on needs assessment's role in identifying gaps between present and future states, aiding in their prioritization within an institutional framework. Conversely, 'root cause analysis' or 'needs analysis,' as described by Matsuky, delves deeper into analyzing identified gaps. This delineation between needs assessment and needs analysis signifies that needs assessment precedes the more detailed needs analysis. While needs assessment aims to identify gaps, needs analysis prioritizes understanding and addressing their root causes.

Related Studies

Shabaan and Ghaith (1997) authored a pivotal article discussing the creation of the 1997 EFL curriculum in Lebanon. As coordinators in the NCERD curriculum committee, they delineate their approach in designing the curriculum, opting for a thematic content-based model. They aimed for integrated instruction around meaningful themes to achieve communicative, social, and academic goals. Their objectives encompassed listening, reading, writing, speaking, critical thinking, study skills, and cultural awareness. Despite acknowledging management challenges, they proposed an interdisciplinary approach, using parallel scheduling and thematic units. The article also delves into the pedagogical implications of language skills and their perspective on testing formats in foreign language education.

Frayha (2009) portrays Lebanon's educational system as a victim of historical sectarianism, civil strife, and societal divisions. The system's failure to mitigate these divides and inequalities, partly due to political and religious opposition, has perpetuated parallel and diverse curricula in private and religiously affiliated schools. Efforts to centralize the system post-independence were hindered by the civil war, stalling public education development and causing upheaval in private institutions. Frayha emphasizes the persistent influence of sects on education and disparities between public and private schools and regions, advocating for educational reform as a means to foster tolerance and improve social cohesion in Lebanon.

In Nahas (2009), the adequacy, efficiency, and equity of higher education in Lebanon are evaluated both on a public and a private level. He highlights challenges specific to Lebanon in his research. To conclude, the paper discusses various approaches and strategies to remedy the challenges facing Lebanon's higher education system. An influential review of the curriculum in Lebanon was written by Shabaan (2013), a member of the curriculum committee. According to Shabaan, there is a discrepancy between guidelines, principles, methodology, organization, and textbooks that are discussed in the curriculum, and how they are put into practice in the classroom, along with numerous factors that impeded its implementation. Following (Shabaan 2013), the curriculum was designed in parallel with the ESL/EFL 1997 standards. He states that the English curriculum in Lebanon has clear goals, objectives, and performance indicators and an intact perspective on instruction, material selection, and evaluation guidelines. The processes of translating curricula, principles, and guidelines into classroom contexts reveal a curriculum's weaknesses, strengths, and pitfalls, according to Shabaan. As government efforts in that area remain inadequate, Shabaan offers a content analysis and an individual evaluation. He mentions the issues and problems that have arisen during the implementation process. He also used special reports, journal articles, and theses on the subject to produce his content analysis and evaluation.

In her study, Shuayb (2016), discusses the two educational reforms conducted in 1994 and 2010. She states that despite the improvement in the quality of education in public schools, dropout rates continued to soar, especially amongst the most disadvantaged groups. As education inequality increased, a new education reform strategy was launched in 2010. She discusses both reforms through social cohesion

In her paper, Esseili (2014), describes Lebanon’s situation regarding EFL/ESL education stating that foreign language teaching has been flourishing with English being the forerunner. She states that the 1997 curriculum mandates students to be proficient in two foreign languages at school since foreign language has become of great importance in Lebanon. Per Esseili, this issue leads to another area of concern; teachers’ qualifications or professional preparation to teach a foreign language or use a foreign language as a medium of instruction. Esseili’s study aimed to explore the working conditions and challenges that are faced by public and private school teachers in Lebanon when teaching a foreign language.

All in all, each study brings unique insights into Lebanon's educational landscape, addressing issues related to curriculum development, historical education, language teaching, equity, and challenges faced within the education system.

Rationale and Purpose of the Study

Emerging from the previous findings in the literature, conducting a comprehensive needs analysis for the Grade 12 English Language curriculum in Lebanon can serve as a vital tool to bridge the gap between educational objectives and their practical implementation. It can aid in addressing disparities, enhancing teaching methodologies, and preparing students holistically for their future endeavors in higher education and society at large. Also, it can identify gaps in the curriculum that might contribute to these disparities, helping create an inclusive and equitable learning environment, shed light on the specific hurdles teachers encounter while teaching English in Grade 12, and inform professional development initiatives and resource allocation to address these challenges. Further, a needs assessment for Grade 12 English Language could consider the alignment of the curriculum with the requirements of higher education, ensuring students are adequately prepared for further studies.

Since a coherent, sound, and effective curriculum should be based on the analysis of the learners' needs, this research aims to determine the language needs of English Second Language Learners (ESL) in grade 12 in Lebanese public schools and to identify the gaps between the current curriculum and the student's language needs. Hence, this research aims to answer the following questions:

What are the English language needs of Grade 12 ESL learners in Lebanon?

The sub-problems determined in line with the aims of the research are as follows:

1- What are the needs of the 12th-grade ESL students in Lebanon regarding the four skills (reading, listening, speaking, and writing) in English?

2- What are the differences between the 12th-grade curriculum and students' English language learning needs, goals, and objectives?

3- What are the differences between the curriculum in action and students' English language learning needs?

4- What are the differences between the 12th-grade curriculum and the students' English language learning needs and instruction?

5- What are the differences between 12th-grade English language assessment and the students' learning needs?

6- What are the teachers' opinions and suggestions about the 1997 curriculum?

7- What are the students' opinions and suggestions about the 1997 curriculum?

By determining the English language needs and performing the needs analysis for grade 12 students, curriculum designers can move downwards by classes or levels to reach the primary or even the kindergarten level. Further, determining the students' needs will have a positive effect on the future objectives and content for any curriculum development effort, therefore improving the teaching-learning process as a whole. Finally, this research can help reduce the shortcomings and offset the gaps in the current curriculum and pave the way for planning and designing a better enhanced, and developed curriculum.

Method

In this section, the research model, study group, data collection tools, data collection, and data analysis were discussed.

Research Design

Qualitative case study research was chosen because it allows for in-depth analysis and provides a contextual understanding of a particular phenomenon (Sönmez & Alacapınar, 2013). The case study research method is a qualitative research approach that aims to gain an in-depth understanding of a particular phenomenon, individual, group, or situation. Case study research can also provide a deeper understanding of the English language teaching needs of 12th-grade students in their studies and as they enter higher education.

Participants

English teachers and grade 12 students from four majors—Life Sciences (LS), General Sciences (GS), Humanities and Literature (HL), and Sociology and Economics (SE)—participated in this research. The total participants comprised 275 students and 12 teachers, encompassing 8 from private schools, 2 teaching across private and public institutions, and 2 solely from public schools. The study was carried out in private schools located in Saida and Kuturmaya Commentaries in Lebanon from 2022 to 2023. This time frame coincided with the closure of public schools in Lebanon, which lasted from January to May 2023. The closure was a result of a strike among public school teachers due to the country's worsening economic situation. On average, the participating teachers had 29.3 years of experience. While some teachers exclusively taught in private schools, others had roles in both public and private institutions.

Reliability and Validity

In qualitative research, validity concerns the accuracy and credibility of the findings, ensuring that they truly reflect the phenomenon being studied. While qualitative research may not aim for numerical precision as in quantitative studies, validity is upheld by demonstrating the depth, authenticity, and trustworthiness of the data collected (Sönmez & Alacapınar, 2013). In this study, several steps were taken to ensure validity. The research methods, data collection techniques, and analysis procedures were meticulously described to enhance transparency and credibility. Additionally, cross-validation was performed by seeking expert opinions from a different university, ensuring diverse perspectives and confirming the robustness of the findings. The document analysis was considered during the discussion with a faculty member from Karamanoğlu Mehmet Bey University, specifically from the Faculty of Education within the Department of Curriculum and Instruction. Furthermore, the questionnaire underwent an assessment of internal validity through the calculation of Cronbach's alpha coefficient, yielding a high value of 0.94, indicating strong internal consistency among its items. This process confirmed the questionnaire's acceptance as a valid instrument for measuring the intended constructs.

Research Instruments and Processes

(I) Document analysis (curriculum analysis):

Document analysis is a widely used research method in qualitative research and aims to examine and interpret written, visual or audio materials as a data source. This method involves the systematic examination of various types of documents, such as texts, reports, letters, photographs, videos, and recordings. Document analysis enables researchers to uncover hidden meanings, understand social and cultural contexts, and explore individual or collective experiences. By critically analyzing documents, researchers can identify patterns, themes, and contradictions within the data, providing valuable insight into the research topic. This method offers researchers access to historical, archived, or publicly available documents and is a valuable tool for studying phenomena in different time periods and contexts. Document analysis complements other qualitative methods and offers a rich and detailed understanding of the social world (Sönmez & Alacapınar, 2013).

A document analysis was conducted to provide supplemental research data and comprehensive background information on the Grade 12 ESL curriculum. This analysis is based on (1) these branches (Humanities and Literature, Life Sciences, General sciences, and Sociology and Economics), (2) the scope and ranking of high school education, (3) the aims, principles, and characteristics of the General English teaching aims, and (4) the curriculum's methodology and evaluation guidelines. The principles of the Lebanese English curriculum were reviewed and compared against the TESOL principles. In addition, the objectives of the four 12th-grade branches were analyzed according to Bloom's Taxonomy.

(II) Interviews:

Interviews are a widely used method in qualitative research and aim to gain in-depth understanding of the research. This method includes structured or semi-structured interviews with participants. Interviews offer researchers the opportunity to explore participants' experiences, thoughts, and perspectives. Data is collected and recorded through a natural and flexible communication process with individuals or groups. By analyzing information from the interviews, researchers identify emerging themes, attitudes, and meanings. Interviews are a powerful research method for hearing participants' voices, gaining in-depth understanding and providing detailed information on the research topic. Researchers must take a rigorous and systematic approach to the interview process to ensure reliability and validity (Gay et al., 2011).

To ensure comprehensive and credible data collection, a deliberate approach was adopted in conducting interviews with 12th-grade English teachers, either in person at schools or via telephone. Before the interviews, the researcher obtained necessary entry access from each school's administration, securing a conducive environment for the discussions. Each interview was conducted individually, allowing for a personalized and detailed exploration of perspectives. Validity was upheld by meticulously crafting interview questions with consideration given to an expert's opinion. The questions were designed to align with the research's topic, aim, and methodology, ensuring relevance and depth in the information sought from each teacher. Before the interviews, the purpose and methodology of the research were transparently communicated to each teacher, and their explicit consent, signified by their signature, was obtained, reinforcing the ethical aspects of the study. To ensure reliability, rigorous measures were taken in recording and organizing the responses. Each interview was meticulously transcribed, ensuring an accurate representation of the teachers' statements. These transcriptions were then systematically organized and combined for subsequent analysis, enabling a comprehensive exploration of the gathered data. Additionally, any potential biases in the interpretation of responses were mitigated through consistent application of the research protocol and methods across all interviews. This rigorous process, encompassing both validity and reliability considerations, contributed to the robustness and trustworthiness of the qualitative data obtained from the interviews, ensuring the findings' credibility and depth in addressing the research objectives

(III) Questionnaires:

Questionnaires are a widely used method in scientific research and are a collection of standard questions used in the data collection process. This method is used to measure participants' views, experiences or attitudes about certain topics (Gay et al., 2011).

To collect quantitative information, a questionnaire was applied to 275 students studying in different private schools in Saida and Kuturmaya provinces. The questionnaire consisted of three parts. In the first part, general information was collected from the participants. The second part consists of two open-ended questions, and the third part consists of a Likert scale consisting of grading various sub-skills under each macro skill of English. Participants were asked to give two answers for each item: their current level and the level they want to reach. When a student answers the questionnaire, they will first need to rate how much this skill is needed in high school education and then how necessary they think this skill is in university education. The questionnaires were applied in 5 schools in Saida city and 1 school in Al-Shouf region in Lebanon. Questionnaires were administered by the researcher in three of the 6 schools. Since the students in the other three schools took midterm exams, the questionnaires were administered by the administration. Three hundred questionnaires were distributed and only 275 questionnaires (n=275) were fully answered by the students and were therefore deemed appropriate for the study. The survey was taken from a study conducted to identify the specific English language skills students need for their higher education and future employment as IT students (Briana et al., 2019). The questionnaire was used by taking expert opinions in the field of educational sciences and quantitative research. Students were asked to give two answers for each item. The questionnaire aimed to determine the language teaching needs of the students in each language skill such as reading, listening, speaking, and writing.

Data Collection

In order to reflect the current education reality in Lebanon, this research was planned to be conducted in public schools. However, the context for this research had to change, as reality in Lebanon changes daily due to a collapsing economy. Initially granted access to public schools in Saida, the researcher received formal permission from the Lebanese Ministry of Education, Directorate of Primary Education, and South Lebanon Educational Region in September 2022. However, strikes among state employees delayed permission until December 7, 2022. In early 2023, a teachers' strike further disrupted access, affecting nearly a million students due to economic and political issues.

Document Analysis: First of all, the elements of the English language curriculum of the LS, GS, HL, and SE branches were collect from the CRDP's national website, examined and data collection started with collective qualitative information. The researcher examined the principles, characteristics, general objectives, general and specific objectives of the curriculum, how the instruction was designed, its content, and evaluation.

Interviews: Each interview lasted approximately 15 minutes (Appendix-2). Interviews were conducted with twelve English teachers working in four branches of the 12th grade. Based on the document analysis and previous research, twelve open-ended questions were prepared to conduct the interview. The questions focused on the teacher's perspective on the currently used English curriculum. The purpose of this research and these questions were explained by the researcher and their consent was obtained. Interviews were recorded for accuracy with signed consent from the interviewees. The interviews were analyzed and summarized for analysis and review. Transcripts were carefully read and data were named and grouped into themes. A transcript is a written record or document that represents the spoken words and conversation exchanged during an interview or any spoken interaction.

