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Examination of the Relationship between Attitude Towards Providing Psychological Counseling Helping, Self-Efficacy and Personality Traits

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Abstract

This research investigates the relationship between students' attitudes towards providing psychological counseling help, counseling self-efficacy, and personality traits. The study focuses on 4th-grade education students in the Department of Psychological Counseling and Guidance during the 2020-2021 academic year. A total of 481 participants, including 380 girls and 101 boys, completed surveys online, including a Personal Information Form, an Attitude Scale Towards Giving Psychological Counseling Help, a Psychological Counseling Self-Efficacy Scale, and The Adjective-Based Personality Scale. Data analysis was conducted using SPSS 23.00, encompassing Pearson correlation, independent sample t-tests, and stepwise regression. The findings reveal significant connections between the positive and behavioral dimensions of attitudes towards giving counseling help and all personality sub-dimensions. The negative dimension is only linked to conscientiousness. In summary, this study provides valuable insights into the relationships among personality, counseling self-efficacy, and attitudes towards providing counseling help.

Key Words

Attitude towards providing psychological counseling helping • Counseling self-efficacy • Personality

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Introduction

When interpersonal problems increase, humanity reaches an impasse. Throughout life, humanity has resorted to various methods to cope with these problems (Güç, 2015). Psychological counseling has emerged as a process to facilitate the evaluation and resolution of problems (Hackney & Cormier, 2008). There are various views on the definition of psychological counseling. According to Tan (2000), psychological counseling is a helping process aimed at resolving the problems of the individual experiencing issues and contributing to the solution of those problems. Another definition by Mowrer (1957) describes psychological counseling as help provided by an expert to individuals who are concerned about the normal anxieties arising from conflicts in the conscious domain (Cited in Özpolat, 2014). According to Al-Mahayra and Taunous (2016), psychological counseling is an education and support process provided by experts that individuals turn to in order to understand themselves and solve their problems. As seen in these definitions, there is no consensus on the exact definition despite common elements.

Looking at the psychological counseling process, the concepts of client and counselor come into play. A psychological counselor is an expert who provides psychological counseling support, and the recipient of this support is the client (Kılıç, 2019). The relationship established between the client and the counselor, based on trust and respect, serving a common purpose (Hackney & Cormier, 2008), is referred to as a therapeutic relationship. For this relationship to be established and the counseling process to continue smoothly, the counselor needs to possess certain skills.

Self-efficacy is an important aspect among the psychological counseling skills. Bandura (1977a), the pioneer of the Social Learning Theory, defines self-efficacy as the perceptions of an individual's competence related to being able to perform a task successfully. Self-efficacy explains an individual's control over potential difficulties and having behavioral patterns to overcome those difficulties (Kılıç, 2019). Individuals with low self-efficacy perceptions experience problems in their daily lives and feel intense anxiety (Aydm, 2016). Self-efficacy is not a perception that is independently acquired or developed. Bandura (1977b) categorizes them as four primary sources that influence self-efficacy: individual's experiences, observations, verbal encouragement from others, and physiological-emotional arousal conditions.

Self-efficacy perception holds greater importance than one might think. Besides having the necessary skills for successful performance (Pamukçu, 2011), self-efficacy must also be present (Satici, 2014). However, the frequency of behavior and the desire to perform it also affect self-efficacy (Bandura, 1977b).

Self-efficacy holds significant importance in the psychological counseling process (Asarlı, 2012; Larson & Daniels, 1998; Sarıkaya, 2017). When a counselor begins to believe that they are sufficiently competent, they start to employ more effective techniques. This, in turn, benefits the client more and increases client satisfaction (Aydm, 2016). According to Levitt (2002), a counselor's belief in the beginning of the counseling process that the counseling will be beneficial to the client and their preparation for it significantly affect their self-efficacy. However, if a psychological counselor has low self-efficacy and believes that they will not be successful, they may fall short in providing effective psychological counseling (Yam, 2014), affecting the counseling process (Yayla, 2016).

According to [APA \(2015\)](#), attitude is a relatively stable and general evaluation of an object, person, group, issue, or concept on a dimension ranging from negative to positive. Attitude is a tendency that includes continuous positive or negative emotions, beliefs, and corresponding behaviors towards an object or event ([Morgan, 2010](#)). This tendency is quite complex ([Kağıtçıbaşı & Cemalcılar, 2014](#)).

In order for a psychological counselor to actively engage in the psychological counseling process, provide necessary interventions when needed, manage the process effectively, and establish an effective therapeutic relationship with the client, it is believed that the counselor's attitude towards providing psychological counseling should be positive ([Aslan et al., 2018](#)). Personality traits are also effective in the psychological counseling process ([Rabaino, 2015; Yam, 2014](#)).

After research on personality began, theorists initially developed their theories by looking at interpersonal similarities, but this changed, and different characteristics of individuals started to be considered ([McAdams, 1992](#)). The Differential Trait Approach, which aims to measure and describe different characteristics of individuals, evaluates these characteristics without classifying them based on how much an individual shows a certain trait ([Burger, 2016; Plotnik & Kouyoumdjian, 2011; Yazgan İnanç & Yerlikaya, 2012](#)). In this approach, personality's concrete and conscious aspects are not emphasized ([Yazgan İnanç & Yerlikaya, 2012](#)).

According to [Allport \(1961\)](#), personality is the dynamic organization of the psychophysical systems within the individual, determining the characteristic behavior and thought of the individual. The concept of dynamic organization in the definition means that changes in personality occur in a specific order rather than randomly. The determinative concept in the definition suggests that all aspects of personality influence behavior and thoughts ([Schultz & Schultz, 2017](#)).

The aim of this study is to examine the attitude toward providing psychological counseling in terms of self-efficacy and personality traits. When the literature is examined, there are no research studies related to attitude toward providing psychological counseling except for scale development work. When studies related to counseling self-efficacy are examined, it is generally observed that psychological counseling self-efficacy is associated with the supervision process ([Aladağ, 2014; Bakalım, Şanal-Karahan & Şensoy, 2018; Eryılmaz & Mutlu, 2018; Koç, 2013; Sankaya, 2017](#)). In addition, studies attempting to reveal the relationship between self-efficacy perceptions & various variables have been conducted ([Aydın, 2016; Aydın, Odacı & Kahveci, 2017; Çapri & Demiröz, 2016; Kılıç, 2019; Malkoç & Sünbül, 2020; Satıcı, 2014; Şeker, 2019; Ümmet, 2017; Yam, 2014; Yam & İlhan, 2016; Yayla & İkiz, 2017; Yüksel, 2017](#)). Only a limited number of studies have focused on determining the self-efficacy perceptions of psychological counseling candidates ([Bakioğlu & Türküm, 2019; Öztürk, 2014; Pamukçu, 2011](#)). Research studies examining the relationship between psychological counseling self-efficacy perception and personality traits are limited ([Rabaino, 2015; Yam, 2014](#)). This study aims to examine the relationship between these variables together.

Method

Research Model

The research model is the correlational survey model, which is one of the quantitative research methods. Correlational surveys are studies conducted to determine the relationships between two or more variables (Büyüköztürk, 2015).

Study Group

The study group of the research consists of 4th-year students who are enrolled in the Psychological Counseling and Guidance undergraduate programs and have taken the Individual Psychological Counseling course. Out of a total of 481 students, 380 are female, and 101 are male. The average age of the participants is 22.

Data Collection Tools

Personal Information Form. This form, prepared by the researcher, is designed to collect demographic information about the participants, such as gender and school.

Attitude Scale towards Providing Psychological Counseling Help. The Attitude Scale towards Providing Psychological Counseling Help was developed by Aslan et al. (2018) to measure the attitudes of individuals providing psychological counseling help towards providing psychological counseling. The scale consists of 24 items and three sub-dimensions: positive inclination, negative inclination, and behavioral inclination, explaining 59.13% of the total variance. The Cronbach's alpha coefficient for the entire scale was found to be .84 in this study.

Counseling Self-Efficacy Scale. The scale, adapted into Turkish by Pamukçu and Demir (2013) based on the original scale developed by Lent, Hill, and Hoffman (2003), consists of 41 items on a 10-point Likert scale (0=I have no confidence at all, 9=I am completely confident). The lowest score that can be obtained is 0, and the highest score is 369, with higher scores indicating a higher level of counseling self-efficacy perception. It includes three sub-dimensions: help skills self-efficacy, session management self-efficacy, and coping with difficulties in the psychological counseling process self-efficacy. The internal consistency coefficient of the Counseling Self-Efficacy Scale was calculated as .94 for the entire scale in this study.

Adjective-Based Personality Test. The Adjective-Based Personality Test, developed by Bacanlı, İlhan, and Aslan (2009), based on the five-factor model, consists of 40 items on a 7-point Likert scale. The scale includes five sub-dimensions: neuroticism, extraversion, agreeableness, conscientiousness, and openness to experience. The internal consistency coefficients for the scale dimensions were found to range from .73 to .89 in this study.

Data Collection

Data collection tools were transferred to a digital environment with an attached informed consent form at the beginning. Due to pandemic conditions, the data were collected online.

Data Analysis

The collected data were checked, and no missing data were found. Before proceeding to data analysis, the necessary assumptions were examined. Based on the analysis, it was observed that the data showed a normal distribution, and parametric tests were used for the analysis. Pearson's correlation coefficient was used to examine the relationship between attitudes toward providing psychological counseling, psychological counseling self-efficacy, and personality traits. Independent samples t-tests were used to determine if attitudes toward providing psychological counseling and counseling self-efficacy differed by gender and the status of receiving counseling education. Hierarchical regression analysis was conducted to analyze whether personality and counseling self-efficacy predicted attitudes toward providing psychological counseling. The analyses were performed using SPSS 23.00 software.

Results

The results of the Pearson correlation test conducted to examine the relationships among the variables and their sub-dimensions in the research are presented in Table 1. Additionally, the names of the numbered variables are detailed in the table description.

Table 1

The correlational relationships among the variables

Variables	1	2	3	4	5	6	7	8	9	10	11
1	-										
2	-,21**	-									
3	-,26**	,68**	-								
4	-,42**	,47**	,61**	-							
5	-,31**	,56**	,58**	,57**	-						
6	-,16**	,36**	,28**	,23**	,27**	-					
7	-,16**	,36**	,26**	,20**	,31**	,78**	-				
8	-,09*	,33**	,30**	,11*	,20**	,54**	,58**	-			
9	-,15**	,40**	,33**	,19**	,29**	,86**	,86**	,87**	-		
10	-,13**	,30**	,29**	,24**	,23**	,45**	,47**	,26**	,43**	-	
11	-,75	,46	,08	,06	,11*	,15**	,19**	,01	,12**	,30**	-
12	-,13**	,27**	,32**	,18**	,18**	,35**	,39**	,25**	,36**	,58**	,20**

Note: ** p<.001, * p<.05; 1: Neuroticism, 2: Extraversion, 3: Openness to Experience, 4: Agreeableness, 5: Conscientiousness, 6: Helpfulness Skills, 7: Session Management Skills, 8: Coping Skills, 9: Self-Efficacy Total, 10: Positive Dimension, 11: Negative Dimension, 12: Behavioral Dimension

Table 1 displays the relationships between attitudes toward providing psychological counseling help, counseling self-efficacy, and personality sub-dimensions.

For the positive dimension of attitudes toward providing psychological counseling help, there is a positively significant relationship with openness to experience, agreeableness, and responsibility among personality sub-dimensions. However, there is a negatively significant low-level relationship with neuroticism. There is a moderately significant positive relationship with extraversion.

For the negative dimension of attitudes toward providing psychological counseling help, there is only a positively significant low-level relationship with responsibility among personality sub-dimensions.

For the behavioral dimension of attitudes toward providing psychological counseling help, there is a positively significant relationship with extraversion, agreeableness, and responsibility among personality sub-dimensions. However, there is a negatively significant low-level relationship with neuroticism. There is a moderately significant positive relationship with openness to experience.

In terms of counseling self-efficacy, the helping skills sub-dimension has a positively significant low relationship with openness to experience, agreeableness, and responsibility among personality sub-dimensions. However, there is a negatively significant low-level relationship with neuroticism.

For the session management skills sub-dimension of counseling self-efficacy, there is a positively significant moderate relationship with extraversion and responsibility, and a negatively significant low-level relationship with openness to experience and agreeableness. There is a negatively significant low-level relationship with neuroticism.

For the coping skills sub-dimension of counseling self-efficacy, there is a positively significant moderate relationship with extraversion and openness to experience, and a negatively significant low-level relationship with agreeableness. There is a negatively significant low-level relationship with neuroticism.

The total score averages of counseling self-efficacy have a positively significant moderate relationship with extraversion and openness to experience, and a negatively significant low-level relationship with agreeableness. There is a negatively significant low-level relationship with neuroticism.

For attitudes toward providing psychological counseling help, the positive dimension has a positively significant moderate relationship with helping skills, session management skills, and the total score averages of counseling self-efficacy. However, there is a negatively significant low-level relationship with coping skills.

For the negative dimension of attitudes toward providing psychological counseling help, there is a positively significant low-level relationship with helping skills, session management skills, and the total score averages of counseling self-efficacy.

For the behavioral dimension of attitudes toward providing psychological counseling help, there is a positively significant moderate relationship with helping skills, session management skills, and the total score averages of counseling self-efficacy. However, there is a negatively significant low-level relationship with coping skills.

When Table 2 is examined, it is observed that the positive dimension of attitudes toward providing psychological counseling help significantly differs according to the gender variable. This differentiation is in favor of female students. This result indicates that female students have a more positive attitude than male students.

Table 2

T-test results for the sub-dimensions of attitudes toward providing psychological counseling help by gender

	Gender	N	\bar{X}	SD	t
Positive Dimension	Female	380	55,94	4,17	3,53**
	Male	101	54,11	4,71	
Negative Dimension	Female	380	28,82	1,85	2,14*
	Male	101	28,36	2,02	
Behavioral Dimension	Female	380	25,22	3,34	2,20*
	Male	101	24,38	3,49	

**p<.001; *p<.05

It has been found that the negative dimension of attitudes toward providing psychological counseling help significantly differs according to the gender variable. This differentiation is in favor of female students. In other words, it can be stated that female students have more negative attitudes compared to male students.

The behavioral dimension of attitudes toward providing psychological counseling help shows a significant differentiation according to the gender variable. This differentiation is in favor of female students. In other words, female students are in a better condition in terms of behavioral attitudes compared to male students.

Table 3

T-test results for counseling self-efficacy and its sub-dimensions by gender

	Gender	N	\bar{X}	SD	t
Helpfulness Skills	Female	380	102,08	16,14	,60
	Male	101	100,99	16,46	
Session Management Skills	Female	380	70,41	11,85	,58
	Male	101	69,61	13,25	
Coping Skills	Female	380	87,95	21,53	-,60
	Male	101	89,45	25,04	
Self-Efficacy Total	Female	380	260,44	42,73	,07
	Male	101	260,05	48,28	

When Table 3 is examined, it has been found that there is no significant differentiation in the counseling self-efficacy and its sub-dimensions according to the gender variable. It can be said that the difference in the average scores of counseling self-efficacy is not attributed to the genders of the counseling candidates.

Table 4

T-test results for the sub-dimensions of attitudes toward providing psychological counseling help based on the status of receiving counseling education.

	Receiving counseling education	N	\bar{X}	SD	t
Positive Dimension	Yes	39	57,28	3,30	3,29*
	No	442	55,40	4,40	
Negative Dimension	Yes	39	29,00	1,37	1,25
	No	442	28,70	1,93	
Behavioral Dimension	Yes	39	27,82	1,94	8,61**
	No	442	24,80	3,38	

**p<.001; *p<.05

When examining Table 4, it is observed that the positive dimension of attitudes toward providing psychological counseling help significantly differs based on the variable of whether counseling training is received, in addition to undergraduate education. This differentiation is in favor of those who have received counseling training. In other words, it can be stated that individuals who have received psychological counseling training have a more positive attitude compared to those who have not.

It has been found that the negative dimension of attitudes toward providing psychological counseling help does not significantly differ based on whether psychological counseling training is received, in addition to undergraduate education.

The behavioral dimension of attitudes toward providing psychological counseling help significantly differs based on whether psychological counseling training is received, in addition to undergraduate education. This differentiation is in favor of those who have received counseling training. In other words, psychological counseling candidates who have received counseling training have a higher attitude in the behavioral dimension compared to those who have not.

Table 5

T-test results for counseling self-efficacy and its sub-dimensions based on the status of receiving counseling education

	Receiving counseling education	N	\bar{X}	SD	t
Helpfulness Skills	Yes	39	105,89	14,41	1,62
	No	442	101,49	16,31	
Session Management Skills	Yes	39	74,30	10,13	2,18
	No	442	69,88	12,25	
Coping Skills	Yes	39	96,87	18,49	2,52
	No	442	87,50	22,46	
Self-Efficacy Total	Yes	39	277,07	35,59	2,49
	No	442	258,89	44,29	

When Table 5 is examined, it is observed that the helping skills sub-dimension of counseling self-efficacy does not exhibit a significant differentiation based on whether individuals have received psychological counseling training, in addition to undergraduate education.

The session management skills sub-dimension of counseling self-efficacy significantly differs based on whether individuals have received psychological counseling training, in addition to undergraduate education. This differentiation is in favor of those who have received counseling training. In other words, individuals who have received psychological counseling training perceive themselves as more competent in session management skills.

It has been found that the coping skills sub-dimension of counseling self-efficacy significantly differs based on whether individuals have received psychological counseling training, in addition to undergraduate education. This differentiation is in favor of those who have received counseling training. This indicates that individuals who have received counseling training perceive themselves as more competent in coping with the challenges they may encounter in the counseling process.

When examining whether overall counseling self-efficacy differs based on whether individuals have received psychological counseling training, in addition to undergraduate education, a significant differentiation in favor of those who have received counseling training is observed. In other words, overall, individuals who have received psychological counseling training in addition to their undergraduate education have higher levels of counseling self-efficacy.

Table 6

Regression analysis results on the positive dimension of attitude toward providing counseling help

	Variables	R	R²	R²ch	F	df	B	β	p
Step 1	Constant	,35	,10	,11	11,97	5/475	47,63		,000**
	Neuroticism						-,02	-,03	,448
	Extraversion						,07	,16	,009*
	Openness to Experience						,07	,12	,063
	Agreeableness						,03	,06	,319
	Conscientiousness						,01	,02	,672
Step 2	Constant	,52	,26	,16	22,37	8/472	38,92		,000**
	Neuroticism						-,00	-,00	,974
	Extraversion						,01	,03	,530
	Openness to Experience						,08	,14	,021
	Agreeableness						,03	,06	,264
	Conscientiousness						-,02	-,04	,452
	Helpfulness Skills						,05	,20	,002*
	Session Management Skills						,11	,30	,000**
Coping Skills						-,01	-,08	,102	

*p< .05 **p< .001

Table 6 reveals that in the first step of the model, the contribution of personality traits is significant, explaining 10% of the variance ($R^2=.10$, $F=11,97$, $p=.000$). In the second stage of the model, the added specific contribution of counseling self-efficacy is found to be significant within the model, explaining 26% of the variance along with personality traits ($R^2=.26$, $F=22,37$, $p=.000$). Furthermore, when examining the predictors of the positive dimension of attitude toward providing counseling help, it is observed that extraversion ($\beta=.16$), help skills ($\beta=.20$), and session management skills ($\beta=.30$) significantly predict the attitude in a positive direction.

Table 7

Regression analysis results on the negative dimension of attitude toward providing counseling help

	Variables	R	R²	R²ch	F	df	B	β	p
Step 1	Constant	,13	,00	,01	1,71	5/475	28,08		,129
	Neuroticism						-,01	-,05	,321
	Extraversion						-,01	-,06	,355
	Openness to Experience						-,00	,07	,299
	Agreeableness						-,00	-,03	,568
	Conscientiousness						,03	,11	,074
Step 2	Constant	,25	,06	,04	4,24	8/472	26,53		,000**
	Neuroticism						-,00	-,03	,472
	Extraversion						-,02	-,10	,109
	Openness to Experience						,02	,11	,113
	Agreeableness						-,01	-,05	,421
	Conscientiousness						,01	,07	,257
	Helpfulness Skills						,00	,04	,537
	Session Management Skills						,03	,25	,001**
Coping Skills						-,01	-,17	,003*	

*p< .05 **p< .001

When examining Table 7, it was found that in the first step of the model, personality traits did not contribute significantly to the model ($R^2=,00$, $F=1,71$, $p=,129$). In the second stage of the model, the added specific contribution of counseling self-efficacy is found to be significant within the model, explaining 6% of the variance along with personality traits ($R^2=,06$, $F=4,24$, $p=,000$). Additionally, when looking at the predictors of the negative dimension of attitude toward providing counseling help, it is observed that session management skills ($\beta=0,25$) significantly predict the attitude in a positive direction, while coping skills with difficulties ($\beta=-,17$) predict the attitude in a negative direction.

Table 8

Regression analysis results on the behavioral dimension of attitude toward providing counseling help

	Variables	R	R ²	R ² ch	F	df	B	β	p
Step 1	Constant	,34	,10	,11	12,38	5/475	20,29		,000**
	Neuroticism						-,03	-,06	,160
	Extraversion						,03	,10	,085
	Openness to Experience						,12	,28	,000**
	Agreeableness						-,02	-,05	,375
	Conscientiousness						-,01	-,02	,648
Step 2	Constant	,46	,20	,10	16,41	8/472	15,17		,000**
	Neuroticism						-,01	-,04	,380
	Extraversion						,00	,00	,893
	Openness to Experience						,12	,29	,000**
	Agreeableness						-,01	-,04	,470
	Conscientiousness						-,04	-,08	,127
	Helpfulness Skills						,01	,06	,373
	Session Management Skills						,09	,32	,000**
Coping Skills						-,00	-,04	,439	

* $p < .05$ ** $p < .001$

When examining Table 8, it is observed that in the first step of the model, the contribution of personality traits to the model is significant, accounting for 10% of the variance ($R^2=,10$, $F=12,38$, $p=,000$). In the second stage of the model, the added specific contribution of counseling self-efficacy is found to be significant within the model, explaining 20% of the variance along with personality traits ($R^2=,20$, $F=16,41$, $p=,000$). Furthermore, when looking at the predictors of the behavioral dimension, a sub-dimension of attitude toward providing counseling help, it is observed that openness to experience ($\beta=,29$) and session management skills ($\beta=,32$) significantly predict the attitude in a positive direction.

Discussion & Conclusion

When examining the relationship between attitudes toward providing psychological counseling help and counseling self-efficacy, it is found that there is a significant relationship between the positive dimension of attitudes toward providing psychological counseling help and the sub-dimensions as well as the total scores of counseling self-efficacy. In this context, it can be said that psychological counselor candidates with a high self-efficacy perception exhibit more positive attitudes. Those who believe they can cope with challenges and have confidence in their session management skills are in a positive mindset. According to Yam (2014), psychological counselors with

more positive attitudes and higher self-confidence are successful in their counseling sessions. Being in a positive mindset is considered a crucial factor in successfully conducting the psychological counseling process.

Regarding the negative dimension of attitudes toward providing psychological counseling help, except for the coping with difficulties sub-dimension, there is a significant relationship with other sub-dimensions and total scores. It is observed that psychological counselor candidates harbor negative attitudes toward providing counseling. However, these negative attitudes may stem not only from truly negative thoughts but also from fears such as the fear of being unable to help people or the fear of not being successful. Studies (Hall, 2009; Kocarek, 2001; Koth, 2019; Meola, 2017) have shown a significant relationship between anxiety levels and counseling self-efficacy. According to Yam (2014), psychological counselors with negative thoughts also experience an increase in anxiety levels. Psychological counselor candidates may have negative attitudes about the process due to an increase in anxiety levels.

Regarding the behavioral dimension, another sub-dimension of attitudes toward providing psychological counseling help, a significant relationship is observed with the sub-dimensions and total scores of counseling self-efficacy. This result indicates that psychological counselor candidates have confidence in their behavioral aspects of providing counseling. Those who have self-efficacy in terms of posture, what needs to be done, what should not be done, and what to do in case of encountering problems have a highly positive attitude. The education received and the practical experiences may have positively influenced psychological counselor candidates in terms of attitudes towards counseling theories, techniques to be used, and related topics.

When examining the relationship between attitudes toward providing psychological counseling help and personality traits, it is seen that the positive dimension and the behavioral dimension of attitudes toward providing psychological counseling help are significantly related to all personality sub-dimensions. This result indicates that psychological counselor candidates with positive personality traits exhibit positive attitudes toward providing counseling. Outgoing psychological counselors perform better in interpersonal relationships (McCrae & Costa, 1987). They have developed themselves in empathy and effective communication. Psychological counselor candidates with positive attitudes toward providing counseling have lower levels of neuroticism. According to Dollinger and others (1996), individuals who are open to experience perceive values between imagination and broad-mindedness. Therefore, it can be said that psychological counselor candidates with a high level of openness to experience have positive attitudes.

The negative dimension of the attitude towards providing counseling help is significantly related only to the responsibility sub-dimension. This relationship is negative. This result indicates that psychological counselor candidates with a high level of responsibility may not have negative attitudes towards providing counseling help. Because psychologists act with a sense of responsibility in their professional lives, there may be no room for negative attitudes.

When examining the explanatory level of the positive dimension of the attitude towards providing counseling help from the sub-dimensions of personality and counseling self-efficacy in the regression analysis, it is concluded that the contribution of personality traits in the first stage of the model and the contribution of personality together

with counseling self-efficacy in the second stage are significant. When looking at the variance values, it is observed that it is 10% for personality traits and 26% for personality and counseling self-efficacy.

In the regression analysis examining the explanatory level of the negative dimension of the attitude towards providing counseling help from the sub-dimensions of personality and counseling self-efficacy, it is concluded that personality traits did not make a significant contribution in the first stage of the model. In the second stage, however, personality and counseling self-efficacy together made a significant contribution and explained 6% of the variance.

When examining the explanatory level of the behavioral dimension of the attitude towards providing counseling help from the sub-dimensions of personality and counseling self-efficacy in the regression analysis, it is concluded that personality traits made a significant contribution in the first stage of the model, and in the second stage, both personality and counseling self-efficacy made a significant contribution and explained 20% of the variance.

According to the findings of the stepwise regression analysis; counseling self-efficacy and personality traits can be considered as important determinants of the attitude towards providing counseling help. The variance values of 20% and 26% are noteworthy. When it is assumed that the attitude towards providing counseling help is influenced by many variables, these results can be said to explain a significant part of the concept. The reason for the low variance in the negative dimension may be due to the nature of the dimension, which is inherently negative.

When examining whether the attitude towards providing counseling help differs significantly according to the gender variable; a significant differentiation in favor of girls was observed in all sub-dimensions of the attitude towards providing counseling help. It was found that the levels of the attitude towards providing counseling help for female psychological counselor candidates were higher than those for males. This result indicates that female students have a more positive attitude towards providing counseling help. Danko (1991) found in his study that men's helping behaviors were significantly greater than women's. However, contrary to this, Erken (2009) found in a study that women exhibit more helpful behavioral characteristics than men. Similarly, in his study, Demir (2017) concluded that the tendency of women towards helpfulness is significantly different from that of men and is higher. These studies qualitatively support the result of the research. It can be said that female psychological counselor candidates who act with the motive of helping people are also willing to provide counseling.

When examining whether the attitude towards providing counseling help varies based on whether individuals have received counseling training, it was found that the positive dimension and behavioral dimension of the attitude towards providing psychological counseling help significantly differed depending on whether counseling training was received. Looking at this differentiation, it is observed that psychological counseling candidates who have received counseling training have higher average scores in both the positive and behavioral dimensions. In other words, it can be stated that the attitude of psychological counseling candidates towards providing psychological counseling help is at a higher level when they have received counseling training. There is no study found in the literature regarding this issue, making the result particularly important and guiding. This result indicates that the training received by psychological counseling candidates, apart from undergraduate education, may influence their professional success in providing counseling with a more positive attitude.

When examining the relationship between psychological counseling candidates' counseling self-efficacy and personality traits, significant relationships were found in all sub-dimensions between self-efficacy and personality traits. In a study conducted by [Yam \(2014\)](#) on the relationship between counseling self-efficacy and personality traits, similar significant relationships were found. Additionally, in their research, [Wiggins and Weslander \(1979\)](#) found that psychological counselors with personality types associated with the researcher, social, and artistic types described themselves as more effective. These results support the findings of this study. Undoubtedly, personality traits have a considerable importance in the context of counseling self-efficacy. It was concluded that psychological counselors with high levels of responsibility and low levels of neuroticism have more confidence in themselves. Given that psychological counselors are extroverted, it can be said that their relationships with people are more pronounced. From this perspective, for counseling self-efficacy to be high, positive personality traits should also be present in psychological counseling candidates.

When examining whether the self-efficacy of psychological counseling differs according to the gender variable, it was observed that the self-efficacy of psychological counseling candidates did not significantly differ according to gender. When reviewing the literature, there are supporting results for this finding. In a study conducted by [Aydm \(2016\)](#) with 591 students, it was reported that there was no significant differentiation in counseling self-efficacy according to gender. [Durmuşçelebi and Karayağız \(2018\)](#) found in their study that the self-efficacy of psychological counseling candidates did not significantly differ according to gender, except for a statistically significant difference in the help skills sub-dimension, which favored male students. [Kılıç \(2019\)](#) reached similar results in his study, where it was found that only the discovery dimension of the help skills sub-dimension of counseling self-efficacy showed a significant difference in favor of female students. There was no significant difference found in the other sub-dimensions and total scores of counseling self-efficacy. [Tsai \(2015\)](#) found in his study that gender was not significantly related to counseling self-efficacy. Similarly, [Öztürk \(2014\)](#) concluded that the gender of psychological counseling candidates did not significantly differentiate their levels of counseling self-efficacy. [Holcomb-McCoy and colleagues \(2008\)](#) also found in their study that self-efficacy did not differentiate according to the gender factor. [Margeson \(2013\)](#) concluded in his study that there was no significant relationship between counseling self-efficacy and gender. [Schwartz \(2016\)](#) also found in his study that counseling self-efficacy did not significantly differentiate according to gender. [Royse Roskowski \(2010\)](#) found in their study that gender did not significantly affect counseling self-efficacy. [Morrison \(2016\)](#) similarly found that there was no significant relationship between gender and counseling self-efficacy. [Constantine \(2002\)](#) in his study also found that there was no significant differentiation between counseling self-efficacy and gender. [Schiele \(2013\)](#) could not find a significant relationship between counseling self-efficacy and gender. [Cinotti \(2013\)](#) in his study demonstrated that gender did not have a significant relationship with counseling self-efficacy and did not differentiate. These results provide strong evidence that there is no significant relationship between counseling self-efficacy and gender.

In contrast to these results, [Aliyev and Tunç \(2015\)](#) found that counseling self-efficacy significantly differentiated according to gender, with this differentiation being in favor of girls. Similarly, [Şeker \(2019\)](#) in his study found that counseling self-efficacy significantly differentiated according to gender, with female students

having higher counseling self-efficacy than male students. [Bodenhorn and Skaggs \(2005\)](#) in their study found that women had higher levels of self-efficacy than men.

Taking these results into consideration, it can be said that the results may vary depending on the sample of the study or the situation of the participants. However, the majority of the results indicating that there is no significant differentiation between counseling self-efficacy and gender contribute to the conclusion reached in this study. When looking at studies that find a significant relationship between counseling self-efficacy and gender, it is observed that the counseling self-efficacy of female psychological counseling candidates is higher than that of male psychological counseling candidates.

When examining whether the self-efficacy of psychological counseling candidates differs based on whether they have received counseling training in addition to their undergraduate education, it is observed that the sub-dimensions of session management skills and coping skills with difficulties, as well as the total self-efficacy scores, significantly differ depending on whether they have received counseling training. Those who have received counseling training perceive themselves as more competent in session management skills and coping with difficulties. Moreover, the overall counseling self-efficacy of psychological counseling candidates who have received counseling training is significantly higher than that of psychological counseling candidates who have not received counseling training.

Upon reviewing the literature, a limited number of studies examining the relationship between counseling self-efficacy and received psychological counseling training were found. In a study by [Johnson et al. \(1989\)](#), a significant increase in counseling self-efficacy was observed after an 8-week training. [Rabaino \(2015\)](#) found in their study that students receiving CACREP-accredited training had significantly higher levels of counseling self-efficacy. [Munson et al. \(1986\)](#) reported a significant increase in counseling self-efficacy when comparing a group receiving training on basic counseling skills with a control group that did not receive training. In another study by [Munson et al. \(1986\)](#), a significant differentiation in counseling self-efficacy was observed after a seven-and-a-half-hour counseling skills training. [Yam \(2014\)](#) stated in their study that there was a significant differentiation only in the sub-dimension of session management skills between those who received training and those who did not. [Al-Darmaki \(2004\)](#) concluded in their study that counselors who received training had significantly higher levels of counseling self-efficacy. [Urbani et al. \(2002\)](#) found in their study that a skills-based training group had significantly higher counseling self-efficacy compared to a group without training.

Contrary to these results, [Tang et al. \(2004\)](#) compared the counseling self-efficacy levels of students who received CACREP (Council for Accreditation of Counseling and Related Educational Programs) accredited training with those who did not. They found no significant relationship between the average scores of counseling self-efficacy for students with and without training.

In light of these results, it is evident that additional education received beyond undergraduate studies positively contributes to counseling self-efficacy, as seen in the studies conducted. Experiences and training are undoubtedly sources of self-efficacy ([Bandura, 1977a](#)). It can be suggested that psychological counseling candidates need to have various experiences and receive diverse training in their field to enhance their counseling self-efficacy.

Upon reviewing the literature, it is noteworthy that, apart from the development of scales related to the attitude toward providing psychological counseling help, no research has been conducted on this topic. This study, aiming to reveal the relationship between the attitude toward providing psychological counseling help and counseling self-efficacy and personality, is expected to make a significant contribution to the literature.

Ethic

I declare that the research was conducted in accordance with the ethical standards of the institutional and 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.

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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Comparative Analysis of Kyrgyzstan and Türkiye's Secondary Geography Curriculums

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Abstract

The study was made as a qualitative document analysis. The geography curriculums implemented in secondary education in Türkiye since 2018 and in Kyrgyzstan since 2020 were compared by applying document analysis and content analysis. The curriculums were subjected to a comparative analysis in terms of achievements, content, learning and teaching approaches and assessment-evaluation features. Due to the difference in the educational levels of both countries, there are some difficulties in comparing only at the high school level. According to the findings, it was observed that the subjects included in the curriculum were more limited in Kyrgyzstan. In this context, it was more appropriate to make comparisons on the basis of human systems, global environment: regions and countries, and environment and society units in the Turkish geography curriculum. It is noteworthy that the geography curriculum in Kyrgyzstan has an approach that addresses geographical, geocological, social-humanitarian aspects in teaching the outcomes. When evaluated in this respect, it can be said that there is a great overlap in terms of the geographical perspective intended to be gained by students. It is noteworthy that the similarities in the updated constructivist teaching philosophy are also intense in terms of objectives and some guidance, educational situations and assessment-evaluation. In the Kyrgyzstan geography curriculum, there are a lot of details about educational situations and assessment-evaluation. The most important difficulty experienced in the comparison was the difference in the educational levels at which geography courses were taught in the two countries.

Key Words

Kyrgyzstan • Türkiye • Geography course curriculum • Content • Educational situations • Assessment-evaluation

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Introduction

The realization of behaviour change in individuals in the desired direction is through education. Therefore, education and training activities have an inevitable importance for all countries. In this direction, the philosophy of education has a special importance when determining educational goals. The perspectives of states or countries on education and their expectations from education are not always the same in every country. In this context, the importance of each country's view of education or educational philosophy in shaping education and educational institutions can be understood. Among the purposes of education, the state not only prepares young people for the future, but also contributes to their ability to change their inner world, views and human qualities and to take on a role in the construction of society. Education is one of the cultural factors in the development of human personality. Modern societies cannot leave it to chance to bring new generations into membership of society. What is important for society is to establish its own education systems to meet this need. According to [Yavuz; \(2018\)](#) the process of societies transferring their cultural values to new generations is called enculturation. One of the ways of enculturation is education. For this reason, societies that want to develop need to give importance to education.

Education is a noble action that guides humanity and represents a dynamic system. For this reason, it is expected that educational processes that catch the development and change of our age will facilitate and enrich people's lives. The fulfilment of these expectations depends on the effectiveness of the social, individual, economic, political, philosophical and hidden functions of education on individuals and societies in a healthy way ([Doğan, 2015](#)). The aim of education is to ensure that the individual is useful to himself and the society. However, while schools endeavour to achieve this goal in the classical education system, it is obvious that the intellectual development of the student is often difficult. Because the human being is not only an intellectual but also an emotional and social being ([Yılmaz & Temirbekova, 2019](#)). The aim of education should be not only to develop the independent thinking of young people in educational institutions, but also to prepare them to govern the state in the future. After all, in order for the state to be strong and powerful, each of its citizens must be educated and cultured ([Jumaşova & Abdurasulova, 2019](#)).