The Questionnaire: Within the scope of two weeks, a Likert-type questionnaire, was applied in six schools. The questionnaire defines the level the student is in and the level he/she wants to reach (Appendix-1). The student questionnaire also included two open-ended questions about students' suggestions and needs. The application of the questionnaire in classes lasted for almost 15 minutes.

Data Analysis

Document analysis: Descriptive content analysis was conducted for the public records of the English language curriculum, and when needed, it was compared with TESOL proficiency standards and reported under various themes. In addition, according to Sönmez (2001), the specific objectives of the English curriculum among four branches of the 12th grade were analyzed.

Interviews: Thematic analysis was conducted based on interviews with 12th-grade English teachers. In addition, the answers given by the students when asked open-ended in the questionnaire were analyzed too. Gathered data were thoroughly examined, interpreted, defined, classified, and coded. Data was divided into categories and classifications were made and transformed into numerical data. Thematic analysis was carried out in the analysis of the data obtained from the interviews. Then, the determined themes were compared with each other and thought in a way that there would be no conflict. If there are conflicts, these themes are combined to represent a single theme.

The questionnaire: SPSS v.25 was used to analyze the results obtained from the questionnaires. Cronbach's alpha coefficient was calculated for the reliability of the questionnaire. The descriptive survey model was used to determine the language teaching needs of the students and the arithmetic mean value of the skills and their sub-skills was calculated. Likewise, each item under each sub-skill is ranked according to the average to determine which skills are most needed. After analyzing the data from the questionnaire, the average of each response was calculated. In addition, since 4 items were used, the following formula was used to calculate the data range. Range = (number of items – 1) divided by item quantity. To get an overview of macro skills, the average of each macro skill was calculated twice, once for current objectives and once for intended purposes. The values in Table 2 were used to interpret the response averages. In addition, each item under each macro skill was ranked according to the mean to determine which skills were most important. Table 2 Distribution of students according to the schools visited during the data collection process.

Table 2

ParticipantsDistribution of Students according to the Schools Visited during the Data Collection Process

Schools	Number of students	Region(s)
School 1	42	Saida
School 2	11	Kuturmaya
School 3	82	Saida
School 4	11	Saida
School 5	32	Saida
School 6	97	Saida
Total	275	

Table 3

Participants Distribution of Students according to 12th-Grade Branches

Branch	Student Number	Percentage
Life Sciences (LS)	146	53%
General Sciences (GS)	44	16%
Sociology and Economics (SE)	80	29%
Humanities and Literature (HL)	5	1.8%
Total	275	

Document Analysis of the Lebanese English Curriculum: An Overview

Jansen and Reddy (2020) explain the difference between curriculum development and curriculum analysis. Curriculum development involves creating the curriculum to deliver a coherent plan, while the latter involves breaking the curriculum apart to understand that plan. Curriculum analysis breaks down the curriculum into its components, evaluates how the pieces fit together for focus and coherence, checks for underlying beliefs and assumptions, and seeks justification for curriculum choices and assumptions to improve them. It aims to identify blind spots, biases, perspectives, strengths, and weaknesses, as well as identify real and potential problems and suggest possible solutions. Bowen (2009) explains that analyzing a curriculum with all its elements aims to provide complementary and broad data and background coverage, thus helping to relate research within its field. In this part, the researcher analyzed the elements of the 12th grade English curriculum in Lebanon in 4 branches (sociology and economics, humanities and literature, general sciences and life sciences); principles underlying the curriculum structure, its competencies, features and objectives were examined and analyzed, including educational background, teaching materials, and assessment.

Despite performing well in reading literacy in PISA 2018, Lebanon's 15-year-olds scored 353 compared to the average of 487 in OECD countries (OECD, 2018), however, Lebanon's education sector still faces several challenges (AlJaafil & Beyhan 2021). Until that research was realized, Lebanon's public sector had not updated, evaluated or improved its curriculum since 1997.

Although the Lebanese educational philosophy is not specified in government documents issued by the Ministry of Education. After the Lebanese Civil War ended on October 13, 1990, the government continued to use the curriculum produced in 1968 for seven years until it developed a new curriculum in 1997. An article published by one of the curriculum committee members explains that the curriculum designers wanted the new curriculum to bring people together, unite and rebuild the fragmented Lebanese society (Shabaan, 2013). From this point of view, it can be said indirectly that Lebanon prefers social restructuring as its philosophy of education, but when the aims, content or methods of the curriculum were examined, no trace of the mentioned features can be seen. Referred to by government officials, teachers and educators, the “New Curriculum” aimed to bring together different segments of society and was seen as an effort to reconcile Lebanese parties and related sects (Shabaan, 2013). However, due to political, security and economic turbulences, difficulties, and setbacks, education has been among the priorities of the Lebanese government. The civil war ended in 1990, but in 1994 the "Education Reform Plan" was drawn up and then in 1997 the new curriculum was designed.

The first step of the post-war education reform was taken in 1995 with the document “New Framework for Education in Lebanon” (Ministry of Education, Youth and Sports, 1997). In addition, the new curricula and textbooks of that time were published in 1997 and made available for use. As it is seen, the production and development of a new curriculum took seven years in Lebanon, with the 1968 curriculum lacking an evaluation document.

The Lebanese Curriculum

As mentioned before, “The Plan for Education Reform 1994” and “The New Framework for Education in Lebanon 1995” established the principles and served as a guideline for the new curriculum (Ministry of National Education, Youth, and Sports, 1997). The emphasis on foreign language education in Lebanon aims to create a citizen who is proficient in at least one foreign language aiming to promote openness to and interaction with other cultures. Also, the principles of teaching two foreign languages in Lebanon were established. The first foreign language (English or French) starts at the beginning of schooling (pre-school) and the second foreign language (either English or French) starts in the seventh grade (Ministry of National Education, Youth, and Sports, 1997). According to the practical implications of the Lebanese curriculum, cooperation between all stakeholders and EFL subject matter teachers is a necessity. The curriculum should include familiarization with theoretical models and methodological orientations. Also, content area teachers should improve their knowledge and communicative skills in English and provide a good model for English language speakers.

Principles Underlying the English Language Curriculum

According to the Center of Educational Research and Development, (Ministry of National Education, Youth, and Sports, 1997) the Lebanese curriculum is governed by the following principles:

1- Language learning is learning to communicate: students need to express themselves, interact with others, gain academic information, and learn about the world around them.

2- Language varies: Learners must be aware of the need to vary language use according to the context of communication and interaction. Language varies with variations in topics, participants, setting, purpose, and medium (verbal or written). Language varies with variation according to academic domains and content areas.

3- Learning a new language is becoming familiar with a new culture: Learners become aware of new values, norms, thought patterns, and beliefs of a new culture. Also, learners will have a chance to be exposed to different cultures and they will be able to analyze the similarities and differences between their native culture and the culture they are exposed to.

4- Language learning is most effective when it takes place through meaningful and interactive tasks: Language learners learn most when they are engaged in meaningful and purposeful activities.

5- Language skills are interdependent: Speaking, writing, reading, and listening skills are interdependent where one skill often activates not only other skills but paralinguistic skills as well for the achievement of effective communication.

It can be noticed that the principles that govern the Lebanese curriculum are seen to revolve around the language learning theory in general without any focus on the classroom context, more specifically the ESL context. However, if the principles of teaching English as a second or foreign language are to be considered, then attention should be directed to TESOL, the International Association of Teachers of English to Speakers of Other Languages. According to their principles, TESOL International Association (2006), (1) teachers must acquire enough information about their learners, (2) teachers must create conditions for language learning, (3) teachers must design high-quality lessons for language development, (4) adapt lessons as needed, (5) monitor and assess students' language development, and (6) teachers must engage and collaborate with others to provide the best support for their learners (TESOL International Association, 2006).

As can be seen, TESOL's principles are more focused, classroom-oriented, practical, and structured in terms of ESL classroom context, while the principles that underlie the Lebanese curriculum are more theoretical, academic, and abstract, hence it can be said that the principles that govern the Lebanese English curriculum do not reflect the TESOL' principles.

General Objectives for teaching English in Lebanon

According to the Ministry of National Education, Youth and Sports (1997), the general objectives of the English language curriculum for grade 12 in Lebanon are the following:

1- enable students to communicate effectively in different situations and settings with native and non-native speakers alike using authentic, appropriate, and correct linguistics.

2- equip students with the requisite linguistic skills for pursuing university education in their fields of specialization.

3- enable students to communicate effectively in subject matter areas in general mathematics and sciences in particular.

4- develop students' critical thinking skills

5- develop intercultural understanding and appreciation

6- promote students' positive attitudes toward the target language and culture

7- enhance students' abilities to work with others

8- the curriculum aims to develop 3 levels of English language proficiency:

a- English for social interaction

b- English for academic purposes

c- English for socio-cultural development

As can be seen, the general objectives of the Lebanese English curriculum focus on communication, both in social and academic contexts, aims to equip the students for university education, and intends to improve the students' thinking skills, abilities, and attitudes. Similarly, if the TESOL's language proficiency standards were to be examined, it can be noticed that they also aim to improve the learners' communication in terms of social, intercultural, and instructional purposes. Also, the standards aim to create learners who communicate information, ideas, and concepts necessary for academic success in the areas of language arts, social studies, science, and math (TESOL International Association, 2006). Therefore, it can be said that the Lebanese English language curriculum aligns with the ESL standards.

The English Language Curriculum features

Social interaction, academic achievement, and cultural enrichment are the purposes of the curriculum of English as a first foreign language. The Lebanese curriculum of English as a first foreign language is a thematic, integrated, and content-based approach. It is spiral in nature. The same concepts and skills are taught at various times across the grades but with increasing levels of complexity as they move up. Students will learn content-related information while acquiring English language skills. The emphasis on teaching English for academic purposes entails the development of thinking skills. Further, the curriculum aims to develop native-like proficiency in English language. It stresses both fluency and accuracy. Learning traditional grammar will be delayed till fourth grade (the students have developed basic competence in the language) and accuracy would develop naturally as a result of exposure to proper models of English language. The curriculum has set realistic, achievable objectives that the average teacher/material writer can relate to. Furthermore, these objectives have been illustrated with samples of clear, measurable performance tasks that can be easily implemented in the classroom. Language learning will start with universal themes, the particular characteristics of the culture of English-speaking people will be introduced gradually and where appropriate. The purpose of this is to develop cross-cultural openness, tolerance, and understanding. In addition, the curriculum highlights the role of group work in the development of communicative language skills. It emphasizes the development of the proper study skills which will help students develop into independent learners. In summary, the curriculum moves from a system of language education based on rote learning, linguistic correctness, and cramming of information to a system that promotes autonomous learning, thinking skills, and communicative competence (Shabaan 1997).

According to Shabaan (2013), one of the curriculum planners, there is a discrepancy between the curriculum elements in the thematic, content-based English language which was adopted by the Lebanese government in 1997. According to him, classroom realities along with other factors have handicapped the proper implementation of the curriculum. He also expresses the fact that the English language curriculum in Lebanon is aligned with the EFL/ESL standards and includes all curriculum elements and guidelines. However, as a part of the analysis for this research, a document analysis template according to (Gibson & Bown, 2009) was also used with some adjustments.

Competencies and Objectives

In Lebanon, in grade 12, French, geography, history, philosophy, math, English, Arabic, civil education, physics, chemistry, and biology are all taught in all branches but and different weekly periods according to the branch learners choose. Grade 12 has four branches i.e. general sciences (which mainly focuses on physics and math), life sciences (which mainly focuses on biology and chemistry), sociology and economics (which mainly focuses on these two subjects), and literature and humanities (which focuses on both Arabic and English literature and linguistics in addition to philosophy).

Based on document revision, in general, there are several competencies and several objectives for every skill. Curriculum designers also included “study skills”, “thinking skills” and “cultural awareness skills” along with the four main language skills. However, it can be seen that not all of it focuses on Bloom’s higher-level thinking skills. Also, it can be seen that the competencies are not arranged in hierarchical order. In addition, within the Lebanese English curriculum, all language macro-skills are taught, in addition to thinking skills and cultural awareness skills as mentioned earlier, however, only grammar as a micro-skill is taught separately. Spelling, vocabulary, and pronunciation, other micro-skills were not specified under certain or independent titles, maybe it is taught within the classroom context. Further, it should be noted that LS and GS classes take English 2 times a week, SE students take English 4 times a week and HL students study English 6 times a week.

Content

The selections included in the Grade 12 English Language curriculum in Lebanon are primarily sourced from EFL texts, content textbooks, journals, magazines, and newspapers. The authors of these materials believe that such content mirrors authentic language use, captures students' interests, and effectively explores various language domains (Ministry of National Education, Youth, and Sports, 1997). These selections cover a wide spectrum of subjects, encompassing citizenship, career opportunities, media, resolutions, economic issues, Lebanese literary figures, hospitality, and technological themes like computers. They represent a diverse array of topics integrated into the English Language curriculum, catering to the holistic development of Grade 12 students in Lebanon.

Methodology, Instructional Materials and Activities

It was developed around the principle of integrative language and content in English as EFL. Also, it calls for organizing instruction around meaningful and developmentally appropriate themes. The methodology also emphasizes the role of cooperative learning: Curriculum authors believe that the most appropriate framework of classroom interaction will address the above conditions and achieve the desired levels of proficiency. It constitutes a series of pro-social methods and structures (ex: think – pair – share, mixer review, information gaps, jigsaw, group investigation, and round table).

Content-based approach to teaching English as a foreign language is because students are given instructional materials which are at or above their language proficiency level, therefore their test anxiety is to be reduced.

Evaluation

Context-adaptive model for developing language tests was adopted since it fits the principles and characteristics of theme-based language instruction. Curriculum designers viewed evaluation as a continuous operation that uses different formal and informal tools of assessment to obtain information about students' proficiency levels. Continuous evaluation incorporated the latest trends in testing at that time such as oral and written assessments, group tests, peer evaluation, portfolios, observations, interviews, and conferences. According to the curriculum authors (Ministry of National Education, Youth, and Sports, 1997), tests should reflect the questioning, answering schemes, and strategies that the curriculum had recommended. Table 4 depicts the document analysis of the methodology, instruction, materials, and evaluation documents.