The realization of the planned (intentional) part of education and training is based on the curriculum, and teaching in a narrower sense is based on the curriculum. Educational programs are of great importance for individuals who can adapt to the changes and developing technology in today's world; in order to train qualified manpower, curricula must be up-to-date, dynamic and in line with the spirit of the age. This can only be achieved through a curriculum development approach that takes into account the conditions of the day and prioritises a perspective that closely follows the changes and innovations in the world. One of the main objectives of every state or country is to ensure that the individuals who make up the society are qualified to provide useful services to the state and the nation. In this context, the aim of educational institutions is to bring about desired changes in knowledge, skills and attitudes in individuals, taking into account the political, socio-economic conditions and educational philosophy of the country.

Curriculum; Is a guide that shows the subjects to be taught in different classes and courses at certain education levels, their objectives, the number of hours per class and the teaching methods ([Büyükkaragöz, 1997](#)). According

to the evaluations of educators, the most important feature that a curriculum should have is its functionality. In other words, aspects such as the content of the program meeting the expectations of society and revealing the talents of individuals are important (Engin et al. 2003). Curricula serve as a mirror reflecting the ideologies of states and their approaches to various situations (Osmanoğlu & Yıldırım, 2013). The facts in the curriculum and textbook of a course can actually be thought of as the projection of what states want their citizens to know about this phenomenon (Sezer & Şanlı, 2017). Curricula are the main determinant of the type of human to be raised. For this purpose, if it is aimed that the person to be raised will have which qualities, courses with content aimed at gaining those qualities are included in the curriculums (Cin et al. 2011). Teaching geography science in school and laboratory environments is not random, but planned and according to the curriculum. Curriculum (syllabus, courses of study) is a guide to the gradual timing of subjects to be taught in any field or science (Tanrikulu & Gümüşçü, 2021). According to Karataş & Çalışkan (2023), technological and social changes necessitate changes in curriculums as well.

In addition to the power of knowledge that transcends borders, developments in science and technology and changes in the lives of societies are directly reflected in the education and training activities carried out (Özbay & Melanlıoğlu, 2012). There are four basic elements in the creation of curricula. Apart from these elements, recommendations etc. constitute the details. In order to determine these elements, it is necessary to find the answers to the questions "why do we teach, what will we teach, how can we teach and how much have we taught?". In other words, the basic elements of the curriculum are learning outcomes, content, learning-teaching approaches and assessment-evaluation. In the curriculums, the concept expressed as outcomes covers the distant and near goals to be gained by the students at the end of the education and training they receive. Content, on the other hand, refers to the subjects corresponding to the outcomes determined in the curriculum. According to Batdı (2014), the content of the curriculum is similar to a ladder step in achieving the objectives. However, the feature of this ladder can make it easier or more difficult to reach the goal.

The learning-teaching approach, which is another element, can be defined as the organisation of the learning environment with strategies, methods, techniques and materials used to achieve the determined goals. What is meant by assessment and evaluation is to determine how much of the desired behavioural changes are gained and the quality of the education after the achievements are given. According to Geçit and Yazar (2010), one of the most basic elements of all curricula is assessment-evaluation and it is the most important step to determine the level of achievement of the designed objectives. Akinoğlu (2004) emphasises that there has been a radical and rapid paradigm change in today's educational understanding, and therefore the renewed geography curriculum is led by models such as Vygostky's social constructivism theory, critical thinking, research, etc. learning and learning approaches, creative thinking, project-based learning. Of course, the contribution of teachers to the success of the curriculum cannot be ignored, but the main determinant is the curriculum. In this regard, Gülderen Alacapınar (2019) states that a qualified teacher is adopted and valued by the society and that teaching is considered a very important profession in Turkish culture. Ari (2022) defines geography as the science of knowing and understanding the earth. Therefore, he states that it started with the history of mankind, and that it has reached its present context as a result of human beings trying to explain and make sense of their environment and what is happening, while trying

to adapt to all these developments and changes in their environment. According to [Bilgili & Kocalar \(2020\)](#), geography is a social discipline that considers human and space intertwined; looks at all events, phenomena and activities from a spatial perspective; and tries to comprehend, interpret and explain what the results of human-space interaction are. According to [Özgen \(2010\)](#), although the concept of geography is perceived as "the description of space" in the human mind in the first place, it is actually a set of "vital facts" that constitute "the whole of functional values for human-space interaction" in a certain period of time. [Purtaş \(2013\)](#), referring to the importance of geography from a different perspective, states that it is one of the basic elements that are effective in the formation of identities and cultures as well as nationality, language, religion, traditions and customs of people.

Rationale and Purpose of the Study

Comparison of curricula with the curricula implemented in different countries is a very important issue in contributing to the formation of new perspectives and to notice the missing or negative aspects by looking from different angles. The aim of the study is a comparative analysis of the renewed geography curricula in Türkiye in 2018 and in Kyrgyzstan in 2020 in terms of aims(outcomes), content, learning-teaching approaches and assessment-evaluation elements with similar and different aspects. In addition, although they are not the basic elements of the programmes, some recommendations and guidance included in the programmes have also been tried to be included. Within the framework of this general purpose, the similarities and differences of the curricula in terms of objectives, content, learning-teaching, assessment-evaluation approach and some recommendations and guidance in the curricula were examined and compared. According to [Boobekova \(2001\)](#); in the field of education, countries have to look at what kind of approaches the education systems of other countries take and what kind of solutions they produce in overcoming the difficulties experienced in the education system, increasing achievements and solving various problems, and this is very important for the education system of the country concerned.

Method

Research Model

This qualitative research is based on the survey model to determine and compare the learning outcomes, content, educational situations and assessment-evaluation approaches of the secondary geography curricula of two countries. Document analysis technique was used in data collection and content analysis technique was used in data evaluation. According to [Yıldırım and Şimşek \(2016\)](#), qualitative research is a process that aims to reveal perceptions and events in a realistic and holistic way by using data collection techniques such as document analysis and observation. [Karasar \(2016\)](#) states that the survey model is a type of research that aims to determine a situation existing in the past and present as it is. In this direction, Türkiye and Kyrgyzstan geography curricula were examined and a comparative analysis was tried to be made.

Data Collection and Analysis

In qualitative research, there are three common data collection techniques such as observation, interview and analysing written sources (documents). Analysing written documents can be used both on its own and to support the data obtained through interviews and observations ([Yıldırım & Şimşek, 2016](#)). The documents selected for comparison are the 2018 geography course curriculum (GCC) prepared by the Ministry of National Education

(MNE) in Türkiye and the 2020 GCC (*Geography subject standard for grades 10-11 of general education institutions of the Kyrgyz Republic*) prepared by the Ministry of Education and Science in Kyrgyzstan. In addition, due to the difference in the classification of education levels in both countries, there was a need to examine, albeit superficially, the geography programmes for secondary schools in Türkiye and general education schools in Kyrgyzstan.

Content analysis technique was used to analyse the documents. According to [Yıldırım and Şimşek \(2016\)](#), content analysis is the process of bringing together similar data within the scope of certain concepts and themes, organising and interpreting them in a way that the reader can understand. In line with this definition, after examining the geography curricula of both countries in accordance with the content analysis, the data obtained were compared in terms of curriculum elements, as well as recommendations and guidance, if any.

Findings and Comments

Geography Curricula in Two Countries

In Türkiye and Kyrgyzstan, which were selected for the comparison of the curriculums, there are differences in the duration of education and the naming of the education levels. Therefore, this difference poses some difficulties in the one-to-one comparison of the secondary geography curricula of the two countries. In Türkiye, compulsory education is 12 years, and education levels are categorised as pre-school, primary and secondary education. In Kyrgyzstan, compulsory education is 9 years. This period is categorised as pre-school and general (primary, basic and secondary) education. For this reason, it is noteworthy that most of the geography courses at the secondary education level in Kyrgyzstan take place in grades 6-9, which is called general basic education level (Table 3). In high schools, which are defined as secondary education, geography courses are taught in grades 10 and 11 (Table 2). A student who completes general basic education (9th grade) takes the graduation exam. The 10th and 11th grades are the part to be studied in order to continue university. Another issue to be mentioned here is the existence of geography curricula in Kyrgyzstan written in both Russian and Kyrgyz. As a result, geography teaching in Kyrgyzstan differs from that in Türkiye in some aspects. In Türkiye, the subjects related to geography are included in some of the units in both *Social Studies* and *Science* courses in the second level of primary education or in other words in secondary schools.

In 2005, a radical paradigm shift was experienced in Türkiye in terms of curriculum development. Although there have been curriculum renewals and revisions at certain intervals in the past, the change in 2005 was based on a different philosophical basis. The 2018 GCC, which is in use, is shaped according to the same perspective. These curricula are based on the constructivist approach, designed as student-centred and clearly differentiate from the previous curriculums. In the 2018 GCC, the name of the courses on the basis of classes is *geography*, and since it is organised according to the spiral approach, the content offered continues to change at the class level without changing the unit names (Table 1).

Table 1

Distribution and duration of GCC in Türkiye according to grades

<i>Class level</i>	<i>Course name</i>	<i>Total time (hours)</i>	<i>Weekly duration (hours)</i>
9th grade	Geography	72	2
10th grade	Geography	72	2
11th grade	Geography	72	2
<i>11th grade*</i>	<i>Geography</i>	<i>144</i>	<i>4</i>
12th grade	Geography	72	2
<i>12th grade*</i>	<i>Geography</i>	<i>144</i>	<i>4</i>

* The marked schools represent schools with 4 hours of teaching per week

At the primary level, it is observed that geography-related topics are given in both social studies (learning areas) and science courses (subject areas) in accordance with their relationships. In social studies courses, content related to geography is included in the learning areas of individual and society, culture and heritage, people, places and environments, science, technology and society, production, distribution and consumption, and global connections. In science courses; the world and the universe, living organisms and life, physical events and matter and its nature are included in the subject areas. Although this distribution has been calculated in terms of the total achievements and on the basis of subject areas and learning areas, it cannot be given here because it would be too detailed.

In his study conducted in [Gül \(2015\)](#) states that the education curriculum implemented in Kyrgyzstan has almost the same structure as in the Soviet Union, which constitutes an obstacle to improving the quality of education. [Ağgün & Amasya \(2020\)](#) stated that Kyrgyzstan tried to adapt to the education system of the modern world after independence, so it gradually abandoned the old teaching methods in which only theoretical knowledge was conveyed and adopted a modern teaching approach that aims to provide students with the skills of discovering, questioning and analysing their own learning. [Polat \(2011\)](#) states that although the Kyrgyz Republic wanted very much after independence, the political process in which it was involved affected education policies as it affected all socio-economic and political fields, so it could not implement the planned changes and modernisation sufficiently. [Alimbekov & Dumanaeva \(2017\)](#) state that Kyrgyzstan's independence led to a change in the economic and political structure of the society and the paradigm of social development, and since those years, it has been continuing its efforts to establish an education system that is in harmony with the world and most suitable for itself.

In Kyrgyzstan, the geography curriculum prepared in 2012 was revised and put into practice in 2020. According to the Decree of the Government of the Kyrgyz Republic No. 403 dated 21 July 2014, according to the state standard of secondary general education, in general education institutions, the course "World Geography Regions and Countries" for grades 10-11 should be 68 hours in total, 34 hours per academic year (34 hours per year, 1 hour per week in grades 10 and 11) (Table 2). Also, in the course "Geography" for grades 10-11, the educational results of the students and the ways of measuring their achievement are organised.

In Kyrgyzstan, it is seen that geography courses start from the 6th grade and continue until the 11th grade. Unlike in Türkiye, the main difference is that geography courses are organised under various course names from the 6th grade onwards (Table 3).

Table 2

Geography courses in secondary general education in Kyrgyzstan, achievements and duration distribution

Classroom	Lesson	Number of gains	Total time (hours)	Weekly (hours)
10th grade	<i>World Geography: Countries and Regions</i>	3	34	1
11th grade	<i>World Geography: Countries and Regions</i>	3	34	1

Table 3

Geography courses and duration distribution in basic general education in Kyrgyzstan

Classroom	Lesson	Theoretical	Application	Total time (hours)	Weekly (hours)
6th grade	<i>Geography</i>	48	20	68	2
7th grade	<i>Geography of Continents and Oceans</i>	43	25	68	2
8th grade	<i>Physical Geography of the Kyrgyz Republic</i>	45	23	68	2
9th grade	<i>Economic and Social Geography of the Kyrgyz Republic</i>	25	9	34	1

Aims in Türkiye Geography Curriculum

The basic philosophy and general aims of all education programmes in Türkiye are shaped on the basis of the "General Objectives of Turkish National Education" and "Basic Principles of Turkish National Education" in Article 2 of the Basic Law on National Education No. 1739. When evaluated in this context, the aims of each level of education are regulated separately. In addition, the general objectives of the discipline to which the curricula prepared in this direction belong are given in the form of articles. Furthermore, we see what each subject is tried to be given for in the form of achievements. In other words, each achievement points to a target.

In the Geography curriculum, it is emphasised that "rapid changes in science and technology and the needs of the individual and society, innovations in learning-teaching theories and approaches have directly affected the roles expected from people". For this reason, it has become necessary to prepare individuals who can produce and use knowledge functionally, solve problems, think critically, be entrepreneurial, self-confident, have communication skills, empathise, contribute to society and culture, etc. for life and bring them into society. Therefore, the curricula have been shaped in a way that takes into account individual development and differences and focuses on gaining values, skills and competencies rather than a rote learning structure. For this purpose, on the one hand, repeated units and explanations in accordance with the spiral approach in different subjects and grade levels, on the other hand, learning outcomes that are aimed to be gained holistically and at once are included. Outcomes, conversely, are aimed at preparing students in a way that is competent, up-to-date, valid, associated with life, in the integrity of values, skills and competencies according to the level of education levels, directing the use of meta-cognitive skills, realising a meaningful, permanent and integrated learning with previous learning, and integrated with other disciplines (MNE PBED, 2018).

In the updated curriculum, in addition to the general aims, the aims of geography teaching are listed as 16 items by MNE. These articles briefly summarise why the geography course is taught. The student's learning the methods and theoretical foundations of the science of geography, comprehending the human-nature relationship on the basis of geographical enquiry, the functioning of natural and human systems and the skills of associating the basic elements in nature with life are mentioned. In addition; understanding and protecting the spatial values of their own country

and the world, nature-human harmony and spatial planning for this purpose, awareness of responsibility in the functioning of the ecosystem, conscious and economical use of natural and human resources, understanding the harmony of development with nature, understanding the importance of environmental, cultural and socio-economic organisations that are effective at local and regional scale in international relations. It is also aimed to have information about natural disasters and environmental problems and measures for them, the potential provided by Türkiye's position in terms of regional and global relations, the importance of geographical information in the formation of homeland awareness, all kinds of utilisation of maps and Türkiye's new vision of the developing and developed countries in the world, especially the regions and countries with close relations.

Table 4

Unit-based distribution, durations and ratios of learning outcomes according to grades in Türkiye GCC

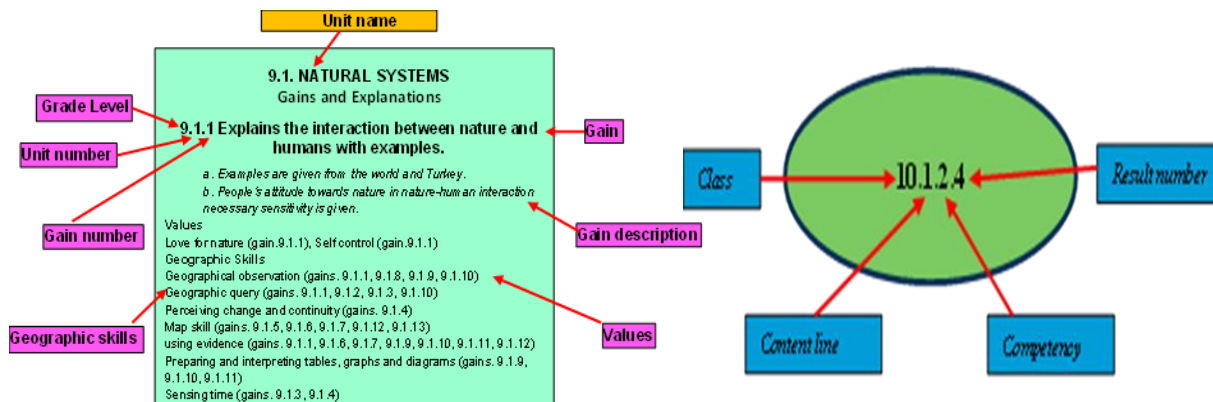
Units	9th grade			10th grade			11th grade			11th grade			12th grade			12th grade		
	Lesson hours	Rate %		Lesson hours	Rate %		Lesson hours	Rate %		Lesson hours	Rate %		Lesson hours	Rate %		Lesson hours	Rate %	
Natural systems	13	47	65	17	36	50	2	4	5	4	12	8	1	2	3	2	12	8
Human systems	4	15	21	12	24	33	15	41	57	20	76	53	12	33	46	17	82	57
Global setting: Regions and Countries	3	5	7	1	4	6	7	17	24	9	40	28	9	31	43	11	38	27
Environment and Society	2	5	7	4	8	11	5	10	14	7	16	11	2	6	8	4	12	8
Total	22	72	100	34	72	100	29	72	100	40	144	100	24	72	100	34	144	100

Note: In grades 11 and 12, italicised in the table, geography courses are taught for 4 hours a week.

Along with these aims, students are also expected to be equipped with values, competences and skills. Values and competences are also included in the programmes of other disciplines. However, skills are more specific to the field of geography. In GCC (2018); the main purpose of the education system is to raise individuals with knowledge, skills and behaviours integrated with values and competencies. What is meant here is that values, competences and skills are integrated with achievements. Geographical skills are geographical observation, working in the field, geographical enquiry, perceiving time, perceiving change and continuity, map skills, preparing and interpreting tables, graphs and diagrams, and using evidence (Figure 1).

Figure 1

The presentation of learning outcomes in Türkiye and Kyrgyzstan GCC's.



Source: Adapted from Türkiye and Kyrgyzstan GCC.

Aims in Kyrgyzstan Geography Curriculum

The Kyrgyz GCC includes general provisions on geography and some objectives in detail. It is stated that the geography education course in Kyrgyzstan in grades 10-11 summarises the content of geography teaching at all school levels and fulfils an integrative function for all levels of geography teaching. It is emphasised that the main core and cross-cutting concept is the environment, as well as the key concepts of region and nature. It is pointed out that geography as a subject of education, understanding the issues of human and environmental interaction applied to a particular region, geographical objects and areas, various physical (terrain, soil, climate, rivers, vegetation and wildlife) and social (beliefs and cultures of people, settlement, socio-economic systems and lifestyle) characteristics of the learning. It is mentioned that no country in the world is self-sufficient, therefore, interconnectedness with transport and communication systems and the development of methods for cooperation at regional, national and international levels. It is emphasised that the basis of understanding the structures and processes occurring in different regions within the global system, knowing the regional and national characteristics of people's lifestyles and development is to learn the concept of region well. It is stated that geoeological competences of students are based on knowing the concept of nature. It is aimed to teach students the effects of human activities on nature, how to use their knowledge and skills correctly at this point, what are the beneficial practices for the environment and the importance of environmental harmony. In addition, in the aim of geography education, it is mentioned to raise individuals who have knowledge of natural, natural-technological and socio- economic phenomena and processes, geographical competencies complex, ethically adapt to the geographical area and develop a functional, value attitude towards the world. In addition, in the objectives of geography teaching, it is emphasised that it will help students in the formation of geographical competences in the cognitive, developmental (active) and value (educational) areas. Three competencies, namely informative, social- communicative, self-organisation and problem solving, which are important in the creation of modern geographical education, are considered as key. In addition, geographical, geoeological and social-personal competences are mentioned as the field competences of geography teaching. The aim of geography education for the formation of these competences, skills and competences is summarised as follows. In the 10th grade, the general, socio-economic characteristics of the countries of the world (political map of the world, modern trends in the economic developments of the world countries and global environmental problems) are discussed, while in the 11th grade, continents and selected countries are included. When these topics are addressed, students are taught sustainable development, which ensures the harmonious development of the "nature-human-society-environment" system, recognising the world, comprehending various regional and global events and processes, reading the processes occurring in world politics and economy correctly and creating a perspective for the future. Interdisciplinary connections and intersecting thematic points are also included in the curriculum. In the interdisciplinary connections of Geography lessons, the integration of History, Human and Society, Kyrgyz and World Literature, Language, Mathematics, Science and Informatics courses are mentioned in relation to the achievements while the subjects are being taught.

Table 5

Kyrgyzstan GCC objectives in grades 10-11

<i>Results and indicators</i>		
<i>Qualification</i>	<i>Grade 10</i>	<i>Grade 11</i>
<i>Gains 1. Geographical area</i>		
<i>1 Geographic</i>	10.1.1.1. Analyzes the impact of historical periods and modern political processes on the formation of the political map of the world and the diversity of countries.	11.1.1.1. Analyzes the position of regions and countries according to regional and geopolitical parameters.
<i>2 Geoecological</i>	10.1.2.2. Explains the spatial differences in the distribution of the world's natural resources	11.1.2.2. Analyzes the importance of the natural resource conditions of the region for the development of the regional (country) economy.
<i>3 Social and personal</i>	10.1.3.3. Demonstrate the application of multi-perspective thinking when analyzing the culture and politics of one's own country (or any other country).	11.1.3.3. Demonstrate the importance of understanding the geocultural space of one's own country (or another country) to make connections between people and countries.
<i>Gains 2. Geocultural diversity</i>		
<i>1 Geographic</i>	10.2.1.4. Analyzes the impact of demographics, migration processes, global communication on the development of the country.	11.2.1.4. Analyzes the impact of urbanization, demography and migration processes on the material culture of society in regions and countries of the world.
<i>2 Geoecological</i>	10.2.2.5. Analyzes the problems of resource insecurity of countries and regions in the world and the ecological interaction of human and geographical environment.	11.2.2.5. Demonstrates the application of geographical and ecological thinking in the analysis of global problems.
<i>3 Social and personal</i>	10.2.3.6. Assesses the possibility of each individual's participation in improving the well-being of society in his/her country (other countries), including overcoming gender inequality.	11.2.3.6. Analyzes the concept of sustainable development of the country and the possibility of personal participation of everyone in ensuring balanced development of society.
<i>Gains 3. Socio-economic development</i>		
<i>1 Geographic</i>	10.3.1.7. Evaluates the role of the international geographical division of labor and the role of scientific and technical progress in the development of branches of the world economy.	11.3.1.7. Analyzes the place and development perspectives of regions and countries in the world according to social and economic parameters.
<i>2 Geoecological</i>	10.3.2.8. Demonstrates the application of research skills in analyzing the impact of economic sectors on the environment.	11.3.2.8. Evaluates changes in the environment of countries and regions under the influence of economic activity, science and technology.
<i>3 Social and personal</i>	10.3.3.9. Compares future professional interests with professions in different areas of the world economy.	11.3.3.9. Assesses the possibility of using geographical competences in future activities.

Note: Although there are explanations about the gains given in the table, only the gains are given considering that the table will take too much space.

Comparison in terms of Aims

When Türkiye and Kyrgyzstan GCCs are compared in terms of aims, it is noteworthy that both of them emphasise the contribution to raising individuals who can adapt to current developments. The different distribution of geography lessons in the two countries has been effective in determining the boundaries of the aims. In the Turkish GCC, the aim objectives are given in items and the behaviour change is clearly stated. In addition to competence, values and skills, some directions are also mentioned in the perspective of the curriculum. However, in Kyrgyzstan GCC, while the aim objectives are given, it is observed that some features such as competence and skills are emphasised and clarity is lacking. The educational objectives of the country are not mentioned in the GCC, rather the qualifications to be gained by the students are mentioned. In addition, the aims of the curriculum are presented in an integrated manner with situations such as skills, competence and competence instead of being listed in items. This way of presenting the aims partially obscures the clear understanding of the subject. In other words, mentioning details such as geographical, geocultural, social and personal competence, cognitive, activity and value tasks prevents the objectives from being clearly stated. When evaluated from a holistic perspective, it is seen that both curriculums take into account the raising of individuals who can read the changes and innovations in the world, know different regions, are

aware of different cultures and respect those cultures. In addition, the curriculums emphasise the importance of raising individuals who are respectful to nature, sensitive to the environment, sustainable in economic and environmental terms, and who associate geography with daily life. In both curriculums, it is observed that the efficient use of natural resources is mentioned. Although there are references to competence, values and interdisciplinary connections in the aims of both curriculums, these features are clearer and more understandable in the Turkish GCC.

Content in Türkiye Geography Curriculum

While the names of the courses were given separately (for example; General Geography, Human and Economic Geography, etc.) in the GCC's before 2005 in Türkiye, in the curriculums organised after this date, only geography was named as a course, a spiral approach was adopted instead of a linear approach when organising the content, and the presentation of the content was divided into units. However, although the unit names are repeated at each grade level, the subjects analysed change and the continuity of the unit is ensured (Table 1). There are 4 recurring units in each grade: natural systems, human systems, global environment: regions and countries, and environment and society.

In the 9th grade I. unit; human interaction with nature, sub-branches of the discipline of geography, different disciplines related to geography, the historical adventure of geography, the shape and movements of the earth and its results, as well as the coordinate system, location (absolute, relative) are discussed. In addition, map information is mentioned, the general characteristics of the atmosphere and climate elements as well as the climate types experienced in the world and in Türkiye are examined. In Unit II, the site selection and development of settlements, the texture and type of settlements, the distribution of settlements in Türkiye, the elements affecting these factors and the functional characteristics of settlements are examined. In Unit III, information is given about the criteria for creating regions, the changeability of regional boundaries according to the purpose, different examples of regions in the world and countries in the regions formed by geographical criteria. In Unit IV, the relationship between people and the natural environment is discussed.

In the 10th grade 1st unit; the formation and structure of the world, geological time periods, the effect of geological processes in Türkiye, the role of rocks, internal and external forces in the shaping of morphology, in this respect, examples of the main surface forms in Türkiye and the world's, and Türkiye's water, soil and plant assets are given information about. In unit II; the importance and characteristics of population, the process of change in the world population, the factors affecting the distribution of population, the use of population pyramids to make inferences about the structure of the population, the historical change adventure of Türkiye's population, the factors affecting the distribution of the population, the structure of the population, the causes and consequences of migration in the past, the effects of migration on space, the introduction of economic activities and the relationship between the types of economic activities and the development levels of countries are examined. In Unit III; regional and global effects of important transport lines in the world are mentioned. In Unit IV; causes and characteristics of disasters, distribution and effects of disasters in the world and in Türkiye, methods of protection from disasters are emphasised.

In Grade 11 Unit I, the factors that play a role in the formation and destruction of biodiversity, what the ecosystem consists of, material cycles and energy flow and water ecosystems are examined. As a difference in the

programmes taught for 2 hours a week, the subject of water ecosystems is not given. In Unit II; population policies applied by countries in different periods and their results, population policies applied in Türkiye with their justifications, Türkiye's population projections and related scenarios, functions of cities, cities and rural settlement types according to their functions are explained. In addition, natural and human factors affecting production, consumption and distribution and their effects on the economy, the relationship between economy and natural resources in the world and in Türkiye, changes in economic policies, economic sectors, agriculture, mines and energy resources and the characteristics of industry and its place in the economy. In the curriculums, which are taught for 2 hours a week, the population policies implemented by Türkiye and their justifications are not included. In Unit III; the first cultural centres formed in the world, the distribution of cultural regions in the world, the regions where Turkish culture spread, the reasons why Türkiye has been a centre of civilisations throughout history, trade between regions and countries, raw materials, production and market areas, the place of tourism in the interaction between countries, the industrialisation adventure of a country with developed industry, agriculture- economy relationship in countries with different levels of development, regional and global organisations. In the curriculums, which are taught for 2 hours a week, the topics of trade between countries and regions, raw materials, production and market areas and the industrialisation process of an industrialised country are not included. As for the topics addressed in Unit IV; environmental problems and their formation, the effects of the use of mineral and energy resources on the environment, the environmental consequences of the use of natural resources in countries with different development, the effects of different practices in land use on the environment are discussed. The formation and global effects of environmental problems and the economically sustainable use of natural resources are included. In the curriculums, which are taught 2 hours a week, the effects of the use of minerals and energy resources on the environment, land use based on different practices and its impact on the environment are excluded.

In Grade 12, Unit I, extreme situations in natural phenomena and their effects, changes that may occur in the future in terms of natural systems and their effects on living life are discussed. In the curriculums, which are taught for 2 hours a week, only extreme natural events and their effects are mentioned, while other topics are not included. In Unit II; the effect of the dominant economic activity in a region on socio-cultural life, the relationship between urbanisation, industrialisation and migration processes and their social consequences, the future of population, settlement and economic activities, the characteristics of the existing functional regions in Türkiye, regional development projects with their effects, the place and importance of the service sector in the economy, the factors that play a role in the development of transportation networks, the connection between transportation and settlement and economic activities. In addition, the importance of world trade centres in the global economy, the products subject to trade and the function of trade centres in Türkiye on the flow directions, Türkiye's position in the context of historical trade routes, foreign trade, the relationship of natural and cultural symbols with space, tourism potential and the place of tourism in Türkiye's economy are discussed. In the curriculums taught for 2 hours a week, the role of dominant economic activity on social and cultural life, the future of population, settlement and economic activities and the importance of tourism activities in the Turkish economy are not addressed. In Unit III; the change of the positional importance of continents and oceans in the historical process, the position of countries in terms of geopolitics, the geopolitical regions in which Türkiye is located in the historical process and the effects of this, the historical and

cultural connections between Türkiye and the spreading areas of Turkish culture are discussed. In addition, the effects of technological advances in the global context, the criteria for determining the level of development of countries, the social and economic characteristics of developed and developing countries, the impact of natural resource potential on the regional and global relations of countries are included. In addition, the importance of the main energy transport lines in the world for the region and countries, spatial elements that create problems between countries and today's conflict areas are included. The geopolitical regions in which Türkiye is located, the role of technological developments in cultural and economic interaction between regions and countries are not covered in the programmes taught for 2 hours a week. In Unit IV; the limitation of the natural environment, the practices of countries with different levels of development to prevent environmental problems, the effects of environmental organisations and agreements on environmental management and protection, threats to common natural and cultural heritage. Threats to common natural and cultural heritage were not included in the programmes taught for 2 hours a week.

Content in Kyrgyzstan Geography Curriculum

In Kyrgyzstan GCC, the courses taught in 10th and 11th grades have the same title, namely world geography, countries and regions. On the other hand, it is observed that the themes included in the lessons are different. In this way, although the same names of the courses seem to be in accordance with the spiral approach, it is seen that different themes and subjects are included in the content (Table 6). The stage of education in Kyrgyzstan where geography lessons are mainly taught is the second stage of education (Table 7). Geography courses taught at this level are more both in terms of classes and time allocated.

Table 6

Unit and duration-based distribution of lessons in 10th-11th grades in Kyrgyzstan GCC

Grade 10		Grade 11	
Theme	Duration (hours)	Theme	Duration (hours)
Introduction	1	Introduction	2
A different world	6	Europe	4
Geography and geoecology of the world's natural resources	9	Asia	8
Population geography	7	Post-Soviet states	6
Scientific and technical revolution and the world economy	2	Africa	4
Geography of sectors of the world economy	9	Australia and Oceania	2
		America	6
		Global Challenges of Humanity	2
Total	34	Total	34

Table 7

Unit and duration-based distribution of geography courses in basic general education in Kyrgyzstan

Grade 6			Grade 7		
Geography (Grade 6 68 hours; 2 hours per week)			Geography of Continents and Oceans (68 hours; 2 hours per week)		
<i>Sections</i>	<i>T(hour)</i>	<i>U(hour)</i>	<i>Sections</i>	<i>T(hour)</i>	<i>U(hour)</i>
<i>Introduction</i> What does geography study?	3	1	<i>Introduction</i> The purpose of studying continents and oceans.	2	-
<i>I. Sources of geographical information and methods of working with them</i>	9	2	<i>Part I. Natural features of the Earth</i>	7	6
<i>II. The nature of the Earth and its crust</i>	33	12	<i>II. Geography of Continents</i>	30	15
<i>III. Geography of your region</i>	3	5	<i>III. Geography of the Oceans</i>	4	4
<i>T=Theoretical U=Application</i>	48	20	<i>T=Theoretical U=Application</i>	43	25
Total		68	Total		68
Grade 8			Grade 9		
Physical Geography of the Kyrgyz Republic (68 hours, 2 hours per week)			Economic and Social Geography of the Kyrgyz Republic (34 hours, 1 hour per week)		
<i>Sections</i>	<i>T(hour)</i>	<i>U(hour)</i>	<i>Sections</i>	<i>T(hour)</i>	<i>U(hour)</i>
<i>Introduction.</i> My homeland is Kyrgyzstan, what does the physical geography of Kyrgyzstan study.	1	-	<i>Introduction.</i> What does the economic and social geography of the Kyrgyz Republic study?	1	-
<i>1. Geographical location and borders of the Kyrgyz Republic</i>	2	2	<i>1. The place of the Kyrgyz Republic in the world</i>	2	-
<i>2. Nature of the Kyrgyz Republic</i>	17	7	<i>2. Population geography of the Kyrgyz Republic.</i>	4	-
<i>3. Physical and geographical regions of the Kyrgyz Republic</i>	16	8	<i>3. Economy of the Kyrgyz Republic</i>	10	-
<i>4. Natural resources and geocological situation of the Kyrgyz Republic</i>	9	6	<i>4. Economic and social characteristics of the administrative-territorial divisions of the Kyrgyz Republic</i>	8	9
<i>T=Theoretical U=Application</i>	45	23	<i>T=Theoretical U=Application</i>	25	9
Total		68	Total		34

Grade 10, world geography, countries and regions course content begins with an introduction. In the introduction, the aims of the course and geographical information sources are mentioned.

Theme 1. a different world: In this theme; classification and typology of world countries, number and grouping of countries, developed and developing countries, political map of the world and international relations are discussed. In addition, the stages of the formation of the political map of the world, the impact of international relations on the political map of the world, the state system of the world countries, the main forms of government (republican and monarchical) are mentioned. The main forms of administrative-territorial structure (unitary and federal), political geography and geopolitics, political and geographical position of individual countries and regions of the world are analysed. Implementation: 1-Compiling the table "State system of the countries of the world". 2-Display of major countries, their capitals, international organisations on the contour map. 3-Features of the political and geographical position of countries (depending on the student's choice).

Theme 2. Geography and geocology of the world's natural resources: Geographical environment and use of nature, "exchange of matter" between society and nature, rational and irrational use of nature. The natural resources of the world, mineral resources, ore and non-metallic minerals, land resources and its condition, water resources, fresh water problem, biological resources and flora and fauna of the world are examined. Also, the world's oceanic resources, climate, land and recreational resources, resource availability, pollution and environmental protection, anthropogenic pollution of the lithosphere, hydrosphere, atmosphere, ways of solving environmental problems,

nature conservation activities and ecological policy, as well as the role of international organisations in environmental protection. Implementation: 1. To make a map of the location of the largest mineral deposits. 2. Assessment of the resource availability of individual countries or the world (optional).

Theme 3. population geography: The number of population and population growth, primary (natural) population growth, demographic crisis, secondary population growth, population explosion and demographic policy. In addition, population structure, sex and age composition of the population, geography of world religions, ethno-linguistic and religious composition of the population, location and population density, types and causes of migration, urban population, urbanisation, level and rate of urbanisation, rural settlement pattern, population and environment as well as the level and quality of life of the population are examined. Implementation: 1-Compiling comparative characteristics of rates and levels of urbanisation in major regions and individual countries. 2- Comparison of the characteristics of the first and second type of population growth. 3-Analysis of age-sex pyramids and employment structure in different countries. Project: "What can I do to improve conditions in my country (or any other country)?".

Theme 4. scientific and technical revolution and world economy: The world economy, international economic integration, multinational corporations, the structure and basic model of the world economy, the distribution of industries in the world economy.

Theme 5. Geography of sectors of the world economy: The fuel industry, the energy industry, the mining industry and metallurgy, engineering, chemical, timber and manufacturing industries, world agriculture, transport and communications, and economic relations around the world are examined. Implementation: 1-Display of the main industrial centres of the world on a contour map. 2- Economic and geographical characteristics of one of the world industries (according to preference). 3-Determination of the modes of transport in different regions of the world, evaluation and forecasting of the development of transport systems for one of the regions. 4-Mapping of the main regions of international tourism, highlighting regions with a combination of natural and cultural-historical monuments.

The first part of the *11th grade world geography, countries and regions* course is devoted to 2 hours of introduction. Historical and geographical regions of the world, borders, socio-economic contrasts and economic power centres of the world are introduced. Also in the introduction section; large regions: Foreign Europe, Foreign Asia, Australia, Africa, Africa, North America, Latin America. Again; major countries: China, Japan, South Korea, India, Australia, South Africa, USA, Canada, Brazil and Kyrgyzstan as the subject of the world geographical space.

Theme 1. Europe: General characteristics of the continent, its borders, geographical position, political and economic situation, main natural features, geographical map of the continent, regional differentiation of natural conditions and resources of the continent are given. In addition, the historical and geographical aspects of the discovery and settlement of the continent's territory, the settlement and migration of the continent's population, sub-regions, regional differences in the continent's economy, the geographical structure of settlement and economy are examined. Implementation: Study of the geocultural area of the country (according to the student's preference).