Table 4

Summary of the Document and Curriculum Analysis

Curriculum Elements	Philosophy	Needs Analysis	Competencies and Objectives	Content	Methods (Teaching-Learning Process)	Evaluation	Curriculum Evaluation
Observations and Conclusions	Upon analyzing the curriculum’s general aims, principles, features, content, and specific objectives, it can be concluded that no evidence was found to support Shabaan (2013) claim of having a social reconstructionism philosophy. On the contrary, it seems that Lebanon’s English language curriculum bears the characteristics of Perennialism depending on the analysis of its curriculum elements.	No evidence of a performed needs analysis was documented. Therefore comes the importance of this research.	It mainly focuses lower-level thinking skills and is full of discrepancies. It also does not encompass Bloom’s affective domain.	Thematic Content-based Spiral Authentic materials were used to cover the content area	Cooperative learning, think–pair–share, mixer review, information gaps, jigsaw, group investigation, and round table. However, since public schools are closed, the researcher could not confirm or deny these claims.	A continuous operation that uses different formal and informal tools of assessment. It focuses on the lower level thinking skills.	No evidence of any evaluation document or report issued by the Lebanese government.

Results

Findings of the first subquestion

What are the needs of Grade 12 ESL students in Lebanon regarding the four skills (reading, listening, speaking, and writing) in English?

Based on the survey results, the average of the student's current language skills was calculated together with the average of the level that the students wanted/need to achieve in order to be proficient in English and continue their higher education. The table in Table 5 shows the difference between the current situation and the desired state that students should achieve in reading.

Table 5

Mean Interpretation

Scale	**Average Range**	**Interpretation**
4	3.25 – 4	Very good
3	2.5 – 3.25	Good
2	1.7 – 3.25	Not good
1	1 – 1.75	Not sure

Reading Skills

Table 6

Needs Assessment of Grade 12 Reading Skills

Reading Skills	Students' current language level	The level students should achieve
1- Understanding the main idea of the text	3.00	3.98
2- Skimming a text to form general ideas	2.89	3.99
3- Slowly read a text to understand its details	3.16	3.98
4- Skimming a text to find specific information	3.03	3.99
5- Determining the meaning of unknown words in a text	2.64	3.98
6- Understanding text organization	2.89	3.98
7- Understanding certain glossaries or vocabulary in a text	2.67	3.98
8- Understanding the author's attitude and point of view	2.88	3.98
9- Summarizing important information	2.89	3.98
10- Understanding literature or scientific aspects in articles or texts you read	2.83	3.98
11- Reading critically	2.80	3.97
12- Being able to explain what you have read	2.86	3.98
13- Interpreting charts, graphics, pictures…etc	3.02	3.98

It should be noted that the mean of the current state in reading is 2.89 while the mean of the level that is ought to be achieved is 3.98. The discrepancy between these two means indicates a gap or difference between the current state of reading proficiency and the intended or expected level. This difference of approximately 1.09 suggests that, on average, individuals' current reading levels are lower than the desired or targeted proficiency level.

Listening Skills

Table 7

Needs Assessment Results of Grade 12 Listening Skills

Listening Skills	Students' current language level	The level students should achieve
1- Listening to small group discussions	3.10	3.98
2- Listening to the lectures/lessons	2.8	3.97
3- Listening to large group discussions	2.78	3.97
4- Taking notes while listening	2.58	3.97
5- Understanding long verbal explanations	2.70	3.97
6- Understanding verbal instructions	2.95	3.98
7- Understanding the language of daily life dialogues	3.22	3.99
8- Understanding academic language in your field of study	3.0	3.99
9- Extracting the main and sub-ideas in a dialogue	2.76	3.98
10- Retelling the main parts of a dialogue, speech, or lesson	2.81	3.96

It should be noted that the mean of the current state in listening is 2.88 while the mean of the level that ought to be achieved is 3.9. The difference between these two means, approximately 1.02, suggests a gap or difference between the current state of listening proficiency and the desired or targeted level. On average, individuals' current listening abilities appear to be lower than the intended proficiency level of 3.9.

Speaking Skills

Table 8

Needs Assessment Results of Grade 12 Speaking Skills

Speaking Skills	Students' current language level	The level students should achieve
1- Making an oral presentation	2.74	3.99
2- Pronouncing words correctly	3.05	3.98
3- Asking for an explanation	3.05	3.98
4- Speaking fluently	2.83	3.98
5- Participating in discussions effectively	2.96	3.98
6- Communicating effectively with peers in small group discussions, joint projects, or out-of-class study groups	3.12	3.99
7- Explaining objects or procedures	2.88	3.98
8- Creating consistent arguments	2.82	3.98
9- Pronouncing words, phrases, and sentences with correct intonation and stress patterns	2.94	3.98
10- Participating in discussions	2.93	3.99
11- Communicating effectively with your superiors	2.94	3.98
12- Attending meetings	2.91	3.98
13- Speaking in public	2.91	3.98
14- Communicating effectively with peers in small group discussions and collaborative projects	3.09	3.98
15- Participating in interviews (eg job interviews, scholarships, etc.)	2.53	3.99

It should be noted that the mean of the current state in speaking is 2.9 while the mean of the level that ought to be achieved is 3.98. The difference between these two means, approximately 1.08, highlights a gap or disparity between the current state of speaking proficiency and the targeted or desired level. On average, individuals' current speaking abilities seem to be lower than the intended proficiency level of 3.98.

Writing Skills

Table 9

Needs Assessment Results of Grade 12 Writing Skills

Writing Skills	Students' current language level	The level students should achieve
1- Using correct punctuation and spelling	2.79	3.98
2- Editing paragraphs	2.63	3.98
3- Expressing ideas correctly	2.87	3.98
4- Developing ideas	2.89	3.99
5- Expressing what you want to say clearly	2.70	3.98
6- Adopting the appropriate style	2.73	3.98
7- Evaluating and reviewing your essays	2.57	3.98
8- Interpreting texts	2.70	3.98
9- Taking notes	2.82	3.97
10- Writing lengthy essays	2.70	3.99
11- Writing creatively	2.70	3.97
12- Writing critically (analysis and evaluation information)	2.54	3.98
13- Explaining objects or procedures	2.79	3.98
14- Writing the introduction and results	2.91	3.96
15- Creating consistent arguments	2.60	3.98
16- Summarizing factual information	2.71	3.97
17- Using a variety of grammatical structures and extensive vocabulary	2.57	3.99

It should be noted that the mean of the current state in writing is 2.7 while the mean of the level that ought to be achieved is 3.98. The difference between these two means, approximately 1.28, indicates a notable gap or difference between the current state of writing proficiency and the targeted or desired level. On average, individuals' current writing abilities appear to be lower than the intended proficiency level of 3.98.

To sum the results up, table 10 depicts the total mean of each macro skill.

Table 10

Grade 12 English Language Needs Assessment

Language Skills	Student's current level	The level that ought to be achieved
Reading	2.89	3.98
Listening	2.88	3.98
Speaking	2.9	3.98
Writing	2.7	3.99

Findings of the second subquestion

What are the differences between the classroom curriculum and students' English language teaching needs in terms of goals and objectives?

Feedback from teachers and students suggests students possess communication skills in English but lack language proficiency in their field of study, hindering some in academic areas. Despite global cultural influences, not all curriculum objectives are met, with gaps in preparing students for real-life skills, university entrance, and societal needs. Identified deficiencies include a lack of higher-order thinking, research skills, effective communication, critical thinking, and sociocultural awareness. There's a perception that the curriculum prioritizes question-solving over language acquisition in grade 12. However, students maintain a positive attitude towards English, recognizing its significance in academic, career, and social contexts.

An in-depth analysis reveals significant errors and inconsistencies in the 12th-grade objectives, particularly in unevenly emphasizing different levels of cognitive skills in Bloom's taxonomy. There's a disparity where certain objectives prioritize lower-order thinking over higher-order thinking. Both teachers and students highlight oral communication, research and writing, and critical thinking skills as crucial for students.

Findings of the third subquestion

What are the differences in content between the 12th-grade curriculum in Lebanon and the English language teaching needs of students?

According to the answers received from the teachers, the textbook given by the state is no longer valid and is no longer used. Instead, alternative textbooks from various publishers are used, covering the subjects required by the national exams and old government textbooks. Teachers described the government-published book as "old" and "outdated". To make up for the lack of adequate resources, teachers use a variety of materials and resources. It is important to note that at the beginning of each academic year, coordinators and teachers are given a list of topics, themes or questions that need to be highlighted and discussed in class. It is worth noting that the fact that some of the newly proposed content was not included in the original curriculum compelled teachers to develop their own resources to keep up with the national examination committee.

Findings of the fourth subquestion

12 in Lebanon. What are the differences between the classroom curriculum and the English language teaching needs of the students in terms of educational status?

Feedback collected from teachers shows that private and public schools differ significantly in terms of teaching. Private schools have the opportunity to give students more space in various activities, competitions and activities that are not very common in public schools. However, teachers and students agree on additional English teaching, especially in the sciences. Teachers who have difficulties in keeping up with the curriculum cannot spare enough time for extracurricular activities. In addition, it has been reported that the lack of materials is a major obstacle to obtaining better results. In addition, many teachers and students expressed their dissatisfaction with the repetitive nature of the themes they encountered in their studies. Both groups reported that they were disappointed with the national exam question types that were thought to limit and restrict their thinking. It seems that the education in the 12th grade is more geared towards preparing for the national exam rather than improving the language skills of the students.

Findings of the fifth subquestion

What are the differences between students' English language teaching needs in terms of grade 12 testing situations in Lebanon?

Evaluation based on teachers' responses is geared towards national exams, especially due to their limited time. It provides support to students on how to answer a few questions and what kind of questions they will face in national exams. They reported their dissatisfaction with the test style, arguing that it was limited, one-sided, rote and repetitive. Private school teachers, in particular, reported that they fell short of using alternative forms of assessment, given the limited time and too much information they had to impart to their students.

Findings of the sixth subquestion

What are the teachers' opinions and suggestions about the 1997 education curriculum?

Many teachers expressed dissatisfaction with the English language curriculum and criticized it for being outdated, full of deficiencies, and not preparing students for life skills or academic success. Teachers also stated that they need more English time or lesson hours to cover the curriculum and that additional materials should be provided to support the curriculum's deficiencies. On the other hand, students stated that the curriculum should be updated and renewed in order to improve their interaction skills, increase their English language time, and add more real-life lessons and reading materials. In general, students believe that the curriculum should focus on teaching language skills that can help them every day in their lives and encourage more thinking and less memorization. Students' opinions reveal that there is a need to revise the English language curriculum in Lebanon to meet their current needs and desires. The answers of the teachers were reported under four themes, each theme includes related sub-themes. Throughout the research, the number of teachers who answered the interview questions and the answers of the teachers will be indicated with "T".

Table 11

General Information about the Teachers' Gender, Experience, and the Establishment They Teach at.

Teachers	Gender	Years of	Establishment	Notes
T1	Female	29	Private	
T2	Female	12	Private	
T3	Female	29	Private	
T4	Female	14	Private	
T5	Female	18	Public and Private	
T6	Male	16	Public and Private	Coordinator and teacherteacher
T7	Female	28	Private	
T8	Female	25	Public	
T9	Female	17	Private	
T10	Female	20	Public	
T11	Female	16	Private	Coordinator
T12	Female	20	Private	

Theme A: Teachers' Perceptions of the principles underlying the English Curriculum

A1 – Students' use of English language

Table 12

A1- Frequency Table of Students' Use of English Language

Themes	Sub-themes	F	%
Students' use of English language	Students can use English effectively to communicate, express themselves and interact with others.	4	33.33%
	Students cannot use English effectively to communicate, express themselves and interact with others.	1	8.3%
	Inconclusive	7	58%
	Total	12	100%

When teachers were asked whether grade 12 students use English language effectively to communicate, express themselves and interact with native and/or non-native English speakers their answers came as follows*:*

T3: Most of the students can express themselves easily but still some students face some problems. Sometimes they try to speak in Arabic but I guide them to speak in English and I only accept answers in English. T4: In our school, our students are forced to speak in English. We stress on English language as a means of communication. T5 (public and private school teacher): Most of the students abide by our instructions to speak

English but some of them feel shy or intimidated so I try to encourage them. I do not want them to feel shy or reluctant. Maybe more than 50%. Weak students are not able to express themselves fully in English.

A2 – Students' use of English language in their field of study

Table 13

A2-Students' Use of English Language in their Field Frequency Table

Themes	Sub-themes	F	%
Use of English language in their field	Students can use English adequately in their field of study	7	58%
	Students cannot use English adequately in their field of study	1	8.3%
	Individual differences play a role	4	33.33%
	Total	12	100%

Teachers were asked whether grade 12 students are able to use English adequately in their field of study (HL, LS, GS, and SE). Their answers came as follows: *Teacher4, 7, 8 (public school teacher) and 9: Yes, most of the students can use English adequately however, weak students might find it challenging somehow. T5 (public and private school teacher): Some students find it difficult to comprehend what a math or biology problem is about and sometimes they blame the teacher. T6 (public and private school teacher): In public schools, I can say that students sometimes struggle with new words or phrases. So, I can say that they fairly use English adequately. T11: Yes, they can and the proof is that they score good grades. T12: No, not all the time, sometimes they can struggle a bit.*

A3- Grade 12 Students and Other Cultures

Table 14

A3-Grade 12 Students and other Cultures Frequency Table

Theme	Sub-theme	F	%
Grade 12 students and other cultures	Students are familiar with other cultures	12	100%
	Total	12	100%

When teachers were asked whether grade 12 students are familiar with new cultures as the curriculum states, their answers came as follows: *T1 and T4: "Yes, our students are familiar with other cultures". T2: "Yes, of course, since our textbooks are related to new cultures and the students are assigned projects related to new cultures. Also, now the generation is open to learning about other cultures because they are applying for scholarships to study abroad." T3: "Of course, not only thanks to the curriculum but also since we conduct several extracurricular activities." T5, T6 (public and private school teacher), T8, and T10 (public school teachers): "Yes, of course, these topics (cultures) are highlighted in the textbook".*

Theme B: Instruction, Evaluation, and Textbooks

B1 – Instruction in the classroom

Table 15

B1- Teachers' Instruction Frequency Table

Themes	Sub-themes	F	%
Instruction	Student-based	7	58%
	Traditional	4	33.33%
	It depends on the teacher	1	8.3%
	Total	12	100%

When asked about the methods of instruction they use in the classroom, the teachers' responses came as follows: *T2: "The objectives are too old and too complicated. It is not interesting enough for the new generation. As for the methods, we use brainstorming, group work, projects, research, videoes, and picture analysis. T6 (both public and private school teacher): In transitional classes, i.e 10 and 11, we can vary our instruction as we want, but we cannot do that with grades 9 and 12 since the students will sit the national exam. We have to finish the curriculum at hand and we do not have the luxury to try something different with the students. We have to prepare the students for the national exams and get them familiar with the testing, grading, and correction systems. I cannot do projects with them as there are several restrictions. For example, the old government textbook is useless so we need to find several materials and resources. We suffer from the lack of resources. T11: "Unfortunately we teach the students the skills that need to pass the national exams. We do not have time to do anything but that!".*

B2 – Evaluation

Table 16

B2- Teachers' Evaluation Frequency Table

Themes	Sub-themes	F	%
Evaluation	National exams oriented	11	91.6%
	Performance assessment	1	8.33%
	Both	0	0%
	Total	12	100%

Upon asking the teachers about the evaluation techniques they use, their answers came as follows*: T1: "As for the evaluation, we use essay writing, oral presentations, and written exams. Of course, the exams are aligned with the national official exams." T4: "I have to focus on the type of questions the students are going to face in the national exams." T5, T6, T10 and T12: "As for evaluation, we have to follow the same evaluation techniques as the national exams so our evaluation is oriented towards the state-exams. This matter makes me feel that we are boxing the students' thinking and limiting it.". T10: "Evaluation in grade 12 is oriented towards the national exams and teachers have no time for any intervention and no time to cater to students' individual differences. Unfortunately, we focus on teaching the students how to answer the questions and make them memorize how to respond to certain questions.*

B3 – Content

Table 17

B3- Content's Frequency Table

Themes	Sub-themes	F	%
Content	Needs updating	12	100%
	Total	12	100%

Upon asking the teachers about their opinion of grade 12 English content, the teachers' responses came as such*: "T2, T3, T4, T7, T8, T9, T11, and T12: "We use the government curriculum but different textbooks that cover the same themes but with news texts. The themes are aligned with the national curriculum and national exams. However, I use different resources from magazines, newspapers, and online articles, adapt them to the students' level and use them in the classroom. T5, T6, T10, T11, and T12: "The government's textbook is outdated and old fashioned, we use different textbooks but it is in line with the national curriculum and national exams. We use past-issued exams as practice templates for evaluation in the classroom."*

Theme C: General and Specific Objectives of the English Language Curriculum in Lebanon

C1 – The objectives and the student's academic life and future career

Table 18

C1- Teachers' Opinions Regarding the General And Specific Objectives Frequency Table

Themes	Sub-themes	F	%
Teachers' opinions regarding the general and specific objectives	The general and specific objectives of the curriculum equip students with the necessary skills.	1	58%
	The general and specific objectives of the curriculum do not equip students with the necessary skills.	7	33.33%
	Inconclusive	4	8.3%
	Total	12	100%

Upon asking the teachers whether the English language curriculum objectives support the student's academic life and future careers, their answers came as such*: T4: "No, it is limited. There is no focus on higher-order level thinking skills, no research skills, and no communication or critical thinking skills. Creativity is also not promoted. It is up to the teachers in the classrooms to promote and emphasize these skills. The main focus of grade 12 is on the official exams. We have to teach certain concepts that are aligned with the national exams to ensure the students' success in them. The curriculum fails to focus on higher-order level thinking skills. The curriculum should be more oriented towards TOFEL or IELTS exams for instance because the students need it to pass the university entrance exams or to meet the admission requirements."*

C2 – The Curriculum's Aim

Table 19

C2- Teachers' Opinions Regarding the Curriculum's Aim Frequency Table

Themes	Sub-themes	F	%
Curriculum's Aim	The Lebanese English language curriculum is achieving its .	1	8.33%
	The Lebanese English language curriculum is not achieving its .	9	75%
	Inconclusive	2	16.6%
	Total	12	100%

When the teachers were asked whether the curriculum is meeting the aim it was designed to, their answers came as follows: *T2, T3 and T4: "No, because the national textbooks do not equip the students with the skills that are necessary for them in their real life. There is a gap between the textbooks and the national exams. It does not promote sociocultural awareness quite enough and when it comes to social interaction, the activities and resources are not enough. T6 (public school teacher): No, no, and no! In public schools it is difficult. It depends on the teacher to make sure the students are learning or acquiring these skills." T8: "Sometimes I feel the curriculum does not teach language in grade 12, it teaches a pattern of how to solve questions. It is limited." T10: "No, none especially in speaking. We do not have enough time to do all that we have to do. The number of English periods is really low." T12: "No, it is so limited. Students are only being trained on how to solve and respond. We are limiting their thinking."*

C3 – Students' Attitude towards English language

Table 20

C3- Students' Attitude Frequency Table

Themes	Sub-themes	F	%
Students' Attitude	Students have a positive attitude toward English language	9	75%
	Students do not have a negative attitude toward English language	1	8.33%
	It depends on the teacher	1	8.33%
	It depends on the students	1	8.33%
	Total	12	100%

Upon asking the teachers about the student's attitudes towards English language, the teachers' responses came as such: *T1, T3, and T4: "Yes, students have a positive attitude towards English. They love it. However, weak students need extra support." T2, T6, T7, and T11: "They like English. They realize its importance in life when it comes to applying to universities, jobs, immigration or simply to feel connected to the society and the world around them." T5: "It depends on the teacher. If they have a positive impact on the students, yes, they will love English. If not, they try to distance themselves away from both, the language and the teacher."*

Theme D: Teachers' Perceptions towards the Lebanese English Curriculum

D1 – Most important skills needed by students

Table 21

D1- Frequency Table of The Most Important Skills Needed by Students

Themes	Sub-themes	F	%
Most important skills needed by students	Writing and critical thinking skills	6	50%
	Oral Communication skills	6	50%
	Total	12	100%

When teachers were asked about the most important skills grade 12 needed, their responses came as follows: *T1: "Students have to be monitored and trained to become confident and independent learners equipped for receiving higher education," T2, T5, T6, T8, T9, and T12: "They need to acquire more writing skills, develop their oral communication and critical thinking." T3 and T7: "The students need to develop their speaking communication skills like debating and arguing their ideas and opinions. We do not have time to do such activities a lot in the classroom because we have to finish the syllabus which comes at the expense of doing extra activities in the class."*

D2 – Teachers' opinion regarding the Lebanese English Language Curriculum

Table 22

D2- Teachers' Opinion Regarding the Curriculum's Frequency Table

Themes	Sub-themes	F	%
Teachers' opinion regarding the curriculum	Suitable and Comprehensive	1	8.33%
	Poor, old, outdated, and full of gaps	11	91.6%
	Total	12	100%

Upon asking the teachers about their opinion regarding the Lebanese English curriculum, their responses came as such: *T2: "Not all skills help the students achieve academic success. It is very old and painful to use. It gives the teachers hard time when using it." T3: "No. It is full of gaps. Even when the government is trying to solve these issues, they do not solve them efficiently. There is always something the curriculum lacks. We need more English periods. It lacks crucial life skills and if present, there are no activities or resources to promote them." T6: "The curriculum is restricted, limited and old. It needs to be developed. Some units are repeated from grades 7 to 12. Textbook selections and questions need to be modified as soon as possible. Selections are outdated and students find it boring or hard sometimes. Some reading selections are not suitable to the grade level."*

D3 – Teachers' suggestions

Table 23

D3- Teachers' Suggestions' Frequency Table

Themes	Sub-themes	F	%
Teachers' suggestions	Include higher-order-level thinking skills	3	25%
	Change the entire curriculum	5	41.66%
	More speaking and oral communication	2	16.66%
	Provide more resources and materials	1	8.33%
	Nothing	1	8.33%
	Total	12	100%

Upon asking the teachers about their suggestions on how to improve the Lebanese English language curriculum, their answers came as such: *T1: "Nothing." T2: "The entire curriculum has to be changed." T3: "To include more activities where students can interact with each other and people outside the school walls. To have more speaking debates to highlight the important skills." T4: "The curriculum needs a lot of modification." T5: "I would like to change everything that makes the students memorize information. We need more analytical skills and more opinion-related questions."*

Findings of the seventh subquestion

What are the students' opinions and suggestions about the 1997 curriculum?

Teachers suggested that the curriculum should be updated, developed and modified to meet students' needs. Teachers believe that students should be more involved in their own learning. Overall, the responses suggest that the Lebanese English curriculum needs significant improvements to be more effective in teaching English language skills. Students expressed a desire for more speaking practice, tests, debates, public speaking practice, and improving their accents. Students also wish that the curriculum could be changed to allow for more projects, learn more vocabulary and enjoy learning English. They feel that the curriculum is outdated, repetitive and does not fit their aspirations for 21st century or university education.

Students' Current Educational Needs

When the students were asked about their current educational needs in general, their responses were recorded and grouped. Some of the students' direct responses are shared below as quotations, in addition to their most common responses.

Student 1 stated*: "I need to live in peace without stress from life hardships in Lebanon, academic pressure, or stress from the official exams."* S2 stated: *"I think my current education needs are to participate in activities that help me build my self-confidence since I believe that I have good skills but I lack practice.*" S3 stated*: "As a student in grade 12 who will embark on higher education, I want to be able to write university-level essays, research articles, and lab reports to explain my ideas thoroughly and display arguments on theories. As a* *student in the science department, I somehow lack the appropriate writing skills that are needed for my tertiary education".* S4: *"My current educational need in general is for the government to improve the curriculum we use."* S5: "*We need to change the curriculum to make it meet the student's needs and their preferences and be useful in our daily life".*

Further, several students reported that the lessons they take must be related to their real life. Several dozens of students reported their need to learn presentation and interview skills for jobs, scholarships, or university admissions. A respective number of students reported their need to learn how to write CVs, cover letters, and professional emails. They also reported their need to focus more on communication skills like public speaking, debates, and making presentations. They want to participate more in international conferences, contests, and events like MUN for instance. Several students expressed their need to give importance to mental health issues they suffer from and not only focus on academic success. "*School must shed more light on mental health",* student 13. A handful of students expressed their need for awareness sessions and their desire to take courses about mental health, emotional intelligence, communication, time and stress management, and how to use social media in a beneficial and healthy way. Multiple students reported their need to have extra activities, more sports sessions, and more community service. Numerous students explained their need to prepare for IELTS or TOEFL tests. Some students explained that they need intensive English courses to be ready for college.

Students' Opinions and Suggestions on how to develop the Lebanese English language curriculum

"Our curriculum must be renewed. It must increase the students' interaction skills", a student explained. A quite number of students expressed their wish to have more English periods, especially in the scientific branches. They reported their need to have more speaking practice and tests, debates, public speaking practice, and to enhance their accents. As mentioned before, they addressed their need to have lessons and reading selections that are related to their real and current life. One student commented: "*I wish to omit to have a specific way to answer certain questions in an English test, let us answer the way we want to!"* Several students just wish for the English language curriculum to be changed and have more discussion and speaking time in class. "*We want more speaking time, more debates, more discussion, to do more presentations"*. Another student responded: *"We want to enjoy learning English." "We want to enjoy the texts and topics we are reading"* another student expressed. *"Please change the textbooks. We should read texts that go well with the evolution of the society". "We are taking the same topics across the grade levels. We are bored of repetition", students explained.*. A handful of students expressed their need to do some internships to be familiar with the job market. That is how they believe they can decide on the major they will pursue in the future. Further, several students explained their need to learn more sophisticated vocabulary to be more articulate while speaking. Last but not least, another student stated: "*I want to practice English, not only at school, but outside as well. Learning must be related to our lives."* Finally, a student stated: "*I wish they can include oral evaluation in the national exams or at school which will improve the student's speaking skills and overall English language communication and skills."*

Table 24

A needs assessment of the current curriculum and the current state within the grade 12 English language curriculum

Curriculum Elements	**1997 Curriculum (based on the document analysis)**	**2023 Current Status (based on the interviews and questionnaires)**	**Identified Gaps or the results that need to be achieved**
General and Specific Objectives	1-Students should be able to use English to communicate effectively, express themselves, and interact with others.	1-According to the research findings, students are able to use English language effectively to achieve the previously stated principle.	1-**No gaps were identified** since the majority of the teachers' responses matched what is stated in the ministry documents. However, more extensive research should be conducted in public schools.
	2- Students should be able to use English language adequately in their field of study.	2- According to the research findings, not all students are capable of using English adequately in their domain.	2- **A gap was identified.** There is a need for effective employment of English language in the student's field of study.
	3- ESL students should be familiar with new cultures.	3- According to research findings, students are familiar with other cultures, but mainly thanks to globalization and social media.	3- **A minor gap can be identified.** There is a need for the curriculum to play an important role in the students' exposure to other cultures.
	4-The curriculum aims to develop students' critical thinking.	4-According to research findings, the specific objectives do not focus on higher-level thinking skills. It fails to develop critical thinking.	4- **A gap can be determined.** There is a dire need to improve and enhance the specific objectives and to focus on higher-level thinking skills.
	5- It aims the students with requisite linguistic skills to pursue a university education in the fields of specialization.	5- Not 100%. Some students need tutoring and others need to take intensive English classes at the university.	**5- A gap was identified.** There is a need to improve the general level of English language education in both public and private schools.
	6- It aims to promote students' attitudes toward learning a foreign language.	6- According to the research results, students have a positive attitude toward English language.	**6- No gap was determined.** However, this level should be maintained in the future.