Theme 2. Asia: General characteristics of the continent, geographical specificity, image of the continent, demographic status and composition of the continent's population, geopolitical, economic, social, environmental problems of the continent and their solutions, geocultural area, as well as sub-regions of Asia (southwest, south, south, southeast, east) and major countries: China, Japan, South Korea and India. Implementation: Study of the geocultural space of the continent (according to the student's preference).

Theme 3. Post-Soviet states: General characteristics of the region, regional organisation and differentiation of the economy of the region (countries), specialisation of the region (countries), main industries, agriculture and transport.

Theme 4. Africa: General characteristics of the continent, regional organisation and differentiation of the continent's economy, the continent's specialisation, the continent's main industries, agriculture and transport are discussed, followed by Africa's sub-regions, South Africa and Africa's ecological problems. Implementation: Study of the geocultural space of countries (according to the student's preference).

Theme 5. Australia and Oceania: Characteristics and composition of the continent, Oceania countries, demographic outlook, uneven distribution of population and economy, and types of settlements.

Theme 6. America: General characteristics of the USA and the continent, Canada, Latin America, Mexico, Central America and the West Indies, the Andean countries, the Amazon Basin and the countries of the La Plata Plain (in the centre of South America) and Brazil. Implementation: Examination of the geocultural area of the country (according to the student's preference).

Theme 7. Global Problems of Humanity: Global problems of humanity, global forecasts, hypotheses and projects, and sustainable development strategy are examined. Implementation: My choice (planning my future activities).

To make a general evaluation, it is observed that in Kyrgyzstan GCC, while a general presentation of the world (population, economy, environmental problems, etc.) is dealt with in the 10th grade, in the 11th grade there is an examination on the basis of continents and some sample countries. In addition, the skills to be acquired by the students after the examination of these subjects are listed one by one.

Comparison in Terms of Content

In terms of content, it is more appropriate to make an evaluation on the basis of units and themes instead of addressing individual topics. The fact that both countries are not similar in terms of education levels leads to the fact that there are fewer geography lessons at the high school level in Kyrgyzstan. However, there is an opposite situation. Namely; it is seen that the geography courses given at the basic general education level in Kyrgyzstan are quite intensive. Since the content has been given above, a general comparison has been made in order to avoid repetition. In Türkiye, the names of the courses and the units are the same in every class, but in the content, it is noteworthy that the focuses of the units vary, so the subjects to be given are integrated into the appropriate units. In Kyrgyzstan, there are world geography, countries and regions courses to be evaluated at high school level. Although the names of the courses are the same, it is seen that different topics are included according to the grade level. It is noteworthy that in both classes, a general introduction of the course is made first, that is, there is no direct transition to the subjects. While there are 5 themes in 10th grade, there are 7 themes in 11th grade. Although the lesson duration

is equal in both classes, there is a difference in the time allocated for the themes. In Grade 10, general evaluations about the world are made, while in Grade 11, continents and some selected countries are mentioned. It is not very easy to compare the GCCs in terms of content. At the high school level, it is noteworthy that Kyrgyzstan has only 2 courses (grades 10-11) and is very limited in terms of duration (1 lesson per week, 34 hours per year). At this point, it would be more appropriate to compare it with units 2, 3 and 4 (human systems, global environment: regions and countries, environment and society) in the Turkish GCC. Because, as it can be understood from the names of the lessons in Kyrgyzstan GCC, this situation can lead to a more logical conclusion in terms of content. In the content given in Kyrgyzstan; political view of the world, state structures, forms of administration, use of natural resources, sustainability, environmental problems, population and population policies, settlements, distribution of economic sectors and international relations, and examination of continents with various characteristics. In Türkiye, on the other hand, these subjects were tried to be presented in certain units. When compared in the context of the mentioned units, it is noteworthy that the similarities are quite intense. Although they are expressed in different ways, the topics touched upon are more or less similar. The most prominent difference is that in the 11th grade III unit in Türkiye, the spread areas of Turkish Culture are mentioned, whereas in Kyrgyzstan, in the 11th grade III theme, the subject of post-Soviet states can be mentioned. Another detail is that in Kyrgyzstan, there is a lot of practice in geography lessons. Although Türkiye's GCC also includes skills such as observation, working in the field, as well as guidance and recommendations on activity tasks, it is difficult to determine whether this fully meets the practices in Kyrgyzstan's GCC. Among the topics specifically mentioned, it is noteworthy that multiculturalism and gender equality are mentioned in Kyrgyzstan GCC, just like some topics mentioned in the learning outcome descriptions in Türkiye GCC (Göbeklitepe, Çatalhöyük, Alacahöyük, regional and global effects of the 3rd Airport and Canal Istanbul projects in Istanbul). The most significant difference in Kyrgyzstan GCC is that there are three main categories as geographical, geoecological and social personality and 3 learning outcomes in each class in accordance with these categories.

Teaching-Learning Approach in Turkish Geography Curriculum

As in the expression that we frequently come across in daily life, how you convey it is as important as what you convey, how students are taught is as important as what they are taught. In this respect, it is very important to plan and manage the process of transferring knowledge, skills, attitudes and values, which are aimed to be gained by students through curricula, effectively and efficiently. In Türkiye's GCC, there are directions for the creation of an effective teaching-learning process.

Students' learning through discovery, questioning and determining their own learning, as well as their preparations for in-class or out-of-class activities are mentioned. In the transfer of the subjects, the importance of a holistic view and a multidimensional view without moving away from the acquisition framework, as well as the importance of associating with related disciplines and daily life according to the subject characteristics is emphasised. It is emphasised on the availability of materials suitable for the characteristics of the subjects covered and the accessibility of the student. In addition, the importance of the use of today's developing technologies in the lessons and the importance of including field trips and observations are emphasised. In addition to these, it is

recommended that teachers should pay attention to issues such as skills, values and competence while teaching lessons, and be selective in the selection of methods, techniques and materials, taking into account the class level, students' readiness and learning status. In addition to all these, it is recommended to co-operate with the teachers of the relevant discipline areas and the teachers of the related discipline areas in the preparation of the materials.

Teaching-Learning Approach in Kyrgyzstan Geography Curriculum

In Kyrgyzstan GCC, it is seen that the guidance on the teaching-learning approach is gathered in two main points. One of them is the creation of a motivation and motivation environment to increase the student's interest, and the other is in the form of recommendations to teachers on how to carry out teaching.

Creating a motivating learning environment: The need to develop methodologies and techniques for the creation and maintenance of high educational motivation of students to study geography, including taking into account the development of modern information and communication technologies, is mentioned. It is mentioned that a motivating learning environment for teaching geography is created, first of all, by the teacher's compliance with the basic general didactic principles of teaching (scientific character of geography, coherence, humanistic and social, student-oriented activities, connection of learning with life and visibility). It is recommended that it is necessary to stimulate the student's desire to learn and understand why they need the information presented, so the teacher should first justify the purpose of the study, then the objective, and then move on to the content of the subject. It is emphasised that the motivating environment should also be gender balanced, with both boys and girls being equally motivated, especially when studying mathematics, natural sciences and social and humanitarian disciplines, including laboratory work and practice.

In the formation and development of competences, the importance of taking into account all areas of the student's personality development, i.e. cognitive, emotional and psychomotor development, which consistently reflect the continuity and progress of students in the transition from one level of education to another, is emphasised. In this context, it is stated that in the educational process it is necessary to use a variety of learning strategies appropriate to the age of students in order to support and stimulate the motivation to learn subjects, the formation of personal qualities and the development of individual achievements. A motivational educational environment is defined as a physical, psychological and academic environment.

In the section Methodological principles for teachers: It addresses the various forms of organisation of the educational process, the contribution of the use of information and communication technologies in the conduct of lessons and includes recommendations for teachers in this respect. There are recommendations such as the readiness of the learning environment, providing motivation by revealing the purpose in the transition to a new subject, addressing the student's personality (such as tell your reason, defend your point of view, prove it, what do you think will happen), supporting independent work, directing to problem-based learning. In addition to the various forms of organisation of the educational process, such as teaching through games, group work, conferences, competitions, discussions, the necessity of having geographical competences and emphasising their social importance, drawing the student's attention to unusual facts, processes, natural phenomena, commonly used analogies are also recommended. Again, the importance of interdisciplinary links, the use of geographical competences in real life, the creation of the

necessary environment for practice, recommendations for assessment and the teacher's methodological mastery are emphasised.

Comparison in Terms of Educational Background

In Türkiye's GCC, issues such as the perspective of the curriculum, issues to be considered during the implementation of the curriculum, teaching-learning approach are mentioned in detail, and in Kyrgyzstan's GCC, it is seen that there is a very detailed and guiding approach in terms of educational situations. In both curricula, the guidance and recommendations on how geography teaching can be more successful are similar. There is enough enlightening information both on how to create teaching environments and how teachers should carry out teaching. The duties of the school administration, teachers and other stakeholders to provide a motivating environment for teaching and learning are described in detail. In the Turkish GCC, it is particularly emphasized that the acquisition of geographical skills on how to carry out the teaching-learning process and the subjects of competencies and values education are given in an integrated manner with the achievements, and it is noteworthy that in the Kyrgyzstan GCC, these situations are adequately mentioned and even discussed in great detail.

Assessment and Evaluation Approach in Turkish Geography Curriculum

In GCC, the differences of individuals, the importance of diversity and flexibility in measurement and evaluation, and the fact that there cannot be a standard valid for everyone, and that curricula are guiding at this point are pointed out. In this context, guidance on assessment-evaluation is given. In assessment-evaluation, it is recommended that all components of the curriculum should be taken into consideration and practitioners should be given flexibility in determining assessment-evaluation tools. It is emphasised that assessment-evaluation should be taken into consideration throughout the education period and together with the monitored processes, as well as the importance of applying inclusive techniques by taking individual differences into consideration. It is pointed out that it is wrong to assess the student only in the cognitive sense, so multidimensional assessment tools should be used, and the process is more important with the understanding that characteristics such as interest, attitude and achievement may change over time.

Assessment and Evaluation Approach in Kyrgyzstan Geography Curriculum

Kyrgyzstan GCC contains very detailed suggestions and recommendations on assessment-evaluation. It is emphasised that the assessment of educational achievements should be multidimensional under the conditions of competency-based approach. For example, it is suggested that the teacher should use the strategic assessment method to collect information about students' academic achievements and that different strategies and appropriate tools should be used for more effective assessment of students. It is also stated that formative, diagnostic and summative assessments can be used to evaluate the results of students' educational activity in accordance with the requirements of the subject standard and that both traditional (practical, oral and written work) and non-traditional methods (systematic observation of student activity and behaviour, portfolio, projects, research and self- assessment) can be used for this. In contrast to the traditional approach, special attention is paid to formative assessment, emphasising its importance in enabling students to learn actively and effectively, based on feedback, as well as its contribution to

each teacher's knowledge of how well their students are learning. It is emphasised that this type of assessment can be used to diagnose how the learning process is progressing, not only at the final stage, but also at the initial and intermediate stages, and if the data are insufficient, on the basis of the feedback received, changes can be made to improve the quality of students' educational activities. When assessing geographical competences, it is recommended to apply Bloom's levels of mental activity to create tasks of different nature. In this context, the use of Bloom's pyramid, which includes the steps of knowledge, comprehension, application, analysis, synthesis and evaluation, is recommended and an example is given. Afterwards, it is suggested that geographical tasks at different levels can be created based on this pyramid. These tasks are introduced as reproductive, productive and creative levels.

Reproduction level: Characterised by learners' ability to follow a pattern (a specific algorithm for performing an action).

Productive level: Characterised by the ability to apply acquired theoretical knowledge in an unusual situation.

Creative level: Refers to the independent solution of educational problems.

The need for students to know what and when they are assessed and which forms and assessment criteria are used is emphasised. The weighting of grades according to the time of assessment (current, interim and final) is given. It also describes in detail how students will be graded in exams and practical's.

Table 8

Examples of assessment criteria for different activities of students in Kyrgyzstan GCC

<i>1- Criteria for evaluating students' oral and written answers</i>			
<i>Student is given 5</i>	<i>Student is given 4</i>	<i>Student is given 3</i>	<i>Student is given 2</i>
2- Analyzes, summarizes, and concludes information independently and argumentatively. 3- Applies the acquired knowledge to an unusual situation. 4- Uses visual aids, textbooks, additional literature independently.	2 - Makes incomplete, minor inaccuracies when using scientific terms or when explaining the content, definitions and concepts in the results and generalizations obtained from observations and experiences. 3- Confirms the answer with concrete examples. 4 - It reveals the essence of the main geographical relations. 5- Knows geographical terminology and can work on geographical maps with minor errors.	2- There is inconsistency in presenting the material systematically. 3- Inadequate in conclusions and generalizations, weak arguments. 4 - Fails to use conclusions and generalizations drawn from observations, facts and experiences as evidence or makes mistakes when presenting them. 5- Inadequate knowledge of geographical terminology.	1- Cannot explain the main content of the material. 2- It cannot draw conclusions and generalize. 4- Makes more than two major mistakes in answering a question that cannot be corrected even with the help of the teacher. 6- Knows geographical terminology.
<i>2- Criteria for evaluating practical and independent work</i>			
<i>Student is given 5</i>	<i>Student is given 4</i>	<i>Student is given 3</i>	<i>Student is given 2</i>
1- Performs practical work independently. 2- Prepares the work carefully.	1- Performs practical work independently. 2- allows some deviation from the recommended execution sequence.	1- Does practical work with the help of the teacher. 2 - Does not complete the work, needs additional time to finish it at home.	1- Cannot work independently. 2- The results of the study are not accurate and completely contradict the purpose.

Comparison in terms of Assessment-Evaluation Approaches

When they are compared in terms of assessment-evaluation approaches, it is seen that the desired point is the same and that there are recommendations and guidance on the use of diversity and multidimensional assessment-evaluation tools. However, it is noteworthy that there is a difference in terms of whether the instructions in the

curricula are detailed or not. Türkiye's GCC has an approach that is enlightening and guiding in terms of assessment-evaluation but avoids detail. Instead of a standardised assessment suitable for everyone, an assessment-evaluation approach that prioritises individuality and is based on maximum diversity and flexibility has been adopted. It is also recommended that the main task falls on the teachers and that they should utilise their creative qualities.

In the Kyrgyzstan GCC, it is seen that all kinds of details regarding the assessment-evaluation approach are included with examples. In the evaluation of students' exams and practical work, a 5-2 grading system from high to low is used, and at this point, the details of the evaluation are given in detail (Table 8).

Discussion, Conclusion & Suggestions

It is seen that the curricula of both countries have differences as well as similarities. The first point that draws attention is that the distribution of geography courses taught in the two countries at the grade level is different. In Türkiye, geography courses are taught in secondary education, whereas in Kyrgyzstan, they are started to be taught from the 6th grade in the basic general education level. At this point, it can be brought to the agenda that some subjects related to geography in Türkiye are also given at the second level of primary education, but it seems to be a deficiency that it is not included as a geography course. Because in Kyrgyzstan, geography is taught in the 6th, 7th, 8th and 9th grades with course names related to the field of geography and quite intensively. On the other hand, it is noteworthy that geography courses in secondary education in Türkiye are more than those in Kyrgyzstan both in terms of years and duration. It is possible to say that the main difference here is due to the approach in the classification of education levels and the different duration of compulsory education. Another noteworthy point is that the time allocated for practice in geography courses in Kyrgyzstan is considerably more.

Similarities stand out in terms of the aims of geography teaching. It is observed that the curricula of both countries focus on raising individuals who will respond to the needs of the age, who are aware of the developments in the world, who are skilled in the use of technology, who know their own culture and other cultures, who know the importance of international relations, who are sensitive to nature and the environment. The objectives also emphasise the importance of associating the content with daily life, developing students' multidimensional thinking skills, and making use of current technological developments, GIS applications, materials and field studies rather than teaching a course based only on textbooks. The most significant difference in this regard is that the learning outcomes in Kyrgyzstan GCC are based on geographical, geocological, social and personal areas. Competencies, values, skills and interdisciplinary relations are given importance in both curricula. There is a difference when it comes to the distribution of contents. As mentioned above, the different definition of education levels is a factor. However, when compared with the units other than natural systems in geography courses in Türkiye, it is seen that there are similarities. Although there is a great overlap in terms of teaching-learning approaches, it is possible to see that guidance and recommendations are given in detail in Kyrgyzstan GCC. There are also similarities in the approaches to assessment and evaluation. However, at this point, it is noteworthy that this issue is very detailed in Kyrgyzstan GCC and examples are given in the curriculum in every subject. In this respect, it is more similar to the 2005 geography curriculum in Türkiye. In 2005 GCC in Türkiye, evaluation examples such as Likert-type scale and rubric were given in detail.

Another issue that draws attention is the approach in the creation of the curricula. Although there is no change in the course names of both curricula, the subjects in Kyrgyzstan 10th and 11th grade courses are different and therefore the spiral approach is not applied in terms of content creation.

In conclusion, although Türkiye and Kyrgyzstan GCC's have similarities in terms of objectives, educational situations and assessment-evaluation, they differ in terms of content and the inclusion of more or less guidance. It would be a correct assessment to state that the programmes have more similarities than differences.

[Tuna et al. \(2022\)](#), in their study titled A qualitative research on the development of tourism in the Turkic World based on inter-country cooperation, point out that the cooperation of the Turkic Republics, which share a common language, culture and history based on the historical past, in the field of tourism will contribute to the economic and socio-cultural development of each country and even the importance of preparing common tourism education and training curricula. [Ergin et al. \(2021\)](#) pointed out that there are similarities and differences in the education and training structure of the Turkic World and especially the differences in education levels. At this point, they emphasised the necessity and urgency of establishing common quality standards in education and training, reflecting these standards to the curricula and carrying out studies to bring education and training to the level of elite civilisations.

- Curricula comparisons can contribute to the formation of new perspectives on behalf of countries and to the opening of different windows on educational philosophy.
- It is important to make comparisons in order to see the missing or negative aspects of curricula which are dynamic in nature.
- Following the developments and innovations in different countries and adapting the successful curricula by taking into account the social, cultural values and economic situation of the country can contribute to the success of education.
- Curricula comparisons can contribute not only to the countries being compared but also to other countries.
- There is a need for more widespread studies on the Turkic World.
- At the point of comparing curricula, it is observed that although studies on European countries are common, those on Turkic Republics are very few.
- Such studies can contribute to the recognition of the Turkic World and Turkic Culture and to have more ideas about the Turkic Republics.

Ethic

This study is in the category that does not require ethical approval.

Author Contributions

All authors contributed equally to the study.

Conflict of Interest

There is no conflict of interest.

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The Relationship between Life Positions and Dark Sides of Personality

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Abstract

In recent years, many studies have been conducted on the concept of the dark triad but there are not many studies in the literature in which the concept of life positions and the concept of dark triad are examined together. In this study, it was aimed to examine the relationship between university students' life positions and dark triad personality traits. Relational survey model was used in this quantitative study. The study group of the research consisted of a total of 307 university students, 246 (80.1%) of whom were female and 61 (19.9%) of whom were male, studying in Konya province. "Personal Information Form", "Life Positions Scale" and "Abbreviated Dark Triad Scale" were used to collect data. SPSS 21.00 package program was used to analyze the data collected. According to the results of the study, a significant relationship was found between some sub-dimensions of university students' life positions and sub-dimensions of dark triad personality traits (narcissism, Machiavellianism and psychopathy). It was observed that there was a negative relationship between the I'm OKEY-You're OKEY life position and the dark triad personality traits, whereas there was a generally positive relationship between the other three life positions (I'm OKEY-You're not OKEY, I'm not OKEY-You're OKEY and I'm not OKEY-You're not OKEY) and the dark triad personality traits. In addition, as a result of the regression analysis, it was seen that life positions predicted the dark triad personality traits. Research results are discussed in the light of the related literature and suggestions are presented for future researchers.

Key Words

Life positions • Dark Triad personality traits • University students

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Introduction

Transactional Analysis Theory is a psychotherapy and communication theory put forward by Eric Berne, which focuses on individual development and change, which aims to help the individual to know himself better and more realistically, and which deals with the interactions of emotions, thoughts and behaviors between the individual and others (Berne, 1962). Transactional Analysis, which was put forward by Eric Berne and used to analyze interpersonal relationships, is a psychoanalytic theory and therapy method that aims to determine the ego states used by individuals to understand their behaviors and to examine these ego states (Omur & Esgin, 2021). Another important concept of Transactional Analysis Theory is the concept of "life positions", which defines how individuals perceive themselves and where they position themselves in their lives (Stewart & Joines, 2018). Life positions are a result of individuals' childhood experiences. While this concept affects individuals' decisions and choices, it also includes and expresses individuals' feelings, thoughts and behaviors towards other individuals (Stewart & Joines, 2018). The concept of life positions is a basic concept that emerges as a result of experiences in childhood, explains the behavior and decisions of the individual, and includes the feelings, thoughts and behaviors of the individual towards himself and other individuals (Akkoyun, 2001). Transactional Analysis argues that people manage their lives according to one of four basic life positions. These four basic life positions are; "I'm OKEY-You're OKEY", "I'm OKEY-You're not OKEY", "I'm not OKEY-You're OKEY", "I'm not OKEY-You're OKEY", "I'm not OKEY-You're not OKEY" (Isgor et al., 2012).

Individuals who use the "I'm OKEY-You're OKEY" life position believe that life is worth living by thinking that they and other individuals are important (Akkoyun, 2001). Individuals in the "I am OKEY-You are OKEY" life position are thought to have human qualities and virtue (Demircioglu et al., 2019). Individuals in this life position are close to themselves and the individuals around them, establish safe and healthy interactions with the individuals around them, and take an active role in solving their own and other individuals' problems (Corey, 2009).

"I'm OKEY-You're not OKEY" is an externalizing life position. Individuals in this life position display a negative attitude towards other people because they think that they have been wronged in a certain way (Akkoyun, 2001). The main characteristics of individuals who adopt this life position include; constantly giving advice to others, criticizing others, belittling others, and intolerance (Weisner, 2004).

"I'm not OKEY-You're OKEY" is an introjective life position in which depressive features are dominant. Individuals in this life position feel weak and worthless when they compare themselves with other people (Corey, 2009). The main characteristics of individuals who adopt and use the "I'm not OKEY-You're OKEY" life position include withdrawal, passivity, depressive mood, guilt and helplessness (Weisner, 2004).

"I'm not OKEY-You're not OKEY" is characterized as an unhealthy life position. Individuals who adopt this life position have lost the joy of life and generally show withdrawn behaviors (Alihsanoglu, 1995). The main characteristics of individuals who adopt and use this life position include overeating, excessive drinking, rebellion, and sad mood (Weisner, 2004).

The concept of life position refers to one's existential ideas about oneself and others (Corey, 2009). The healthy and good life position is "I'm OKEY-You're OKEY". People in this position have positive affect towards others (Ozpolat et al., 2015). While other life positions are unconscious decisions made by the individual in the first

years of life, the "I'm OKEY-You're OKEY" life position is consciously chosen by the individual (Harris, 2014). It is known that every adult individual shapes his/her life depending on one of these life positions and that individuals who choose the "I'm OKEY-You're OKEY" life position generally have more positive evaluations of themselves and others than those who choose other life positions (Kayalar, 2003; as cited in Demircioglu et al., 2019). While individuals in the "I'm OKEY-You're OKEY" life position think that life is worth living, individuals in the "I'm OKEY-You're not OKEY" life position think that the lives of others are not worth much, individuals in the "I'm not OKEY-You're OKEY" life position think that their own lives are not valuable and individuals in the "I'm not OKEY-You're not OKEY" life position think that nothing in life is valuable (Dixit & Shukla, 2016).

The life positions that individuals adopt and use in their daily lives play an important role in their relationships and interactions with other individuals. These relationships and interactions may sometimes progress in a negative direction. It is also known that the dark triad personality traits (Machiavellianism, psychopathy and narcissism) focus on the negative aspects of personality and can cause some problems in individuals' relationships and interactions with others (Paulhus & Williams, 2002) and have a negative relationship with individuals' well-being levels (Saltoglu & Irak, 2020). In this respect, it is thought that there may be significant relationships between life positions and dark triad personality traits.

In the literature, the concepts of Machiavellianism, narcissism and psychopathy are considered as the "dark triad" (Paulhus & Williams, 2002). Dark triad personality traits are defined as personality traits that prevent positive outcomes of interpersonal relationships and interactions and allow individuals to use interpersonal relationships for their own interests and benefits (Paulhus & Williams 2002).

These personality traits, which are known as Machiavellianism, narcissism and psychopathy and are examined as a dark structure, are defined as socially undesirable personality traits that occur in the form of exhibiting attitudes and behaviors that are beneficial to oneself but harmful to oneself but harmful to others (Rauthmann & Kolar, 2012). Although Machiavellianism, narcissism and psychopathy correspond to different definitions, they include socially harmful and bad aspects of personality based on different degrees of emotional indifference, hostility, hypocrisy, disloyalty and negative behavioral tendencies (O'Boyle et al., 2015). The common characteristics of Machiavellianism, narcissism and psychopathy include selfishness, shallow and self-interested interpersonal relationships, incompatibility and manipulative behaviors (Ozsoy & Ardic, 2017).

Narcissism, one of the dark triad personality traits, is defined as pushing the lack of certain qualities or psychological needs that the individual does not have into the unconscious, the exaggerated self-perception created by the individual (Ozsoy & Ardic, 2017); developing excessive attachment to one's own physical or psychological self, excessive love for one's own characteristics, or lack of empathy (Miller & Campell, 2008). Studies that argue that narcissism can be beneficial for mental health accept narcissism as a harmless and even necessary personality trait for mental health as long as it remains at a certain level (Foster & Campbell, 2007).

The concept of Machiavellianism is the result of the combination of three interrelated personality traits. These are; the belief that it is useful to use manipulative tactics when interacting with other people, the belief that human beings are inherently evil, and the belief that interests are more important than principles. The main motivation of individuals with Machiavellian traits is the idea that "everything is permissible on the way to the

goal". People with Machiavellian personality traits think that everything can be done in line with their own goals, believe that other individuals are gullible and easily deceived, and do not have any concerns about manipulating other individuals in the direction of their own wishes (Toplu Yashloglu & Atilgan, 2018). Individuals with the personality trait of Machiavellianism are generally more likely to resort to deception, not tell the truth and be disloyal, but they are less likely to show antisocial behaviors (Ferris & King, 1996). Machiavellian individuals generally think that other people are bad and approach them with suspicion. Another characteristic of Machiavellian individuals is their effort to appear perfect. These individuals who try to appear strong for others are actually trying to mask their own weaknesses (Sherry et al., 2006).

Psychopathy is defined as indifference towards other individuals and the mechanisms that provide social order, inability to control impulses and desires, lack of remorse or guilt when harming other people, and lack of remorse. Psychopaths, who usually experience superficial emotions, show immoral behaviors involving crime to achieve their goals (Hare & Neumann, 2009). In addition, people with a high tendency towards psychopathy are defined as people who do not care about the size or smallness of the goal they are trying to achieve, engage in risky and dangerous actions for the sole purpose of having something, act unplanned in their daily lives and are undesirable to be friends with (Erdogan, 2018).

The aim of this study is to investigate the relationship between life positions and dark triad personality traits of university students. Thus, understanding the relationship between life positions and dark triad personality traits is expected to contribute to intervention programs that aim to help individuals use healthier life positions. Looking at the domestic and foreign literature, it was seen that the concepts of attachment styles (Bohols et al., 2005), loneliness (English, 1995; Karababa, 2016), relationship and life satisfaction (Karababa, 2019; Karamehmetoglu Cemberci, 2019), parental attitudes (Sabir, 2019), depression (Anne & Bohols, 2021; Konur, 2018), positive mental health and psychopathology (Fedotov & Surkova, 2022; Yagmurlu, 2018) were examined together with life positions. In the literature review, almost no studies aiming to reveal the relationship between life positions and dark triad personality traits were found. It is thought that this study will shed light on both the literature and the researchers who want to study with these concepts in the future. This study aims to examine the relationship between university students' life positions and dark triad personality traits. For this purpose, the following hypotheses were examined:

H1: There is a significant relationship between life positions and dark triad personality traits.

H2: Life positions significantly predict dark triad personality traits.

Method

Research Model

In this study, in which the relationship between university students' life positions and dark triad personality traits was examined, the relational survey model, which is a quantitative research method and aims to reveal the existing situation, and which is also a general survey model, was used. The general survey model is a type of research conducted in order to reach general information about the universe and to cover the entire universe in a universe consisting of a large number of elements. The relational survey model is a research model that aims to reveal the presence, absence or degree of differentiation between two or more than two variables (Karasar, 2013).

Study Group

The sample of the study consisted of 307 university students, 246 (80.1%) female and 61 (19.9%) male, who were studying in Konya province in the 2022-2023 academic year. The ages of the participants were between 18 and 28. The data of the study were collected online using Google Forms from two public universities in Konya using convenience sampling method. The survey link was sent to the students via WhatsApp groups.

Measurement Tools

Personal Information Form

A Personal Information Form was developed to determine the participant profile and to obtain personal information about the participants. This form was prepared to find out the participants' gender, age, grade level, socioeconomic level and faculties of education.

Life Positions Scale

Life Positions Scale was developed by [Boholst \(2002\)](#). [Isgor et al. \(2012\)](#) conducted validity and reliability studies by adapting the scale into Turkish. The correlation coefficient between the original and adapted form scores of the scale was found to be .79. The reliability coefficient of the Life Positions Scale was found to be .81 for the Turkish form. The internal consistency coefficient of the scale items was calculated as .84. The total number of items of the Life Positions Scale is 20. The scale has four sub-dimensions ("I'm OKEY-You're OKEY", "I'm OKEY-You're not OKEY", "I'm not OKEY-You're OKEY", "I'm not OKEY-You're not OKEY") and the sum of the scores obtained from the sub-dimensions of the scale defines the life position that the person has and uses in daily life.

Dark Triad Dirty Dozen Scale

The abbreviated Dark Triad Scale, or Dark Triad Dirty Dozen in its original name, is a scale developed by [Jonason & Webster \(2010\)](#) and consists of 12 items in total. The abbreviated Dark Triad Scale measures the dark traits of personality consisting of Machiavellianism, psychopathy and narcissism with four items each. The validity and reliability study of the Turkish form of the scale was conducted by [Ozsoy et al. \(2017\)](#). The internal consistency coefficients calculated for the Turkish form of the scale were .80 for the Machiavellianism dimension, .79 for the psychopathy dimension, .72 for the narcissism dimension and .73 for the overall scale. The scores obtained from the sub-dimensions of the scale show the level of dark triad personality traits in individuals.

Data Analysis

In order to collect the data to be used in the study, university students studying in Konya province were preferred. The data to be used in the study were collected between September and December 2022. The prepared data collection tools (scales) were applied to the participants electronically (Google Forms). The time required to fill out the scales was calculated as approximately 6-7 minutes. Participants were informed about the purpose of the study, confidentiality and voluntariness, and were informed that personal information was not requested.

A total of 307 university students participated in the study. The data collected for use in the study were analyzed using the SPSS 21.00 package program. It was examined whether the data collected from the university

students were normally distributed and the values of the measures of central dispersion. "Q-Q Plot and Histogram graphs" were analyzed to test whether the data were normally distributed. Based on the results of these graphs, it was determined that the collected data were close to normal distribution. In addition, the kurtosis and skewness coefficients of the collected data were examined and found to be within normal limits. Based on all these findings, it was assumed that the data showed normal distribution and it was deemed appropriate to use parametric tests in the analysis of the data (Tabachnick & Fidell, 2013). Pearson Correlation Coefficient technique was used to determine whether there is a significant relationship between the life positions of university students and the dark triad personality traits. Linear Regression Analysis was used to determine whether the life positions of university students predicted the dark triad personality traits at a significant level.

Results

Correlation Results on the Relationship between Life Positions and Dark Triad Personality Traits

Under this heading, the relationship between life positions and dark triad personality traits was examined. The correlation values between life positions and dark triad personality traits are shown in Table 1.

Table 1

Bivariate correlations between life positions and dark triad personality traits

Variables	Machiavellianism	Psychopathy	Narcissism
I'm OK-You're OK	-.149*	-.231**	.027
I'm OK-You're not OK	.274**	.193**	.216**
I'm not OK-You're OK	.021	.024	.202**
I'm not OK-You're not OK	.318**	.336**	.251**

* $p < 0.05$, ** $p < 0.01$

When Table 1 is analyzed, it is observed that there is a negative and low-level significant relationship between Machiavellianism and "I'm OK-You're OK" life position ($r = -.149$, $p < .05$). This shows that as the "I'm OK-You're OK" life position of individuals increases, Machiavellianism personality trait decreases; in other words, while Machiavellianism scores increase, "I'm OK-You're OK" life position scores decrease. The highest correlation between life positions and the Machiavellianism sub-dimension of the dark triad was observed between the "I'm not OK-You're not OK" position ($r = .318$, $p < .01$). In other words, a positive and moderately significant relationship was observed between the life position "I'm not OK-You're not OK" and Machiavellianism. This shows that as these life positions of individuals increase, Machiavellianism personality trait also increases, in other words, as Machiavellianism scores increase, "I'm not OK-You're not OK" life position scores also increase. It is seen that Machiavellianism personality trait is most related to the life position "I'm not OK-You're not OK". A significant positive correlation was also found between the "I'm not OK-You're not OK" life position and Machiavellianism ($r = .274$, $p < .01$). In contrast to these findings, the correlation coefficient calculated between the sub-dimension of the life position "I'm not OK-You're OK" and Machiavellianism was not statistically significant ($r = .021$, $p > .05$). The only sub-dimension in which there was no significant relationship between Machiavellianism and the four life positions was "I'm not OK-You're OK".

It was observed that there was a negative and low-level significant relationship between psychopathy and "I'm OK-You're OK" life position ($r=-.231, p<.01$). This shows that psychopathy personality trait decreases as "I'm OK-You're OK" life position increases; in other words, while psychopathy scores increase, "I'm OK-You're OK" life position scores decrease. The highest correlation between life positions and the psychopathy sub-dimension of the dark triad was observed between the "I'm not OK-You're not OK" position ($r=.336, p<.01$). In other words, a positive and moderately significant relationship was observed between the life position "I'm not OK-You're not OK" and psychopathy. This shows that psychopathy personality trait increases as these life positions of individuals increase, in other words, as psychopathy scores increase, "I'm not OK-You're not OK" life position scores also increase. It is seen that psychopathy personality trait is most related to the life position "I'm not OK-You're not OK". A significant positive correlation was also found between "I'm OK-You're not OK" life position and psychopathy ($r=.193, p<.01$). On the other hand, the correlation coefficient calculated between the sub-dimension of the life position "I'm not OK-You're OK" and psychopathy was not statistically significant ($r=.024, p>.05$). The only sub-dimension in which there was no significant correlation between psychopathy and the four life positions was "I'm not OK-You're OK".

It was observed that there was a positive and low-level significant relationship between narcissism and the life positions "I'm OK-You're not OK" ($r=.216, p<.01$), "I'm not OK-You're OK" ($r=.202, p<.01$) and "I'm not OK-You're not OK" ($r=.251, p<.01$). This shows that as the scores of these life positions increase, narcissism personality trait also increases, in other words, as the scores of these life positions increase, narcissism scores also increase. In addition, the highest correlation between life positions and the narcissism sub-dimension of the dark triad was observed between the life position "I'm not OK-You're not OK". On the other hand, the correlation coefficient calculated between the "I'm OK-You're OK" sub-dimension of life positions and narcissism was not statistically significant ($r=.027, p>.05$). The only sub-dimension in which no significant relationship was observed between narcissism and the four life positions was "I'm OK-You're OK".

Linear Regression Analysis Results on the Power of Life Positions to Explain Dark Triad Personality Traits

Under this heading, the explanatory power of life positions on dark triad personality traits was analyzed. The regression analysis results regarding the explanatory power of life positions for the dark triad personality traits are shown in Tables 2, 3 and 4.

Table 2

The power of life positions to explain machiavellianism personality trait

Predictor	B	ShB	β	<i>t</i>
Constant	2.193	2.030		1.080
I'm OK-You're not OK	.115	.047	.147	2.444*
I'm not OK-You're OK	-.098	.050	-.124	-1.949*
I'm not OK-You're not OK	.167	.035	.324	4.745**
$R=.375, R^2 = .141$				

* $p<0.05$, ** $p<0.01$; Dependent variable: Machiavellianism

Linear Regression Analysis was conducted to reveal the effect of university students' life positions on the Machiavellianism sub-dimension of the dark triad. As a result of the Regression Analysis, the model was found to be significant ($F= 16.55, p<.05$). It was seen that the four life positions together explained approximately 14 percent of the total variance ($R^2=.141$) of Machiavellianism scores. In other words, it can be said that 14 percent of Machiavellianism personality trait is determined by life positions. According to the standardized regression coefficient (β), the relative order of importance of the predictor variables on Machiavellian personality trait scores is as follows: "I'm not OK-You're not OK" ($\beta= .324$); "I'm OK-You're not OK" ($\beta= .147$); I'm not OK-You're OK" ($\beta=-.124$). When the T-Test results regarding the significance of the regression coefficients are analyzed, it can be said that the dimensions of "I'm OK-You're not OK" ($t=2.444, p<.05$), I'm not OK-You're OK" ($t=-1.949, p<.05$) and I'm not OK-You're not OK" ($t=4.745, p<.01$) are significant predictors of Machiavellianism scores.