Methods and Instruction	1-It aims to emphasize the role of cooperative work, implement pro-social methods, and opt for a content-based approach.	1-According to the research, students are becoming bored in the classroom since they learn the same concepts across the grade levels. - Instruction in grade 12 is oriented toward the national exams and the students expressed their need to have more English classes. -Teachers reported a lack or absence of materials to use in the classroom. -There is a critical discrepancy between methods of instruction between public and private classes, therefore, not all students in Lebanon are receiving the same quality of education.	1-**Several gaps were determined:** -There is a pressing need to opt for a new content design model. -There is a crucial need for improvement in the quality of questions asked in the national exams. -There is a need to provide teachers with diverse materials and resources to support them. -There is a dire need to unify the teachers' instructic both public and private schools.
Content	1-Selections were derived from EFL texts, content textbooks, journals, magazines, and newspapers	1-The 1997 textbooks issued by the CERD, which is affiliated with the Ministry of Education, are not used anymore, neither by public nor private schools since it has become old.	1**-A gap was identified.** **-**There is a need to design and produce new and up-to-date English language textbooks
Evaluation	1-They adopted an evaluation model that suits the principles and characteristics of theme-based language instruction.	1-There was no example of the model they claimed to have adopted. According to the research results, there is a difference between the textbooks and the objectives on one side and the national exams on the other. The national exams fail to focus on higher-order-level thinking skills.	**-Several gaps were determined**. -There is a need to modify and develop the question types in the national exams. -There is a need for the national exams to focus on and promote higher-level thinking skills.

Discussion, Conclusion & Suggestions

Limitations of the Study

Limited Generalizability: Conducting the study solely in private schools due to the closure of public schools due to a teacher strike might limit the generalizability of findings. The exclusion of public schools may not represent the entire spectrum of Grade 12 learners in Lebanon, potentially skewing the understanding of English language needs among a broader population.

Potential Bias in Data: Relying only on data from private schools due to the circumstances might introduce bias. Differences in resources, teaching methods, or student demographics between private and public schools could impact the findings, leading to an incomplete or skewed understanding of the English language needs of Grade 12 learners in Lebanon.

Difficulty in Representing Public School Needs: Since the research was restricted to private schools, there might be an inadequate representation of the unique needs and challenges faced by Grade 12 learners in public schools. This limitation may restrict the comprehensiveness of the analysis, potentially overlooking critical insights specific to the public-school context.

Discussion

The current Lebanese education curriculum lacks a clear philosophy and does not address societal, subject, or student needs. The spiral curriculum structure is deemed inappropriate, limiting student engagement and not aligning with the curriculum's philosophy. The curriculum's lecture-based approach impedes critical thinking and creates disparities between public and private school students' learning experiences. Private schools expose students to diverse teaching methods, nurturing higher-order thinking skills and personal development. For an ideal reconstructivist philosophy, a problem-centered curriculum design would be apt, focusing on societal needs and student interests (Demirel, 2020; Oral & Yazar, 2017). Such a design fosters critical thinking, problem-solving, and social development, aligning with the philosophy. The modular content design suits this approach, emphasizing interconnected learning structures. To bridge the gap between public and private schools, a unified teaching method approach and enhanced supervision are needed. Evaluation methods like project-based assessments and portfolios should replace traditional techniques to ensure curriculum objectives are met. National exams should align with the new education curriculum's vision, standards, and principles.

Discussion of subquestions

Discussion of the first subquestion

What are the needs of Grade 12 ESL students in Lebanon regarding the four skills (reading, listening, speaking and writing) in English?

The study highlights how vocabulary comprehension is pivotal in reading, enabling understanding and connection with new information. It emphasizes the importance of identifying unknown words for effective comprehension. As Schmitt (2008) stated, expanding vocabulary knowledge can improve students' general knowledge and understanding of a subject.

Similarly, in listening, understanding main and subordinate ideas fosters active engagement and meaningful discussions. As noted by Celce-Murcia et al. (2010), focusing on the main and subordinate ideas in a speech can help students engage in active listening and gain a deeper understanding of the speaker's message. Hinkel (2006) shows that when students can do this, they understand the message and are able to convey it to others. As a result, mastering the ability to understand long verbal expressions, extract main and sub-ideas is essential for effective listening and communication skills. This ability also helps in asking pertinent questions, enhancing communication skills. Moreover, writing, particularly critical writing, is challenging without higher-order thinking skills. A diverse vocabulary and varied grammatical structures are indispensable for clear expression, especially in academic writing. To address these challenges, the proposed English language curriculum aims to bolster these core skills for effective communication and writing proficiency.

Discussion of the second subquestion

What are the differences between the 12th-grade curriculum and students' English language teaching needs in terms of goals and objectives?

The Lebanese English curriculum exhibits inconsistencies and gaps in fulfilling its intended purposes. Setting goals is insufficient without effective implementation, supervision, and evaluation. Curriculum development should focus on fostering critical thinking, cultural awareness, personal and professional growth, lifelong learning, and communication skills. Education in Lebanon should aim to unite society rather than divide it.

Without support for critical thinking in education, students may struggle with decision-making, problem-solving, and logical, objective evaluation of information. This deficiency can lead to reliance on preconceived notions and prejudices, limiting learning and professional success in settings requiring critical thinking, analysis, and problem-solving skills.

Discussion of the third subquestion

What are the differences between the 12th grade curriculum and the English language teaching needs of students in terms of content?

Perhaps the greatest proof that the English curriculum in Lebanon needs to change is that both public and private schools have stopped using government-issued English textbooks. They now use different textbooks published by different authors and publishers (non-governmental) but contain the same themes as the old government book. Twenty-six years have passed since the Ministry of National Education proposed these themes. Another issue emphasized here is the nature and content of the curriculum. These textbooks (Shabaan, 2013) support the claim that these textbooks were put in because they have a spiral structure by nature and the themes or topics that are repeated every year cause students and teachers to lose interest and get bored. It was put together by people who had never been involved in textbook writing, and the argument (Esseile, 2011) that public school teachers saw NCERD books as "completely unsuccessful" and "not sufficient to establish a solid foundation of English".

Discussion of the fourth subquestion

What are the differences between the 12th grade curriculum and the English language teaching needs of students in terms of educational status?

Education in schools varies from one teacher to another and from one school to the next, and the number of students and lack of resources in public schools makes it questionable whether government-recommended teaching methods such as cooperative learning take place. In addition, years have passed and teachers in public schools still use the same method and strategy.

Discussion of the fifth subquestion

What are the differences between students' English language teaching needs in terms of 12th grade test situations?

Because different assessment techniques can measure different skills and abilities such as critical thinking, creativity, problem solving and communication, having different types of assessment techniques is important for many to assess the different skills of students. By using a variety of assessment techniques, teachers can get a more complete picture of students' strengths and weaknesses. Also, teachers can accommodate different learning styles. For example, some students do well in written exams, while others may prefer oral presentations or project-based assessments. Different assessment techniques can help engage and motivate students by providing variety and variety in the assessment process. In addition, using different assessment techniques can increase the validity and reliability of the assessment process. In summary, using different types of assessment techniques is important to provide a comprehensive and accurate picture of student learning, accommodate different learning styles and preferences, and increase engagement and motivation.

Discussion of the sixth subquestion

What are the teachers' opinions and suggestions about the 1997 education curriculum?

The English language curriculum in Lebanon is a major concern for teachers and students alike, and both groups highlight their inadequacies. Lack of preparation for real-life skills, gaps in the curriculum, and outdated content are just some of the problems teachers have pointed out. Meanwhile, students express their need for a curriculum that provides them with the necessary language skills to be successful in their daily lives. Their focus is on interaction skills and critical thinking, which they believe the current curriculum is not able to address. The request for an updated curriculum that meets the needs and desires of students highlights the need for a revision of the English curriculum in Lebanon. It is very important to address these concerns and make the necessary changes in order to ensure that students receive a quality education that prepares them for the future. Therefore, a curriculum that nurtures a love of learning and encourages critical thinking is essential to provide students with the tools they need to succeed.

Discussion of the seventh subquestion

What are the students' opinions and suggestions about the 1997 curriculum?

Based on feedback from both teachers and students regarding the Lebanese English curriculum, it is highly recommended that necessary improvements be made to meet the needs and aspirations of students in the 21st century. To achieve this, the curriculum needs to be updated, developed, and modified to provide students with real-life lessons, interaction skills, and opportunities for critical thinking. The curriculum should also include opportunities for more speaking practice, discussion and public speaking to improve students' accents and provide them with a more enjoyable learning experience. Students also expressed their desire for more projects, vocabulary learning and quizzes to ensure they are equipped with the skills necessary to succeed in college. It is essential to listen to feedback from both teachers and students and work towards implementing the necessary changes to provide a better learning experience and prepare students for their future endeavors.

During the document analysis process, it was concluded that the educational philosophy of the Lebanese English curriclum was not included in the documents published by the Ministry of National Education. However, after determining the features of the curriculum and examining its elements, Permanentism, Idealism and Realism will be discussed in more detail in the discussion section.

Conclusions

Conclusion of the first subquestion

What are the needs of Grade 12 ESL students in Lebanon regarding the four skills (reading, listening, speaking and writing) in English?

The assessment of students' current reading needs reveals lower scores in determining unknown words' meanings (2.64) and understanding specific words in a text (2.67). These skills are interlinked, crucial for overall text comprehension, effective communication, and knowledge expansion, notably in academic or technical domains (Schmitt, 2008). Regarding listening needs, challenges lie in understanding lengthy verbal expressions (2.7) and extracting main and subordinate ideas (2.76). These skills are vital for comprehending speech, enhancing active listening, encouraging meaningful discussions, and effective communication (Nation, 2001; Celce-Murcia et al., 2010; Goh, 2000; Hinkel, 2006). Speaking needs highlight deficiencies in interview participation (2.53), identified as a priority area for curriculum enhancement. Writing stands out as the most challenging skill, particularly in critical writing (2.54), evaluating writings (2.57), constructing coherent arguments (2.60). Critical writing fosters analytical thinking, questioning assumptions, and forming well-reasoned arguments (Bean & Melzer, 2011). Emphasizing higher-order thinking skills is essential for developing critical writing. Additionally, using diverse grammatical structures and a broad vocabulary enhances clarity, sophistication, and effectiveness in written communication, especially in academic contexts (Williams & Bizup, 2014). These aspects are crucial in conveying complex ideas and arguments effectively.

Conclusion of the second sub-problem

What are the differences between the 12th-grade curriculum and students' English language teaching needs in terms of goals and objectives?

The Lebanese English curriculum suffers from several problems. There is widespread dissatisfaction with the curriculum on behalf of both teachers and students. Many gaps and inconsistencies were identified between the general targets set by the Ministry of National Education and the reality. The overall objectives of the curriculum do not appear to meet the intended purpose.

According to the results of the research, it can be said that the targeted objectives of the ministry are below the expected level. The study revealed the existence of several important issues that are not addressed within specific objectives; one of them is the unequal distribution of thinking skills among all branches and the lack of focus on higher-order thinking skills.

Conclusion of the third sub-problem

What are the differences between the 12th-grade curriculum and the English language teaching needs of students in terms of content?

According to the research, the content cannot meet the needs of the students and does not connect with the real life of the students. Teachers and students are fed up with books, especially as they are spiral in nature, so students feel bored and disinterested, and teachers always have to look for, adapt and use different materials and resources.

Conclusion of the fourth sub-problem

What are the differences between the 12th-grade curriculum and the English language teaching needs of students in terms of educational status?

When the curriculum was designed in 1997, the focus of teaching methods was group work. However, considering the time elapsed since the development of the curriculum, many and varied teaching methods have emerged and are being used by teachers. This issue has brought up another issue that cannot be ignored, which is the difference between the education and training methods of private and public schools. However, both seem to have difficulties when it comes to timeframes, completion of the curriculum or lack of material on hand.

Conclusion of the fifth sub-problem

What are the differences between students' English language teaching needs in terms of 12th-grade exam situations?

Students in Year 12 are trained in how to answer questions in national exams as this is what assessment is for. Question types are limited, based on repetition and memorization. Therefore, students are not exposed to many other and more effective assessment techniques.

Conculsion of the sixth subquestion

What are the teachers' opinions and suggestions about the 1997 curriculum?

As a result, the English language curriculum in Lebanon can be criticized by both teachers and students for being outdated and not meeting the needs of the modern world. While teachers highlight the curriculum's shortcomings, such as gaps and lack of life skills preparation, students call for an updated curriculum that focuses on real-life lessons, interaction skills, and critical thinking. The student's perspective emphasizes the importance of reviewing the current English language curriculum in Lebanon to ensure that it meets students' current needs and desires, and is to provide them with the language skills necessary to succeed in their daily lives. It is essential to acknowledge these concerns and make the necessary changes to give students a quality education that prepares them for the future.

Conclusion of the seventh subquestion

What are the students' opinions and suggestions about the 1997 curriculum?

In conclusion, feedback from both teachers and students indicates that the current Lebanese English curriculum requires significant improvements in order to be effective in teaching English language skills. Teachers recommend updating and changing the curriculum to meet students' needs and increase their participation in their own learning. Students express their desire for more speaking practice, debate, public speaking opportunities, and curriculum changes that allow for more projects, vocabulary learning, and a more enjoyable learning experience, along with accent development. Students' opinions emphasize that the curriculum should be updated to meet their demands for 21st-century and university education. It is essential to listen to their feedback and work towards implementing the necessary changes to provide a better learning experience and prepare students for their future endeavors.

To summarize, the needs analysis, shaped by curriculum review, teacher interviews, and student feedback, aims to pinpoint deficiencies in the English curriculum. It seeks to bridge gaps between current student needs and the 12th-grade speaking skills assessment. By identifying these gaps, the analysis aims to update the curriculum effectively, ensuring it meets students' needs and equips them with essential skills for success. Triangulating various sources aids in aligning the English curriculum with present student requirements.

Suggestions

Based on the research results and the research tools used, the following measures can be taken as suggestions for future research or used as recommendations for curriculum designers:

1- In line with the demands of both teachers and students, the number of English lessons should be increased.

2- The current reading levels of the students should be evaluated.

3- Different reading strategies should be applied.

4- More English reading material should be provided.

5- Technology should be included more in teaching methods.

6- Authentic material such as news broadcasts, podcasts, and TED talks should expose students to a variety of accents, words, and speaking styles. This can help students improve their listening skills and prepare them for real-world situations.

7- Listening strategies should be taught: Students can be taught to be more effective listeners by teaching certain listening strategies such as estimating, summarizing, and explaining. These strategies can help students stay focused and engaged during listening activities.

8- As a suggestion, a new topic can be created under the name of “Life Skills”, where students learn to write a CV, cover letter and university entrance letter, improve their English according to TOFEL, IELTS and SAT exams and improve their English. It can be included as an application that develops leadership and research skills. Can hire accent coaches to help students acquire an American accent.

9- In addition, the environment can be prepared for students by voluntarily providing social assistance or some kind of community service in NGOs or the Ministry of Social Affairs.

10- Optional foreign languages can be added to the curriculum as an extracurricular activity.

11- Write prompts should be provided. Students should be provided with writing instructions to encourage them to write about a variety of topics. This can help students improve their writing skills and creativity.

12- After the action framework of the curriculum has been determined, a comprehensive needs analysis should be conducted at the general education and higher education levels.

13- The 1997 curriculum should be re-evaluated since curriculum evaluation is an important part of the curriculum development process.

14- Goals and aims should be reassessed, redefined and updated, curriculum developers should focus on higher order thinking skills and verbal communication because the curriculum should always be in harmony with the changing needs of students and real life.

15- The content should be updated and new textbooks should be designed in accordance with the realities and needs of the students.

16- More literature should be included in the branches of science.

17- The new curriculum should focus on Bloom's higher-order thinking skills rather than memorizing and teaching this bulk of information.

18- Laboratories should be equipped with the latest equipment and courses on robotics, coding or software should be considered.

19- Students should be provided with the opportunity to participate in international conferences and competitions.

20- Government supervision should be enacted and strengthened as soon as possible to try to bridge the gap between private and public schools at several levels.

21- Career orientation seminars or sessions should be held for 12th grade students as they will start their university education after graduation.

22- The national examination system should be improved and education inspectors should ensure that national examinations are always in line with the curriculum and not vice versa.

23- The way of asking questions in national exams should be changed and it should be compatible with the aims of the new curriculum.

24- The curriculum should be updated: Based on the needs analysis, the English education curriculum should be updated to address the deficiencies in the curriculum and to include the real-life skills students need to be successful in their daily lives. The curriculum should also focus on developing interaction skills and critical thinking to prepare students for their future.

25- Professional development of teachers should be ensured: Professional development programs should be offered to support teachers in implementing the updated curriculum. These programs should focus on developing teaching skills, providing resources and support, and keeping teachers up-to-date on the latest teaching methodologies and trends. This will enable teachers to deliver a high-quality education that meets students' needs and desires.

26- Education should relate to students' real-life situations. More practical and hands-on learning experiences should be included in the training program. This can include activities such as field trips, simulations, and project-based learning, where students can apply what they've learned in a real-world context.

27- Teachers can also bring in guest speakers who can share their experience and expertise in a particular field, giving students insight into how the concepts they learn are relevant and applicable to their future careers and daily lives. Additionally, using case studies and problem-solving exercises can help students see the connections between what they are learning and real-life situations. By emphasizing the practical applications of their education, students will be better equipped to overcome the challenges they will encounter in their personal and professional lives.

Note

This article represents a condensed version of an extensive PhD dissertation, meticulously summarized to encapsulate the complete methodology, results, and discussion sections. It serves as a concise overview of the original research work. For more detailed information and an in-depth review of the literature, please refer to the original thesis.

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Appendix 1

Dear students,

The purpose of this questionnaire is to determine <u>your English language needs</u> before starting your university education. **Determine your current level for each skill and the level you want to achieve in the future.** Please circle the number which applies to you **<u>on both sides</u>**.

Participants in this survey are kept anonymous. **<u>DO NOT LEAVE ANY ITEMS BLANK.</u>** Thank you for participating in our research and being a stakeholder in this scientific study.

Part 1: Participants' background information

Gender: ( ) Female
( ) Male

Age: ____________

Gr.12 branch: ( ) Sociology and Economics
( ) Humanities and Literature
( ) General Sciences
( ) Life Sciences

Part 2: Please answer the following questions.

1- As a student in Gr. 12 in Lebanon, what are your current educational needs in general?

2- What do you wish to add, omit or change in the English language curriculum you are learning?

Part 3: Please choose a number from 1 to 4 that best suits your perception. The table below shows the

Your current language skill				**Listening Skills** **(1) Not sure (2) Not Good (3) Good (4) Very Good**	**The level you want to achieve**			
1	2	3	4	1- Listening to small group discussions	1	2	3	4
1	2	3	4	2- Listening to the lectures/lessons	1	2	3	4
1	2	3	4	3- Listening to large group discussions	1	2	3	4
1	2	3	4	4- Taking notes while listening	1	2	3	4
1	2	3	4	5- Understanding long verbal explanations	1	2	3	4
1	2	3	4	6- Understanding verbal instructions	1	2	3	4

meaning of each number: (1) Not Sure (2) Not Good (3) Good (4) Very Good

1	2	3	4	7- Understanding the language of daily life dialogues	1	2	3	4
1	2	3	4	8- Understanding academic language in your field of study	1	2	3	4
1	2	3	4	9- Extracting the main and sub-ideas in a dialogue	1	2	3	4
1	2	3	4	10- Retelling the main parts of a dialogue, speech, or lesson	1	2	3	4
Your current language skill				**Reading Skills** (1) Not sure (2) Not Good (3) Good (4) Very Good	**The level you want to achieve**			
1	2	3	4	1- Understanding the main idea of the text	1	2	3	4
1	2	3	4	2- Skimming a text to form general ideas	1	2	3	4
1	2	3	4	3- Slowly read a text to understand its details	1	2	3	4
1	2	3	4	4- Skimming a text to find specific information	1	2	3	4
1	2	3	4	5- Determining the meaning of unknown words in a text	1	2	3	4
1	2	3	4	6- Understanding text organization	1	2	3	4
1	2	3	4	7- Understanding certain glossaries or vocabulary in a text	1	2	3	4
1	2	3	4	8- Understanding the author's attitude and point of view	1	2	3	4
1	2	3	4	9- Summarizing important information	1	2	3	4
1	2	3	4	10- Understanding literature or scientific aspects in articles or texts you read	1	2	3	4
1	2	3	4	11- Reading critically	1	2	3	4
1	2	3	4	12- Being able to explain what you have read	1	2	3	4
1	2	3	4	13- Interpreting charts, graphics, pictures…etc	1	2	3	4
Your current language skill				**Writing Skills** (1) Not sure (2) Not Good (3) Good (4) Very Good	**The level you want to achieve**			
1	2	3	4	1- Using correct punctuation and spelling	1	2	3	4
1	2	3	4	2- Editing paragraphs	1	2	3	4
1	2	3	4	3- Expressing ideas correctly	1	2	3	4
1	2	3	4	4- Developing ideas	1	2	3	4
1	2	3	4	5- Expressing what you want to say clearly	1	2	3	4
1	2	3	4	6- Adopting the appropriate style	1	2	3	4
1	2	3	4	7- Evaluating and reviewing your essays	1	2	3	4
1	2	3	4	8- Interpreting texts	1	2	3	4
1	2	3	4	9- Taking notes	1	2	3	4
1	2	3	4	10- Writing lengthy essays	1	2	3	4

1	2	3	4	11- Writing creatively	1	2	3	4
1	2	3	4	12- Writing critically (analysis and evaluation information)	1	2	3	4
1	2	3	4	13- Explaining objects or procedures	1	2	3	4
1	2	3	4	14- Writing the introduction and results	1	2	3	4
1	2	3	4	15- Creating consistent arguments	1	2	3	4
1	2	3	4	16- Summarizing factual information	1	2	3	4
1	2	3	4	17- Using a variety of grammatical structures and extensive vocabulary	1	2	3	4
Your current language skill				**Speaking Skills** **(1) Not sure (2) Not Good (3) Good (4) Very Good**	**The level you want to achieve**			
1	2	3	4	1- Making an oral presentation	1	2	3	4
1	2	3	4	2- Pronouncing words correctly	1	2	3	4
1	2	3	4	3- Asking for an explanation	1	2	3	4
1	2	3	4	4- Speaking fluently	1	2	3	4
1	2	3	4	5- Participating in discussions effectively	1	2	3	4
1	2	3	4	6- Communicating effectively with peers in small group discussions, joint projects, or out-of-class study groups	1	2	3	4
1	2	3	4	7- Explaining objects or procedures	1	2	3	4
1	2	3	4	8- Creating consistent arguments	1	2	3	4
1	2	3	4	9- Pronouncing words, phrases, and sentences with correct intonation and stress patterns	1	2	3	4
1	2	3	4	10- Participating in discussions	1	2	3	4
1	2	3	4	11- Communicating effectively with your superiors	1	2	3	4
1	2	3	4	12- Attending meetings	1	2	3	4
1	2	3	4	13- Speaking in public	1	2	3	4
1	2	3	4	14- Communicating effectively with peers in small group discussions and collaborative projects	1	2	3	4
1	2	3	4	15- Participating in interviews (eg job interviews, scholarships, etc.)	1	2	3	4

Appendix 2

Gender: ( ) Female ( ) Male	**Which grade 12 branch do you teach**? ( ) Life Sciences ( ) General Sciences ( ) Sociology and Economics ( ) Humanities and Literature	**Number of years of experience: ________**

A- The principles that form the basis of the English curriculum

1-Do grade 12 students use English effectively to communicate, express themselves, and interact with others?

2- Can 12th grade students use the English language adequately in their branches?

3- Do students get to know new and other cultures better?

B- Educational Status, Content and Challenges

1- How do you apply certain language acquisitions in the classroom? what methods do you use? And how do you evaluate it?

2- How would you describe the evaluation methods you use?

3- How would you describe the content you use?

C- General and Specific Objectives of the English Curriculum in Lebanon

1- Do you think that the achievements of the current curriculum are suitable for the academic life and career of the students?

2- The 12th grade curriculum aims to develop 3 levels of English proficiency (English for social interaction, English for academic purposes and socio-cultural development). To what extent do you agree with this claim?

3- Do 12th grade students have a positive attitude towards English?

D- Teachers' Perceptions of Lebanese English Curriculum

1- What are the most important skills your students need? Does the current curriculum provide you and your students with these skills?

2- If you could describe/criticize the English curriculum you use, how would you describe it?

3- If you had the chance to improve your learning skills/achievements in the English language curriculum, what would you include or exclude?

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Examining the Relationship between Phubbing and Mental Health among University Students: A Mixed Study

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Abstract

This study aims to examine the association between phubbing in college students and mental health, the dimensions of the association, and the source of this association. The study has the characteristics of an explanatory sequential mixed design, in which qualitative data from mixed designs are interpreted to explain quantitative data. In the quantitative phase of the study, data were collected from 305 participants. In this phase, descriptive statistics, Pearson correlation coefficient, regression analysis, and independent samples t-test were applied to the collected data. In the second phase, in which qualitative data were collected, data were gathered through focus group interviews with 12 participants who had participated in the quantitative phase of the study. In terms of gender, it can be said that female students experience more phobia, anxiety, depression, and stress than male students. According to the results of the qualitative research phase, the participants of the focus group interview indicated that the individuals who exhibit phubbing behaviours are introverted, lonely and abandoned, shy, anxious, poor in communication, and technology dependent. In addition, reasons for interest in smartphones may include relaxation, boredom, avoiding people, escaping stress and depression, escaping negative situations, motivation, following the daily activities of others, or escaping chat environments that do not interest them and that they consider unimportant.

Key Words

Mental health • Phubbing • Depression-Anxiety-Stress

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Introductıon

With the rapid development of communication technologies, there has been a significant increase in the desire to use mobile devices (Revilla et al., 2016). In spite of the physical distance, mobile devices can bring people together in a virtual environment and create an environment where people can spend a pleasant time as they can communicate regardless of time and space (Turkle, 2011). Despite the advantages of mobile devices for communication and social interaction, excessive use of cell phones can lead to dysfunctional behaviours such as "phubbing" and various psychological problems (Bianchi & Phillips, 2005; Bitar et al., 2022; Fernández et al., 2020).

The term "phubbing" is becoming increasingly common. In scientific literature, a new form of addiction is recognized as compulsive behaviour performed to avoid a certain stressful situation or negative thoughts and feelings (Beranuy et al., 2009; Davey et al., 2018; Guazzini et al., 2019). The term "phubbing" is composed of the words "phone" and "snubbing" (Ivanova et al., 2020). It is defined as underestimating the addressee or interlocutor by focusing on the cell phone during social contact (Ayas & Horzum, 2013; Sun & Samp, 2022). Nowadays, phubbing can be observed in almost any social setting, such as in a café, at a meeting, in the classroom, at school, during and outside working hours, and in family settings (Chotpitayasunondh & Douglas, 2016; Sun & Samp, 2022). Although communication technologies are used as an effective tool for time management, they can render face-to-face interactions meaningless by negatively affecting the quality of the relationship and the desire to talk (Ahn & Shin, 2013; Przybylski & Weinstein, 2013). Phubbing is a problematic behaviour that harms those who engage in it and those exposed to it (Chotpitayasunondh & Douglas, 2016).