Table 3

The power of life positions to explain psychopathy personality trait

Predictor	B	ShB	β	<i>t</i>
Fixed	5.234	1.866		2.805**
I'm OK-You're not OK	.024	.034	.034	.557
I'm not OK-You're OK	-.122	.046	-.168	-2.620**
I'm not OK-You're not OK	.191	.032	.404	5.901**
$R= .371, R^2 = .138$				

* $p<0.05$, ** $p<0.01$; Dependent variable: Psychopathy

Linear Regression Analysis was conducted to reveal the effect of university students' life positions on the psychopathy sub-dimension of the dark triad. As a result of the Regression Analysis, the model was found to be significant ($F= 16.11, p<.01$). It was seen that the four life positions together explained approximately 14 percent of the total variance ($R^2 = .138$) of psychopathy scores. In other words, it can be said that 14 percent of psychopathy trait is determined by life positions. According to the standardized regression coefficient (β), the relative importance of the predictor variables on the psychopathy personality trait scores were as follows: "I'm not OK-You're not OK" ($\beta=.404$); "I'm not OK-You're OK" ($\beta=-.168$); "I'm OK-You're not OK" ($\beta=.034$). When the T-Test results regarding the significance of the regression coefficients are analyzed, it can be said that "I'm not OK-You're OK" ($t=- 2.620, p<.01$) and "I'm not OK-You're not OK" ($t=5.901, p<.01$) dimensions are significant predictors of psychopathy scores. The dimension "I'm OK-You're not OK" ($t=.557, p>.05$) was not a significant predictor of psychopathy scores.

Table 4

The power of life positions to explain narcissism personality trait

Predictor	B	ShB	β	<i>t</i>
Fixed	.297	2.440		.122
I'm OK-You're not OK	.176	.056	.192	3.118**
I'm not OK-You're OK	.156	.061	.168	2.570*
I'm not OK-You're not OK	.061	.042	.101	1.442
R= .317, R ² = .101				

* $p < 0.05$, ** $p < 0.01$; *Dependent variable: Narcissism*

Linear Regression Analysis was conducted to reveal the effect of university students' life positions on the narcissism sub-dimension of the dark triad. As a result of the Regression Analysis, the model was found to be significant ($F = 11.29$, $p < .01$). It was seen that the four life positions together explained approximately 10 percent of the total variance ($R^2 = .101$) of narcissism scores. In other words, it can be said that 10 percent of narcissism trait is determined by life positions. According to the standardized regression coefficient (β), the relative importance order of the predictor variables on narcissism personality trait scores is as follows: "I'm OK-You're not OK" (.192), "I'm not OK-You're OK" (.168) and "I'm not OK-You're not OK" (.101). When the T-Test results regarding the significance of the regression coefficients are analyzed, it can be said that "I'm OK-You're not OK" ($t = 3.118$, $p < .01$) and "I'm not OK-You're OK" ($t = 2.570$, $p < .05$) are significant predictors of psychopathy scores. The dimension "I'm not OK-You're not OK" ($t = 1.442$, $p > .05$) was not a significant predictor of narcissism scores.

Discussion, Conclusion & Suggestions

In the study, the relationship between university students' life positions and dark triad personality traits was examined. According to the findings, a significant relationship was found between life positions and dark triad personality traits in university students. It was also observed that life positions significantly predicted dark triad personality traits.

In university students, a negative relationship was found between Machiavellianism and the life position "I'm OK-You're OK", a positive relationship was found between the life positions "I'm OK-You're not OK" and "I'm not OK-You're not OK" while no significant relationship was found between the life position "I'm not OK-You're OK" and Machiavellianism. In addition, life positions were found to be a significant predictor of Machiavellianism personality trait. While a negative relationship was found between psychopathy and the life position "I'm OK-You're OK", a positive relationship was found between the life position "I am OK-You're not OK" and "I'm not OK-You're not OK"; no significant relationship was found between the life position "I am not OK-You're OK" and psychopathy. In addition, life positions were found to be a significant predictor of psychopathy personality trait. While no significant relationship was found between narcissism and the life position "I'm OK-You're OK", positive and significant relationship was found between the life positions "I am OK-You're not OK", "I am not OK-You're OK" and "I'm not OK-You're not OK" and narcissism. In addition, life positions were found to be a significant predictor of narcissism personality trait. When the literature was examined, no study examining life positions and the concept of dark triad together was found. The findings

obtained from the study on some variables related to life positions and dark triad personality traits are discussed below in the light of the relevant literature.

Bohols et al., (2005) examined the relationship between life positions and attachment styles. As a result of the study, it was seen that the life position of "I'm OK-You're OK" was associated with secure attachment, the life position of "I'm OK-You're not OK" was associated with rejectionist attachment and the life position of "I'm not OK-You're not OK" was associated with fearful attachment. In addition, in the study conducted by Dayhan (2023), it was observed that anxious and avoidant attachment had different effects on dark triad personality traits. Considering that the positions other than the "I'm OK-You're OK" life position are related to insecure attachment style and the dark triad personality traits are also related to insecure attachment, it can be interpreted that there may be a negative relationship between the "I'm OK-You're OK" life position and dark triad personality traits, and a positive relationship between the other three life positions and dark triad personality traits. In our study, a negative correlation was found between the "I'm OK-You're OK" life position and Machiavellianism and psychopathy personality traits. In addition, a positive relationship was found between the life positions "I'm OK-You're not OK" and "I'm not OK-You're not OK" and Machiavellianism and psychopathy; a positive relationship was found between the life positions "I'm OK-You're not OK", "I'm not OK-You're OK" and "I'm not OK-You're not OK" and Machiavellianism, psychopathy and narcissism. It can be interpreted that the findings of this study are in parallel with the related literature. It can also be interpreted that individuals with insecure attachment are more likely to show dark triad personality traits than individuals with secure attachment.

Francis & Crea (2021) concluded that Machiavellianism and psychopathy are significant predictors of emotional exhaustion. In addition, Karamehmetoglu Cemberci (2019) found a positive relationship between "I'm OKEY" life position and relationship satisfaction, and a negative relationship between "I'm not OKEY" and "You're not OKEY" life positions and relationship satisfaction. Considering that emotional exhaustion and relationship satisfaction are opposite concepts, it is expected that there would be a negative relationship between "I'm OK-You're OK" life position and dark triad personality traits, and a positive relationship between other life positions and dark triad personality traits. In this study, results supporting these findings were obtained.

In a study conducted by Anne & Bohols (2021), it was found that the life position "I am not OK-You're not OK" was most associated with depression, followed by "I'm not OK-You're OK", "I'm OK-You're not OK" and "I'm OK-You're OK". In addition, it was also revealed that negative beliefs about both self and others contribute significantly to depression. In addition, considering the finding of our study that individuals who use life positions other than "I'm OK-You're OK" exhibit dark triad personality traits more, it can be interpreted that it is also expected that these individuals show depressive symptoms.

Karababa (2019) examined the relationship between life satisfaction and life positions in university students. The findings of the study showed that life satisfaction was positively associated with the life positions of "I'm OK-You're OK" and "I'm OK-You're not OK"; negatively associated with the life positions of "I'm not OK-You're OK" and "I'm not OK-You're not OK". Considering the negative relationship between dark triad personality traits and life satisfaction (Kaufman et al., 2019) and the existence of a negative relationship between narcissism scores and life satisfaction in university students (Tozar, 2019), it can be interpreted that there may be a positive relationship between life positions other than "I'm OK-You're OK" and dark triad personality traits.

The finding of a significant positive relationship between some life positions and dark triad personality traits in our study confirms this. In addition, [Filiz et al. \(2023\)](#) found that Machiavellianism and psychopathy negatively affected the happiness level of university students. Considering that the "I'm OK-You're OK" life position is a healthy life position ([Dixit & Shukla, 2016](#)) and has a positive relationship with happiness and life satisfaction, it is an expected result that the "I'm OK-You're OK" life position has a negative relationship with dark triad personality traits as in our study.

In this study, it was concluded that there was a significant relationship between the life positions of university students and dark triad personality traits and that life positions predicted dark triad personality traits. As a result, it can be concluded that individuals with a positive perception of themselves and others (I'm OK-You're OK) are far from the dark triad personality traits (Machiavellianism, psychopathy and narcissism), while individuals with a negative perception of themselves and/or others are more prone to dark triad personality traits. When the domestic and foreign literature was examined, no study examining life positions and the concept of the dark triad together was found. The fact that this is the first study to examine these variables together increases the importance of this study and it is hoped that this study will inspire future research.

Suggestions

1. Studies examining life positions and dark triad personality traits together are limited in the literature. Therefore, the number of studies examining these variables together can be increased.
2. Based on the results obtained from this study, a comprehensive psychoeducation program can be developed and applied to students through school in order to strengthen the positive life positions of university students and to keep the dark aspects of personality under control.
3. Seminars can be organized for university students by Psychological Counseling and Guidance units at universities to raise their awareness of life positions and darker aspects of personality.
4. This study was conducted with students studying in Turkey. In order to reach the results in different cultures and countries, similar studies can be conducted with students in those countries.
5. Quantitative data were obtained and analyzed with the measurement tools in this study. This study can be repeated using qualitative research methods.

Limitations

1. This study is limited to the study group selected from university students studying in Konya province. In future studies to be conducted with the variables examined in this study, different study groups with different characteristics can be studied and the findings obtained can be compared with the results of this study.

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

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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Teachers' Sources of Motivation: A Qualitative Study

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Abstract

This study aims to reveal the motivational sources of relatively highly motivated teachers and explore the meanings they attribute to their professional motivation. In accordance with the nature of the study, the phenomenology design, one of the qualitative research designs, was used. The collected data were analyzed by content analysis, one of the qualitative data analysis approaches. Twenty teachers working in public basic education institutions were interviewed using a semi-structured interview technique. In this study, we examined the themes of school, teaching, and achievement from the perspective of teachers. We also identified the sources of inspiration that led them to choose the teaching profession and their ideal vision of teaching. In addition, sources of motivation, demotivating factors, strategies for coping with challenges, and changes in motivation over time were examined. Finally, teachers' self-evaluations and personal development processes were taken into consideration. In light of these findings, recommendations were made for the development of strategies that support and sustain teacher motivation.

Key Words

Motivation • Motivation sources • Teacher motivation

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Introduction

The exploration of teacher motivation in educational settings is a subject of critical importance due to its direct impact on both teaching quality and student outcomes. Understanding what drives teachers, especially those who exhibit high levels of motivation, is vital in developing effective educational strategies and fostering a positive learning environment. This study aims to delve into this significant area by identifying the sources of motivation among highly motivated teachers and deciphering the meanings they attach to their professional drive.

In the realm of education research, the motivation of teachers has been a focal point, with various studies shedding light on their multifaceted nature. However, there is a gap in comprehensively understanding the nuanced experiences of highly motivated educators. This study aims to fill this gap by providing a comprehensive and in-depth examination of the motivational factors and experiences of highly motivated teachers.

To address this, we conducted interviews with twenty teachers, carefully selected to represent a diverse range of backgrounds including gender, age, branch, education level, institutional level, and tenure. Through these interviews, we employed content analysis to meticulously dissect and interpret the data, aiming to uncover the underlying motivational elements that drive these educators in their professional journeys.

By contrasting our findings with existing literature, this study not only contributes to a broader understanding of teacher motivation but also highlights the unique perspectives and experiences of highly motivated teachers. This exploration is crucial for shaping future educational policies and practices that aim to enhance teacher motivation and, consequently, improve the overall quality of education.

Main Question. What are the sources of motivation for teachers, and what meanings do they attribute to professional motivation?

Sub Problems. 1. What do school, teaching, and success mean to teachers?

2. What inspires them to become teachers?

3. What does the ideal teacher mean to teachers, and which of these characteristics do they think they have?

4. From where do teachers derive the energy and strength needed for their work?

5. What are the factors that decrease teachers' motivation? How do the difficulties encountered in teaching affect their motivation?

6. How has teachers' motivation changed over time?

7. How would teachers evaluate themselves if they were graded?

The research aims to provide valuable information that can assist in the development of strategies to enhance teachers' motivation. The results of this research can aid education policymakers, school leaders, and teachers in gaining a better understanding of the impact of motivation on teachers' job performance, student achievement, and overall school climate. This may contribute to the design of more effective motivational strategies that can increase teachers' job satisfaction and overall student achievement.

Review of the Literature

Teacher motivation is a critical factor in the educational landscape, influencing not only the well-being and retention of educators but also the quality of teaching and student outcomes. This literature review includes various theoretical frameworks and empirical studies to unravel the complexities of teacher motivation, including its sources, challenges, and the impact of professional development and educational environments.

Bandura's Social Learning Theory (1977) and Self-Efficacy (1997) highlight the role of observational learning and belief in one's capabilities in shaping motivation (Bandura, 1977, 1997). For teachers, seeing positive outcomes from their efforts and believing in their ability to effect change can enhance motivation, inspire them to pursue teaching, and positively impact self-evaluation processes.

Deci & Ryan's Self-Determination Theory (1985, 2000) emphasizes the importance of intrinsic versus extrinsic motivations in finding meaning and satisfaction in one's profession (Deci & Ryan, 1985, 2000). For teachers, intrinsic motivations—such as the desire to contribute to students' development—often serve as a more sustainable source of motivation than extrinsic rewards.

Schön's Reflective Practice (1983) proposes that continuous reflection on one's experiences promotes learning and professional growth, influencing motivation over time (Schön, 1983). Reflective practice allows teachers to adapt and refine their approaches, thereby maintaining their motivation through a sense of progress and professional efficacy.

Day & Gu's Research on Teacher Lives (2010) and Day's Passion for Teaching (2004) explore how teachers' motivation evolves through their careers, highlighting the central role of passion in sustaining teaching efficacy and motivation. Their research suggests that passion for teaching acts as a buffer against challenges and burnout, fostering long-term commitment to the profession.

Dewey's Experience and Education (1938) underscores the importance of experiential learning and the environment in shaping the educational experience (Dewey, 1938). A supportive and engaging school environment can enhance teacher motivation by providing meaningful experiences and opportunities for growth.

Fullan's Educational Change (2007) examines how systemic changes in education impact teacher motivation, emphasizing the need for change processes that involve teachers and respect their autonomy (Fullan, 2007). Effective educational reforms support teacher motivation by promoting professional growth and collaborative practices.

Noddings' Care Ethics (1992, 2005) highlights the significance of caring relationships in education, suggesting that fostering a caring environment enhances teacher motivation by creating a sense of purpose and connection (Noddings, 1992, 2005).

Maslach & Leiter's Work on Burnout (1999, 2001) and Ingersoll & Smith's Teacher Shortage Solutions (2003) address the impact of burnout and systemic challenges on teacher motivation, advocating for supportive policies and practices to mitigate these issues (Maslach & Leiter, 1999, 2001; Ingersoll & Smith, 2003).

Wenger's Communities of Practice (1998) emphasizes the role of social learning in professional development, indicating that participation in communities of practice can inspire teachers and support their motivation through collaborative learning and shared experiences (Wenger, 1998).

Maslow's Hierarchy of Needs (1943) suggests that fulfilling basic and psychological needs is essential for motivation, including in the teaching profession (Maslow, 1943). Teachers' motivation is influenced by their needs for security, belonging, esteem, and self-actualization.

Tait's Research on Resilience (2008) explores the importance of resilience in coping with professional challenges, indicating that resilient teachers are more likely to maintain their motivation and commitment over time (Tait, 2008).

Hochschild's Emotional Labor (1983) and Hattie's Visible Learning (2009) connect to the emotional and cognitive aspects of teaching, highlighting how managing emotions and understanding the impact on student learning can influence teacher self-evaluation and perceptions of success (Hochschild, 1983; Hattie, 2009).

Method

In this study, a qualitative research method was employed to uncover the motivational factors of basic education teachers. In this section, information about the research design, participants, data collection tools, and data analysis is provided, respectively.

Research Design

Phenomenology, one of the qualitative research designs, was employed in this study. As van Manen (2016) states, phenomenology is not merely a description; it is a process in which the researcher interprets the meaning of experiences. This approach aims to analyze a specific phenomenon through the experiences and perspectives of individuals (Sparkes & Smith, 2013). Here, the essence of meaning and experiences is illuminated based on the subjective experiences of individuals.

Phenomenology focuses on subjective experiences and their understanding (Creswell, 2007). In this method, researchers collect detailed and intensive information about the experiences of individuals and use this data to analyze them. Phenomenological studies are generally used to understand in detail the emotional, intellectual, and perceptual states of individuals about a particular experience. In this study, researchers analyzed teachers' sources of motivation and their professional motivation using a phenomenological method. This helped explore the source of motivation based on teachers' experiences and perceptions and its reflection on their professional lives. Phenomenology provides a detailed understanding of teachers' individual experiences and the meaning of these experiences (Moustakas, 1994).

This approach offers researchers important opportunities to collect in-depth information on teachers' professional motivation and to generate meaning.

According to Creswell (2007), phenomenology concludes with a descriptive section that integrates 'what' and 'how' is experienced. This section also discusses the essence of individuals' experiences. In this study, the term 'comprehensive description' was used instead of 'essence'. The choice of terminology aimed to capture a more expansive portrayal of participants' experiences.

Participants

Participants were chosen through the purposeful sampling method, a critical approach in phenomenological studies. This method ensures each participant has experiences directly relevant to the studied phenomenon (Creswell, 2021). Specifically, we selected teachers who received accolades for achievement, actively participated in projects, and were recognized by their administration as hardworking and highly motivated. This approach, sometimes referred to as density sampling, prioritizes in-depth exploration of the most significant or enlightening experiences related to the phenomenon under investigation, rather than focusing on a statistically representative sample (Patton & Schwandt, 2014).

Face-to-face interviews were conducted with twenty teachers working in basic education institutions in the Beyşehir district of Konya province. Charmaz (2006) suggests that the data collection process should cease when data saturation is reached. For this reason, after interviewing twenty teachers, it was concluded that data saturation had been achieved, and the data collection process was completed. While Trigwell (2000) considers the required number of participants to be between 15 and 20, Larsson and Holmström (2007) state that in phenomenographic research, all perceptions of a phenomenon can be revealed with twenty participants.

The people in the study group were coded as P1, P2, ..., P20.