Phubbing is considered a risk for mental health problems (Wang et al., 2017). Studies show a strong link between phubbing behaviour and Internet and phone addiction (Chotpitayasunondh & Douglas, 2016; Karadağ et al., 2015). In this sense, phubbing behaviour can combine many types of addictions, such as Internet addiction, cell phone addiction, social media addiction, and gambling addiction (Charlton & Danforth, 2010; T'ng, Ho & Low, 2018; Verma, Kumar & Yadav, 2019; Weinstein & Lejoyeux, 2010). Reviewing the literature, it can be seen that there are various studies on phubbing behaviour and its associated factors. The study conducted by Ergün et al. (2019) found factors such as life satisfaction, anxiety, and negative self-predict phubbing behaviour. Moreover, this study argues that psychological factors can explain phubbing. In another study, the psychological factors that cause phubbing are referred to as stress, loneliness, and anxiety (Chatterjee, 2020). Studies conducted concerning gender show that gender mediates the relationships between phubbing and addiction to cell phones, text messaging, social media, and the Internet (Gavcar, 2023). While cell phone, text messaging, and social media addiction are more common in females, they are associated with Internet and gaming addiction in males (Karadağ et al., 2015). It is noted that women tend to exhibit more phubbing than men (Balta et al., 2020; Chotpitayasunondh & Douglas, 2016). This means smartphones are more often used to facilitate social interactions in the female group, while cell phones have instrumental functions in the male group (Baron & Campbell, 2012).

Phubbing is associated with a lack of self-control and fear of missing out (Chotpitayasunondh & Douglas, 2016; Davey et al., 2018), dependence on social media (Davey et al., 2018; Karadağ et al., 2015), low satisfaction with close relationships (Wang et al., 2017), depressed mood (Bitar et al., 2021), neuroticism and social anxiety (Guazzini et al., 2019). In addition, previous findings show that individuals with phubbing behaviours use their phones as a tool in situations of loneliness, anger, worthlessness, anxiety, and stress (Karadağ et al., 2016). The relationship between depression, anxiety, and stress is considered a common ailment, and these addictions are frequently studied (Ha et al., 2006; Liao et al., 2018; Mamun et al., 2019; Odacı & Çıkrıkçı, 2021; Vally, 2019). In studies conducted in this context, depression, anxiety, and stress are among the causes of Internet addiction, phone addiction, social media addiction, and gambling addiction (Caplan, 2002; Li et al., 2019; Odacı & Çıkrıkçı, 2021).

There is a bidirectional relationship between phubbing and depression (McDaniel & Coyne, 2016). Depression appears to be related to several predictors of phubbing, such as Facebook addiction and cell phone addiction (Augner & Hacker, 2012; Blachnio et al., 2015; Demirci et al., 2015). Internet and social media addiction shows similar symptoms to physical/psychological addiction, e.g., cravings, mood swings, conflicts, and relapses (Donovan, 2004; Tran et al., 2017). In addition, smartphones exacerbate psychological problems, especially worthlessness and depressive feelings (McDaniel ve Coyne, 2016). Phubbing indirectly affects depressive symptoms by decreasing life satisfaction (Roberts & David, 2016). Since the interpersonal relationships factor is also an important predictor of depression, weak relationships may increase the risk of depression (Natoli et al., 2016). Phubbing is considered particularly harmful concerning close relationships (Roberts and David, 2016). Mobile devices affect the quality of time people spend together, and conflicts caused by cell phone use can have several negative effects on individuals' lifelines and life satisfaction (Mcdaniel & Coyne, 2016; Wang et al., 2019; Zonash et al., 2020). Biologically, the electromagnetic waves emitted by smartphones cause melatonin production to slow down, so constant use of cell phones can lead to sleep disturbances associated with increased depressive symptoms (Wood et al., 2006; Zarghami et al., 2015).

Phubbing is also closely related to anxiety (Guazzini et al., 2019). Studies show that phubbing leads to the isolation of individuals in social settings, reduces the quality of communication, and negatively affects interpersonal trust (Beranuy et al., 2009; Chotpitayasunondh & Douglas, 2018; Roberts & David, 2016; Thomée et al., 2011). However, some studies find that individuals with high anxiety levels engage in more phubbing behaviours during social interactions via cell phones to reduce anxiety symptoms and discomfort (Davey et al., 2018; Guazzini et al., 2019).

Studies conducted in the literature have found that cell phone use is associated with high stress (Thomée et al., 2011). Communication on social media platforms and phone screens makes users feel more comfortable (Berry et al., 2017). Although cell phone use is independent of time and location accessibility is perceived as a stressor for users (Thomée et al., 2011). A recent study shows that phubbing is positively associated with negative affect and negatively associated with positive affect (Guazzini et al., 2021). Stressed individuals overuse the phone to cope with their negative feelings (Bitar et al., 2022).

Digitalization and the use of cell phones continue to increase and are used in many aspects of daily life. For this reason, it is important to explore the concept of developing preventive and effective interventions for phubbing behaviours. The present study has two main objectives: The first phase examines the relationship between phubbing and mental health (depression, anxiety, and stress). The second phase will examine this effect in depth.

Method

Research Design

The study was designed as a qualitative phase consisting of a quantitative phase and a focus group interview. The General Phubbing and Depression Anxiety Stress Scale were applied to the participants in the quantitative phase. In the qualitative phase of the study, a focus group discussion was conducted to explain the quantitative results. In this sense, the research design has the characteristics of a mixed design, an explanatory sequential mixed design (Creswell, 2009), in which the quantitative data are analyzed first. Then the qualitative data are interpreted to explain the quantitative data.

Sample Group

The study group of the research consists of students studying at Kütahya Dumlupınar University in the academic year 2022-2023. The data were collected in the quantitative phase of the research using a descriptive survey model (by selecting the sample with the "Maximum Diversity Sampling Method"). The qualitative research study group consisted of participants who had participated in the quantitative research phase and indicated that they had volunteered to participate in the qualitative research. In the qualitative phase, data were collected through focus group discussions. The demographic characteristics of the participants are listed in the table below.

Table 1

Demographic Characteristics of the Participants

Demographic Variable	Factor	N	%
Gender	Female	249	81.6
	Male	56	18.4
	Total	305	100

Data Collection Tools and Methods

In the quantitative phase of the study, the General Phubbing Scale and Depression Anxiety Stress Scale (DASS-21) were used as data collection instruments. In the qualitative phase, the researcher prepared the focus interview guide.

General Phubbing Scale. The original scale was developed by Chotpitayasunondh and Douglas (2018). The scale was designed as a 7-item Likert scale. However, it contains a total of 15 items, including 4 subdimensions. The names of the sub-dimensions of the scale are Nomophobia, Interpersonal Conflict, Self-Isolation, and Problem Acknowledgment. The Turkish adaptation of the scale was created by Ergün, Göksu, and Sakız (2020). The scale has no question to be scored in reverse order. A low score indicates a low level of phubbing, and a high score indicates a high level of phubbing. The alpha values of the study were nomophobia= .82, personal conflict= .84, personal isolation= .86, and problem acceptance= .74. In our current study, the Cronbach alpha reliability coefficient of the scale was calculated as .78 for nomophobia, .81 for personal conflict, .90 for personal isolation, and .68 for problem acceptance.

DASS-21. The original scale was developed by Lovibond and Lovibond (1995) under the name Depression Anxiety Stress Scale (DASS-42). The scale has a 4-point Likert rating and consists of 42 items, 14 belonging to the anxiety dimension and 14 to the stress dimension. The large number of questions in the scale also complicates data collection and analysis. It is found that the shorter forms of this scale have the validity to perform the same measurement (Brown et al., 1997). For this reason, the 21-question DASS scale was adapted into Turkish by Yılmaz, Boz, and Arslan (2017) based on the studies of Henry and Crawford (2005) and Mahmoud et al. (2010). The DASS-21 has 7 questions each to measure the dimensions of depression, stress, and anxiety. The scale is a 4-point Likert scale comprising anxiety, depression, and stress subdimensions. For the validity study, confirmatory factor analysis (DFA) was used based on different estimators (ULS, GLS, PLS, DWLS), and it was found that all constructs generally have sufficient validity (Yılmaz et al., 2017). Moreover, the reliability of the constructs that were found to be valid was also measured using Cronbach's Alpha and McDonald's Omega coefficients, and it was found that all constructs had a very high-reliability value. From the results of the validity and reliability studies, the factor loadings of the scale varied from .41 to .81. The reliability coefficients of the scale's data ranged from .755 to .822. The data analyzed using three different estimation methods suggest that the 21-item short form of the Depression, Anxiety, and Stress Scale has a valid and reliable structure. In our current study, the Cronbach alpha reliability coefficient of the scale was calculated to be .82 for anxiety, .89 for depression, and .84 for the stress subdimension.

Focus Group Discussion. The qualitative research study group consisted of participants who had participated in the quantitative research phase and indicated that they had volunteered to participate in the qualitative research. The interview guide is a prepared list of questions on the topics to guide the group leader's group discussion. The preparation of the interview guide is considered a fundamental task in the preparation of focus group research. In addition to reminding the leader of the topics and questions, the interview guide includes steps such as introductory questions, addressing the main themes in the interview, and closure.

Data Collection Process

Before starting the data collection phase, official permission was obtained from Kütahya Dumlupınar University, where the research was to be conducted. The researcher collected the data in the spring semester of 2022-2023. The General Phubbing Scale and the DASS-21 were used in the screening study. During data collection, those who volunteered to participate in the interviews, the second phase of the study, were asked to provide their phone numbers. The data collected this way were transferred to the computer environment and analyzed. By interviewing the students who volunteered to participate in the qualitative phase of the research, a suitable time and place was determined. The interviews were conducted in the form of semi-structured interviews. Interview questions prepared by the researcher were directed to the participants. In cases where the participants could not understand the questions, explanations were given without guidance from the researcher and the questions were asked again. The data were analyzed by preparing them for qualitative data analysis.

Data Analysis

To realize the main purpose of the research and to answer the sub-problems related to the main problem of the research, the data were collected using scales after obtaining the necessary legal permissions from 305 college students. The collected data were transferred to the interactive or digital environment and processed for analysis. The analyzes were performed using the SPSS 26.0 program. Under the research objective, descriptive statistics, Pearson correlation coefficient, regression analysis, and independent samples *t*-test were used for the analysis. In qualitative research, the beginning of the analysis is the ideas that emerge to make sense of the data while it is still in the field (Patton, 2014). Each question asked of the participants in the study was analyzed separately. In the first step, each participant was assigned a code, and the handwritten data from the focus group interviews were analyzed by the researcher using the computer program NVivo 12. It is assumed that the program in question facilitates the coding of data and the creation of themes and categories. In the study, the methods of descriptive analysis and content analysis were used together. To increase the validity of the qualitative data, peer debriefing was preferred in the analysis phase (Creswell, 2014).

Results

Quantitative Findings

This section presents the correlations between students' phubbing behaviours and mental health (depression, anxiety, and stress), multiple regression analysis results, and gender *t*-tests. The study results are presented in the order of the research questions.

Table 2

Normality of Distribution Test

Variables		N	Skewness		Kurtosis	
				Std.		Std.
Phubbing	Nomophobia	305	.061	.140	-.616	.278
	Interpersonal	305	1.381	.140	1.669	.278
	Self-isolation	305	1.361	.140	1.389	.278
	Problem	305	.422	.140	-.514	.278
DASS	Anxiety	305	.746	.140	.079	.278
	Depression	305	.483	.140	-.810	.278
	Stress	305	.752	.140	-.089	.278

From the values given in Table 2, it can be seen that the data are normally distributed in the normality test. The fact that the skewness value used in testing the normality of distribution in studies is between "-1,5 and +1,5" indicates that the values have a normal distribution (Tabachnick & Fidell, 2013). Furthermore, since the histogram and Q-Q plot are close to 45 degrees, the data is assumed to have a normal distribution.

Table 3

Correlation Coefficients for Scales

	1	2	3	4	5	6	7
1.Nomophobia	-						
2.Interpersonal	.535**	-					
3.Self-isolation	.503**	.636**	-				
4.Problem	.519**	.566**	.540**	-			
5.Anxiety	.295**	.336**	.396**	.346	-		
6.Depression	.288**	.289**	.378**	.356	.821	-	
7.Stress	.318**	.270**	.375**	.342	.816	.814	-
$\bar{X}$	16.85	8.75	10.03	10.1	14.1	15.2	1
Ss	5.59	4.83	5.66	4.47	4.85	5.92	5.

**p < .01

Table 3 shows the results regarding the relationship between college students' phubbing behaviour and their mental health (depression, anxiety, and stress), which is the first question of the study. The Pearson correlation analysis for this purpose found a positive and significant relationship between the Phubbing Scale sub-dimensions and the Depression Anxiety Stress Scale (DASS-21). It can be seen that there is a positive and significant relationship between nomophobia, interpersonal conflict, self-isolation, and problem acceptance, the sub-dimensions of the Phubbing Scale, and anxiety, depression, and stress, the sub-dimensions of the DASS-21 Scale.

Table 4

Regression Analysis Results for Phubbing Condition

Variables	B	SH	β	T	P
Constant	25.450	2.240		11.361	.000
Phubbing	.388	.046	.436	8.434	.000
R^2= .190	F= 71.133	P= .000			

Table 4 presents the results regarding the impact of college students' mental health (depression, anxiety, and stress) on phubbing behaviour, which is the second question of the study. For this purpose, the regression results are shown in the table. According to the analysis results, the regression model is statistically significant, and it can be seen that students' mental health (depression, anxiety and stress) explains 19% (R^2= .19) of phubbing behaviour.

Table 5

T-Test Results for Sub-dimensions of Phubbing and DASS (21) Scales by Gender

Variable		Categor	N	$\bar{X}$	Sd	s	*t*	*P*
Phubbing	Nomophobia	Female	24	17.16	5.4	303	2.06	.040
		Male	56	15.46	6.1			
	Interpersonal Conflict	Female	24	8.83	4.8	303	.65	.516
		Male	56	8.37	4.8			
	Self-isolation	Female	24	10.03	5.5	303	.00	1.00
		Male	56	10.03	5.9			
	Problem Acceptance	Female	24	10.34	4.4	303	1.71	.088
		Male	56	9.21	4.6			
DASS(21)	Depression	Female	24	14.54	4.8	303	2.95	.003
		Male	56	12.45	4.3			
	Anxiety	Female	24	15.84	5.8	303	3.72	.000
		Male	56	12.64	5.5			
	Stress	Female	24	14.17	5.1	303	2.74	.006
		Male	56	12.12	4.5			

Table 5 shows the results of the *t*-test for independent groups" performed to determine the direction of significance between groups for the gender variable, which is the third question of the study. According to the results of the analysis, there is a significant difference in the "nomophobia sub-dimension "phubbing" (t= 2.06, p< .05). The sub-dimensions "Interpersonal Conflict" (t= .65, p> .05), "Self-isolation" (t= .00, p> .05) and "Problem Acceptance" (t= 1.71, p> .05) showed no significant difference. A significant difference was found between the sub-dimensions of "DASS-21", anxiety (t= 2.95, p< .05); depression (t= 3.72, p< .05) and stress (t= 2.74, p< .05) gender-specific variables. Accordingly, it can be said that female students experience more nomophobia, anxiety, depression, and stress than male students.

Qualitative Findings

As part of the focus group interview guide created in the research, questions were asked about the frequency of participants' phone use. With this in mind, one of the participants used the phrase, “I use it all the time; I check it every 5-10 minutes [P1]." Similarly, another participant said, "I use the phone all the time except when I sleep [P6]." Another participant responded, "....I look at the screen when bored [P3].". In general, it appears that participants spend most of their time on the smartphone or need to look at the screen all the time.

As part of the focus group interview guide, participants were asked questions about what they like to do on their phones. One participant commented: “I usually engage with social media [P1]". Similarly, another participant commented, "I like to engage with social media on the phone [P3]." All participants indicated that they use social media more frequently. Among the social media applications, Instagram is used the most. Besides, it is also indicated that movie and music applications are preferred. It is also indicated that shopping applications such as WhatsApp, Facebook, Twitter and Trendyol are used.

As part of the focus group interview guide, participants were asked why they preferred to use their phones. One of the participants expressed his thoughts as follows, “Usually when I am bored and to spend time... [P1]. Similarly, one participant expressed, "I prefer it because I am bored at home [P10]." Another participant says, "For example, when I am down and want to motivate myself, I spend time on the phone." Some participants stated that they cannot adapt to people and therefore turn to social media. In this sense, they stated, "There are sometimes points where we disagree with people. That is why I prefer to spend time on the phone [P2]," "Spending time on the phone is better than spending time with people [P4]," and "I cut off communication with unnecessary people [P7]." Nevertheless, some participants see the phone as a means to chat with their friends, meet new people, and make new friends. In this sense, they comment: "I chat with my loved ones. I like talking to my friends [P12]," "Meeting people makes me happy [P7]," and "I think I am closer to the people I love [P6]. On the other hand, some students indicate that they use social media to follow what people are doing, with the statement "...I find out where and what people are doing during the day, I get informed about people [P8]."

As part of the focus group interview guide, participants were asked, “How do you feel about talking about something important to you when you see other people interested in their phones?". In general, participants indicated that they get angry and feel worthless, insignificant, and bad. In this sense, they comment: “I get angry. I get angry when people ignore me [P7].” One of the participants expresses his views, "I get nervous... I feel worthless. I think they don't care about me [P2]. Similarly, another participant said, "I usually feel bad, and I would be taken to this situation [P1]".

As part of the focus group interview guide, participants were asked, "Why do you prefer to be on your phone while chatting with someone?" Most participants indicated that they do not care about the phone in the chat environment and do not think phubbing behaviour is right. However, they state that they only pick up the phone briefly for important matters or urgent notifications. Participants express their opinions: "I generally do not like to talk on the phone while chatting. Because I think it makes the other person feel bad [P1]," "I do not bother with the phone while chatting with someone [P3]," and "I turn on the screen when an important call or message comes in [P4]." In addition, some participants state that they are busy with their smartphones when their conversation partner's conversation is uninteresting. Participants commented as follows: "When the other person's conversation is not finished, when it is useless, I play on the phone; I do not listen to the other person... [P8]" and "If the topic does not interest me. Alternatively, I prefer to play with the phone when the person in front of me keeps telling me the same thing [P2]."

As part of the focus group interview guide, participants were asked about the reasons for the individuals' phubbing behaviours. One of the participants said, "...I think they are generally introverts. I think they like to live alone. Generally, they spend much time on social media to be liked [P3]. Another participant stated that "... I feel unfamiliar with the environment, maybe shy and reserved. Individuals use the phrase "the disorder may be anxiety [P11]." Similarly, another participant expressed, ".... I think they have deficits in daily life... [P12]". In addition, most participants believe these people are technology/phone dependent. They express these views as "...because they are addicted... [P2]", "...phone addicts... [P4]", and "...totally phone addicted... [P5]".

During the focus group interview, participants were asked, "Do you think there is a relationship between excessive phone use and anxiety, avoidance, depression, and stress?" One of the participants expressed the following: "...I get stressed, I feel uncomfortable when I am not playing on the phone, but I feel happier and more peaceful when I am playing with my phone [P8]". Another participant comments: "... does not cause depression or stress. It takes away more stress and gives people peace and allows us to spend time faster [K4]." Another participant explained that "... I think people deal with the phone to get away from something [P12]." Another participant stated that he had such a tendency while in psychiatric treatment, "...I take antidepressants, because of this... [K10]". Another participant expressed, "...if I do not talk on the phone for a day or two, I feel very lonely [P5].

Conclusion and Discussion

It can be seen that there is a positive and significant relationship between nomophobia, interpersonal conflict, self-isolation, and problem acceptance, the sub-dimensions of the Phubbing scale, and anxiety, depression, and stress, the sub-dimensions of the DASS-21 scale. However, the state of mental health (depression, anxiety, and stress) of college students are found to predict phubbing behaviour. Studies in the literature support these findings. Some studies show that phubbing indirectly affects depression (Roberts and David, 2016; Wang et al., 2017). Predictors of smartphone and internet addiction are strongly correlated with depression and stress variables that put participants at high risk for phubbing (Davey et al., 2018). Ivana et al., (2020) suggest that depressed mood and phubbing are statistically significantly related. It was concluded that depression and stress variables that are highly correlated as predictors of smartphone and internet addiction pose risks to participants with high levels of phubbing (Davey et al., 2018).

Studies show that individuals with high anxiety levels phubbing more to control their anxiety levels in social interactions (Davey et al., 2018; Guazzini et al., 2019). Nonetheless, people with high social anxiety use online communication tools as an alternative to face-to-face interaction (Caplan, 2007). A study by Yen et al. (2012) found that social anxiety and stress were lower during online chat, while anxiety levels increased during face-to-face interactions. In the focus interview conducted in the current study, participants expressed similar views. Along these lines, one participant stated, "...I may feel foreign to the environment, I may be shy and reserved. Individuals use the phrase "the disorder may be anxiety [P11]." However, in the interview, individuals who exhibit phubbing are said to be introverted, have high anxiety levels, have a negative self-image, and have poor communication skills.

In a study by Berry et al. (2017), it is stated that people tend to be constantly engaged with their smartphones to escape negative feelings and manage stress. In a study by Gezgin (2019), participants state they feel lonely, incomplete, and quite unhappy when not using a smartphone. Participant opinions in our current study also support these findings. Participants said, “…"...I get stressed. I play on my phone when I feel uncomfortable, I feel happier and more peaceful [P8]," "...it does not cause depression or stress. It relieves more stress and gives people peace and allows us to spend time faster [P4]," "...I think people use the phone to get away from something [P12]," and "...I feel very lonely when I spend a day or two away from the phone [P5]," are comments. Accordingly, individuals use smartphones in negative situations, such as stress. It is believed that this situation results from the desire to create a safe space where they can escape negative situations and feel happy and peaceful.

In examining the literature, it appears that fear of missing the news has a positive and significant relationship with phubbing, both directly and indirectly, as it is related to problematic social media use, is a strong predictor of phubbing, and emotional support from social media plays a mediating role in the relationship between phubbing and fear of missing out (Al-Saggaf and O'Donnell, 2019; Blanca and Bendayan, 2018; Fang, Wang, Wen and Zhou, 2020; Franchina et al., 2018). Fear of missing out and smartphone and Internet addiction positively affect phubbing and negatively affect self-control (Chotpitayasunondh and Douglas, 2016). In another study, neglect anxiety, smartphone addiction, internet addiction, and self-control were strong predictors of phubbing (Davey et al., 2018). Balta et al. (2018) concluded that fear of missing situational developments, directly and indirectly, influenced phubbing through problematic Instagram use. Similar conclusions can be drawn from the focus interviews conducted in the current research. Some participants indicated that they follow social media to keep track of developments, with the statements "...I find out where and what people are doing during the day, I find out about people [P8]." Phubbing is thought to increase, especially when the curiosity to follow developments is combined with a factor such as technology addiction.

A study by Phing et al. (2019) suggests people have a psychological addiction to technological devices. In the focus interview conducted as part of the current research, participants say that individuals who exhibit phubbing are addicted. In this sense, participants commented on smartphone use as follows: “"I use it all the time, I look at it every 5-10 minutes [P1]," "I occupy myself with the phone all the time except when I sleep [P6]," and "...I look at the screen when I am bored [P3]."”. In general, it can be seen that the participants spend most of their time on the smartphone or feel the need to look at the screen all the time. It is believed that the reason for this lies in the individual's need to socialize and connect with the world. On the other hand, Duradoni et al. (2020) link too much time on social media and interactive environments to various psychiatric disorders.

According to the research findings, although there is a significant difference in the dimension of nomophobia, i.e., the subdimensions of phubbing related to gender, there is no significant difference in the subdimensions of interpersonal conflict, self-isolation, and problem acceptance. Studies in the literature address the concept of phubbing in general. Latifa, Mumtaz, and Subchi (2019) find no difference between men and women in overall phubbing levels. In the study conducted by Guazzini et al. (2019), it was found that phubbing status did not differ by gender. Reviewing the studies that examine the relationship between phubbing and the gender variable, some studies state that there is a difference between males and females in terms of frequency and duration of phubbing, exposure to phubbing, phubbing as a social norm, addiction to social media, text messaging, and cell phones, and internet and gaming addiction (Ballı, 2020). Gender has been found to mediate between exposure to phubbing and phubbing as a social norm, and females are more likely than males to engage in phubbing behaviours for longer periods and are more exposed to phubbing (Chotpitayasunondh and Douglas, 2016). In the study by Bitar et al. (2022), phubbing is more prevalent among females than males. The difference in the nomophobia dimension found in our study is probably due to women's tendency to follow developments and wonder. Curiosity involves inquiry-oriented activities to obtain information about oneself and one's surroundings. In this sense, some studies find that women's curiosity is higher than men's (Bakır and Büyükgöze Kavas, 2021; Deringöl et al., 2010).

There is a significant difference between genders in the sub-dimensions of the DASS-21, namely anxiety, depression and stress. Accordingly, it can be said that female students experience more anxiety, depression, and stress than male students. Depression, anxiety and stress are more common in females in society (DSM-IV TR, 2000). The study by Erşan, Kelleci, and Baysal (2013) found that women have higher levels of depression, anxiety, and stress than men. Several studies show that women's depression, anxiety, and stress scores are higher than men's, especially among college students (Bilgel and Bayram, 2010; Dyrbye, Thomas and Shanafelt, 2006; Rizvi et al., 2015; Roh et al., 2010). The social status of women and the responsibilities or expectations of society may explain this situation. However, some studies conclude no significant difference in mean depression, anxiety, and stress scores between women and men (Aboalshamat, 2017; Arslan, Aktar and Danaoğlu, 2011; Öncü et al., 2013; Üstün and Bayar, 2015).

A study conducted by Nazir and Pişkin (2016) concluded that people who frequently look at their phones during a face-to-face conversation are perceived as not concentrating on the conversation themselves or not concentrating enough. A study conducted by Karadağ et al. (2016) found that individuals subjected to phubbing react with negative thoughts and experience feelings of anger and worthlessness since they cannot make eye contact with their conversation partners. Also, in our current study, participants indicate that they become angry and feel worthless, insignificant, and bad when exposed to phubbing. In this sense, "I get angry. I get angry because I am being ignored [P7]", "I get angry... I feel worthless. I think they don't care about me [P2]" and "I usually feel bad, and I would be taken to this situation [P1]". As a result, the person exposed to phubbing in the social environment (work, school, entertainment, etc.) may experience negative emotions and feel sad about this situation (Ergün et al., 2020). These feelings can negatively impact a person's mental health.

In AlSaggaf, MacCulloch, and Weiner's (2019) study, the variable "boredom" is shown to be a statistically significant predictor of phubbing. Participant comments in our current study also support this finding. Participant comments such as "....I look at the screen when I am bored [P3]," "Usually when I am bored and to spend time... [P1]" and "...I prefer it because I am bored [P10]" show that boredom is an effective factor. In addition, some participants state that they are busy with their smartphones when their conversation partner's conversation is uninteresting. Participants commented as follows: "When the other person's conversation is not finished, when it is useless, I play on the phone; I do not listen to the other person... [P8]" Or I prefer to deal with the phone when the person in front of me keeps telling the same thing [P2]". In this sense, it is suggested that individuals tend to be phubbing when bored in the social environment or when the interactions do not attract attention.

Suggestions

This section provides several suggestions for researchers based on the research findings.

- In this study, the relationship between phubbing and mental health was discussed. In future research, new studies can be conducted on communication skills and these skills and different variables.
- The research can be designed to include the variables of perceived social support, close friendship or partner relationship, and relationship satisfaction with phubbing.

- In contrast to this cross-sectional and scanning study, a longitudinal study of change in phubbing over time can be conducted.
- This study was conducted with college students. Considering that technology and today's distance education system can cause some technology addiction in children, similar studies can be conducted with children and adolescents.
- Taking into account the time that the use of technology takes up in daily routines, studies can be conducted on making individuals aware of time management and proper use of technology.
- A study can be conducted on obsession and loneliness related to phubbing.

Ethic

It should be stated which ethics committee approval was obtained from the research data. (Date, Number of Board Decisions)

Author Contributions

This article was written with the joint contributions of two authors.

Conflict of Interest

The authors declare that they have no conflict of interest.

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