Table 1

Frequency data on demographic characteristics of participants

Variables		<i>f</i>	%
Gender	Female	10	50
	Male	10	50
Age	21-30	2	10
	31-40	16	80
	41-50	1	5
	51 and above	1	5
Institution Level	Kindergarten	2	10
	Primary school	3	15
	Secondary School	15	75
Level of Education	Bachelor's Degree	11	55
	Master's Degree	9	45

	1-10 years	7	35
Term of Office	11-20 years	12	60
	21 years and over	1	5

Data Collection Tools

A semi-structured interview form created by the researchers was utilized. The interview form comprises two parts. The first part includes a personal information form with the participants' demographic details. In the second part, there is an interview form with seven open-ended questions. The questions were formulated based on the following observation: The researcher, working in a school and observing teachers in the surrounding area, has noticed a sense of fatigue, particularly after the pandemic. However, contrary to this trend, some teachers have not experienced a decline in motivation. This has sparked curiosity about the factors that sustain the motivation of these teachers and how their perspectives on school, teaching, success, etc., differ from other teachers on a motivational basis. After reviewing the literature and consulting expert opinions, the questions were developed. After preparing the questions, a pre-application was conducted with three teachers, and the questions were finalized after the researchers reviewed any incomprehensible expressions. Here are the questions:

1. What do school, teaching, and success mean to you?
2. What inspired you to become a teacher (influential people, events, situations)?
3. What does the ideal teacher mean to you, and which of these qualities do you think you possess?
4. Where do you draw the energy and strength you need while working? In other words, what is your source of motivation?
5. In your opinion, what factors decrease a teacher's motivation? How do the challenges you face in your profession affect your motivation?
6. How has your motivation changed over time? (How were you in the early years of your career? How do you see yourself now?)
7. If you were to grade yourself, how would you assess yourself?"

Participants signed the Voluntary Participant Consent Form, and the interviews commenced. In phenomenological research, obtaining the written consent of participants is crucial (Creswell, 2021). To enhance the analysis process, the participants' responses were audio-recorded.

Data Analysis

The data were analyzed using content analysis, a qualitative data analysis approach. Content analysis is a research technique that systematically and objectively aims to analyze and interpret written, oral, or visual forms of communication (Elo & Kyngäs, 2008). The data were analyzed holistically. As manual coding is a time-consuming process, the audio recordings from the interviews were digitally transcribed and analyzed with the MAXQDA (2024) analysis program.

Participant interviews were transcribed verbatim and without intervention, thereby strengthening the internal validity of the study. The findings were compared with those of similar studies to evaluate their consistency. Additionally, the accuracy of the data was confirmed through participant validation. In the context of external validity,

the transparency of the researcher's role and the data collection and analysis processes were emphasized (LeCompte & Goetz, 1982), thus enhancing the reliability of the research. Preparatory meetings and plans made before the research, along with the explicit description of the data collection and analysis processes, are crucial steps toward ensuring external validity.

This study demonstrates internal validity as outlined by Maxwell (1992). We achieved this by ensuring the collected data aligns with the research objectives and that the findings directly support the research content. Content validity was further confirmed by evaluating the consistency between the data and the research focus. This process involved seeking the opinion of another expert to assess the generalizability of the findings. To enhance the credibility of the findings, the study design included teachers from various educational levels (preschool, primary, and middle school), capturing a broad spectrum of experiences.

The external validity of quantitative research relies on the replicability of results under similar conditions (Maxwell, 1992; Becker, 1991). The diversification of the sample in this study, to test the applicability of the research findings across different educational levels, is considered an indicator of external validity. The results display a coherent unity with the research themes, thereby contributing to the overall validity of the study.

Results

The data obtained from the conducted interviews have been analyzed through content analysis. The findings are presented in detail, including the participants' views. As a result of the content analysis, 10 themes, 40 categories and 169 codes associated with these themes have been identified.

School from the teachers' perspective

Teachers were asked the question "What do school, teaching, and success mean to you?" and according to the answers, the theme of school from the teachers' perspective was obtained. There are five categories and fourteen codes under this theme. According to the fourteen codes under this theme, teachers mostly see school as a second home, future, socialization environment, life, joy, and play. Following the content analysis, five categories emerged in this theme:

Table 2

Frequency data on school from the teachers' perspective

Themes/Categories/Codes	<i>f</i>	%
School from the teachers' perspective*	8	
Emotional Connection and Belonging		
Second home	4	20
Family	2	10
The place where I find myself	1	5
A sanctuary for psychological relief	1	5
Career and Professional Development	4	

The future of society	3	15
A place that directs toward a profession	1	5
Social and Community Engagement	5	
A setting for socialization	3	15
Governance of the community	1	5
The world of children	1	5
Personal and Academic Development	8	
Life	3	15
The place that nurtures individuals	3	15
Education Center	2	10
Motivation and School Engagement	4	
A place approached with joy and playfulness	3	15
A place that is missed	1	5

*Some teachers expressed more than one opinion.

Some of the responses of the teachers to the related question are as follows:

(P12): “School has become a home for me. Because I have always grown up in school since I was a child, I mean I have always been in school since kindergarten. Because my father and my sisters were teachers, I was never a stranger to the school environment. So, I was always in school. Therefore, the school became a second home for me. School was also a socializing environment. I mean, let's not say it's just like home, but as a teacher who doesn't have the habit of going to coffee houses, as someone who doesn't have many friends in the social life outside. Therefore, school is also a place of socialization for me. Socializing with the students at the same time.”

(P19): “School means the future for me. I mean, there are a lot of lives, I shouldn't say children, I mean people, and their future, or rather the future of the country.”

(P8): “It's a very important part of my life. Why is it a very important part of my life? After my children started school, I realized the value of teaching more and I felt its value and importance more. What can we do, how much influence do you have? The older I got, the more I realized how important we are in raising students, in raising the new generation. As I said, I became a mother, and I realized it after my children started school. That's why school is very important for me because we will raise the generation. We will influence them in every sense, not just math, and we are all part of this society. I will share the same society with those children and my children will share the same society with those children. Therefore, how much can I influence them? This always affects me. This always makes me think. That's why school is one of the two indispensable things in my life; one is my family and home, one is school.”

(P17): “I think of school like this, when I leave home in the morning, I come here happily. I want to come here every day. That's what I think of when I think of school. I like the smell inside the school. We cannot come to school on Sunday. When I don't come to school on Sunday, I miss it, that's what I think of when I think of school.”

Teaching from the teachers' perspective

Teachers were asked the question "What do school, teaching, and success mean to you?" and according to the answers, the theme of teaching from the teachers' perspective was obtained. There are six categories and seventeen codes under this theme. According to the seventeen codes under this theme, teachers mostly see teaching as being able to touch the future generation, building, being useful, a sacred duty, a job done with love, and being able to enter the world of children. Following the content analysis, six categories emerged in this theme:

Table 3

Frequency data on teaching from the teachers' perspective

Themes/Categories/Codes	<i>f</i>	%
Teaching from the teachers' perspective*		
Impact and Contribution	20	
Being able to touch the future generation	8	40
Building	6	30
Being useful	4	20
Creating positive change	2	10
Professional Identity and Values	8	
A sacred duty	4	20
A job done with love	3	15
Parenthood	1	5
Personal and Professional Development	2	
Creating new things	1	5
Specializing in one's field	1	5
Social and Emotional Aspects	8	
Being able to enter the world of children	3	15
Showing love and respect	2	10
Communicating	2	10
Being a role model	1	5
Student-Centered Approach	2	
Being aware of each student	1	5
Motivating the student	1	5
Service to Society	2	
Serving the homeland	1	5
People who take positive steps	1	5

*Some teachers expressed more than one opinion.

Some of the responses of the teachers to the related question are as follows:

(P5): “The meaning of teaching for me is to be able to touch the next generation. That is, how well the next generation is raised. After graduation, the student becomes a generation that will affect my life in the first degree. When my car breaks down, my students fix it. When I get sick, my students heal me. When I get hungry and eat out, my students become the ones who cook my food. If they are not my students, they are someone else's students. After all, they are all our students. Therefore, for my standard of living to increase, my students need to become qualified in the work they do.”

(P10): “For me, teaching is a very sacred duty, maybe it will be a classic answer, but it is really important for me to be able to give something to little children, to add something, to change their lives, to touch their lives. It makes me very happy to see this result. Noticing that sparkle in the eyes of the student, seeing that happiness, that love, really adds energy to our energy.”

(P18): “It actually means accompanying them on their journey. Yes, education is also involved, teaching is also involved. But most of all it means accompanying their journey, being their guide.

Success through the eyes of teachers

Teachers were asked the question "What do school, teaching, and success mean to you?" and according to the answers, the theme of success from the teachers' perspective was obtained. There are four categories and twenty-seven codes under this theme. According to the twenty-seven codes under this theme, teachers mostly see success as achieving goals, individual-specific development, making the subject enjoyable, achieving the objectives in the curriculum, touching the student's life, completing one's duty, subjective meaning, and winning. Following the content analysis, four categories emerged in this theme:

Table 4

Frequency data on success from the teachers' perspective

Themes/Categories/Codes	f	%
Success from the teachers' perspective*		
Individual Development and Learning Process	19	
Achieving goals	6	30
Individual-specific development	3	15
Making the subject enjoyable	2	10
Achieving the objectives in the curriculum	2	10
Emotional development	1	5
Continuous development	1	5
Positive behavioral change	1	5
Changing perspectives	1	5
Talents	1	5
Understanding the student	1	5
Teacher-Student Relationship and Interaction	8	
Touching the student's life	2	10

Establishing healthy communication	1	5
Making the student smile	1	5
Satisfying the student	1	5
Harmony between school and teacher	1	5
Receiving gratitude from students	1	5
Being respected	1	5
Professional Attitude and Responsibility	10	
Completing one's duty	2	10
Subjective meaning	2	10
Proving oneself	1	5
Achieving what one sets out to do	1	5
Feeling good about oneself	1	5
Knowing oneself	1	5
Making sacrifices	1	5
Exerting effort	1	5
Success and Recognition	3	
Winning	2	10
Receiving praise	1	5

*Some teachers expressed more than one opinion.

Some of the responses of the teachers to the related question are as follows:

(P6): "For me, success is definitely not primarily grades, success is if the child has reached where he/she wants to be, morally, and then if he/she is confident, that is, if he/she can say I am this, yes, I am happy, I have achieved this, I think success in this sense, that is, I got 100. Yes, for children, maybe that is a quantitative indicator. Yes, success when you get it. But if we know that it makes you smile, I think this is also a success. For the teacher, for the child, if they enjoyed the lesson and understood something, this is also a success. If he did his homework and got a plus, that's also a success. If the teacher rewarded him for doing his homework and took him somewhere, that's also a success. So, it's not just grades, when I think of success, I think of all the relationships that students have with each other, and their communication with their parents, I think there is success in all of these. So, success in communication is also very important."

(P10): "We can talk about school, education, and training. There are the achievements we give. There are also things that we must give behaviorally apart from the outcomes. We work both ways. Exams are effective here when measuring achievements. When we see that the results of the exams are good or we are primary school teachers, we are very happy to see that you are reading and writing in the first grade. Apart from that, maybe there are some behaviors in the classroom that the child has not picked up in the family. They have behavioral problems and there are mistakes that the family knows to be true. When we can change these, we are really happy to see them when we change them. For example, at the beginning of the year, there are a few students who have hitting behavior, they

cannot speak, they cannot express themselves by talking. He expresses himself by hitting another child. When this behavior is extinguished, when it disappears, I mean, many similar behaviors can be counted, but it would be too long. This makes us really happy. I mean, it is very exciting to see that a student gets into an order, reaches a standard, and moves up a level.”

(P18): “Actually, when I think of success, I used to think of academic achievements until 3 years ago, but now that I realize that children's emotional states need to improve significantly - actually after the pandemic process, I think - success now has a more inclusive meaning for me. We used to care a lot about the psycho-emotional development of children, but now I have focused more on it. Let me put it this way; they can always learn academically at any age, but I think they should not miss that emotional period.”

Sources of inspiration for teachers' choice of profession

Teachers were asked the question "What inspired you to become a teacher (influential people, events, situations)?" and according to the answers, the theme of sources of inspiration for teachers' choice of profession was obtained. There are two categories and six codes under this theme. According to the six codes under this theme, sources of inspiration for teachers' choice of profession are teacher and family. Following the content analysis, two categories emerged in this theme:

Table 5

Frequency data on sources of inspiration for teachers' choice of profession

Themes/Categories/Codes		
Sources of inspiration for teachers' choice of profession*	<i>f</i>	<i>%</i>
Professional Idol/Personal Influence	18	
Teacher	14	70
Family	4	20
Internal Motivations	6	
Loving children	2	10
Passion for teaching	2	10
Love of service	1	5
Books	1	5

*Some teachers expressed more than one opinion.

Some of the responses of the teachers to the related question are as follows:

(P9): “Of course, I decided to become a teacher much later. But well, if I think about my past as a preschool teacher, well, I loved children very much. In my private life, I was a person who could always get down to their level, not only on a school basis. Other than that, uh. One thing that inspired me was my class teacher when I was little, that's what teaching is for me. She is really one of the most important teachers in my life. I mean that class teacher. Yes, I think a teacher should be like that. She always inspired me. He was an idol for me, to be honest. Of course, he is probably retired now. I don't know, he's in Izmir, he's not here right now, but I can't reach him, but I'm always

grateful to him and he is my source of inspiration. I mean, I can still see him in front of my eyes, frankly, he still comes to me against children. Well. We had a very helpful teacher; I'm leaving the academic part aside. She was a teacher who understood the child's soul and the psychology of the family. I always try to nurture that side of me, I mean I think of her. She inspired me."

Ideal Teaching Horizon

Teachers were asked the question " What does the ideal teacher mean to you, and which of these qualities do you think you possess?" and according to the answers, the theme of ideal teaching horizon was obtained. There are four categories and twenty-seven codes under this theme. According to the twenty-seven codes under this theme, teachers mostly see ideal teaching as continuously improving oneself, being able to connect with students, being affectionate, establishing effective communication, fulfilling one's duty properly, following change, knowing students well, and being an example to others. Following the content analysis, four categories emerged in this theme:

Table 6

Frequency data on ideal teaching horizon

Themes/Categories/Codes	<i>f</i>	%
Ideal teaching horizon*	22	
Professional Development and Competence		
Continuously improving oneself	8	40
Following change	3	15
Researching	2	10
Being well-equipped	2	10
Being aware of the environment	2	10
Reading books	1	5
Being productive	1	5
Providing guidance	1	5
Coping with challenges	1	5
Being consistent	1	5
Student Relationships	21	
Being able to connect with students	7	35
Being affectionate	6	30
Knowing students well	3	15
Loving students	2	10
Accepting students as they are	1	5
Being able to discover students	1	5
Being forgiving	1	5
Communication and Interaction	16	
Establishing effective Communication	6	30

Fulfilling one's duty properly	5	25
Making jokes	3	15
Being cheerful	1	5
Being authoritative	1	5
Role Model and Social Adaptation	9	
Being an example to others	3	15
Preparing for class	2	10
Adapting to the surroundings	2	10
Acting with conscience	1	5
Being able to make sacrifices	1	5

*Some teachers expressed more than one opinion.

Some of the responses of the teachers to the related question are as follows:

(P12): *"When I was a student, I used to imagine the ideal teacher as follows, that is when he or she came to the classroom, or let me say that I used to think like this, that is, if a teacher is smiling when he or she comes to the classroom if he or she makes jokes from time to time, or if he or she tolerates our minor mistakes, he or she is the ideal teacher for me. Of course, if I evaluate this in my teaching process, these are the characteristics that a teacher should have first of all. In other words, being humble, and communicating well with students, are very important, but this alone is not enough. Because just because a teacher is modest and has good communication with students does not mean that he/she performs his/her profession well. Therefore, he/she must be well-equipped, constantly educate himself/herself, and at the same time, he/she must be able to sacrifice some of his/her work from time to time. To sacrifice his/her time and work to be productive for his/her students. I think this makes a teacher a good teacher if it is combined with his/her humility and good communication."*

(P3): *"For me, the ideal teacher should be a person who has good communication with students and parents, who tries to improve himself/herself, and who follows innovations. Because it is not possible to do everything perfectly. I can't say that in terms of being ideal. I mean, no matter what we do, we will not be perfect, but it is important for us to have done our best or to have done the research that we can do our best. To follow the changing things, to know the students well, when you know your students because somehow you can go to research other ways to solve that problem. That's how it is. I can say that they are researchers and generally know their students well."*

Teachers' sources of motivation

Teachers were asked the question "Where do you draw the energy and strength you need while working? In other words, what is your source of motivation?" and according to the answers, the theme of teachers' sources of motivation was obtained. There are five categories and twenty-one codes under this theme. According to the twenty-one codes under this theme, teachers' sources of motivation are often student success, student, being appreciated, positive feedback, producing outcomes, and love for the profession. Following the content analysis, five categories emerged in this theme:

Table 7

Frequency data on teachers' sources of motivation

Themes/Categories/Codes	<i>f</i>	%
Teachers' sources of motivation*		
Student-Centered Motivations	17	
Student success	4	20
Student	4	20
Producing outcomes	3	15
Healthy communication with students	1	5
Student-parent relationships	1	5
Continuing communication with graduates	1	5
Being able to touch their lives	1	5
Noticing the sparkle in students' eyes	1	5
Colleagues	1	5
Personal and Professional Values	10	
Love for the profession	3	15
Perfectionism	2	10
National values	2	10
Intrinsic	2	10
Ambition	1	5
Social and Institutional Interaction	6	
Being appreciated	4	20
Relationships with school administration	1	5
Team spirit	1	5
Infrastructure and Resources	2	
New laboratory	1	5
Books	1	5
Other Sources of Motivation	6	
Positive feedback	5	25
Desire to use time efficiently	1	5

*Some teachers expressed more than one opinion.

Some of the responses of the teachers to the related question are as follows:

(P10): "Actually, the source of motivation for my own life right now is firstly my students and secondly the parents of the students. It is a great motivation for me when I get the academic and behavioral rewards I give to my students. At the same time, when the parents' feedback is good, and their expectations are met. I mean, when I see that expression

on their faces, it really motivates me a lot, it makes me more ambitious, and I feel that I have to work harder. I hope it will always continue like this.”

(P13): “I actually get the energy and power I need, that is, the motivation I need, from feedback. I am happy to receive feedback when my students solve a question when they have an idea about something, when they get somewhere, or even when I hear a groundbreaking answer from them. I am motivated when I hear these things, or when I hear about the places where students from previous years have come, the professions they have achieved or the positions they have acquired. After all, we have also contributed, they have come somewhere. I am motivated by thinking that my efforts have not been in vain. Of course, in addition to this, other than financial resources, the thanks we will receive from my colleagues, supervisors, etc. is to be appreciated.”

Factors that decrease teachers' motivation

Teachers were asked the question "In your opinion, what factors decrease a teacher's motivation? How do the challenges you face in your profession affect your motivation?" and according to the answers, the theme of factors that decrease teachers' motivation was obtained. There are six categories and fourteen codes under this theme. According to the fourteen codes under this theme, factors that decrease teachers' motivation are often student success, student, being appreciated, positive feedback, producing outcomes, and love for the profession. Following the content analysis, six categories emerged in this theme:

Table 8

Frequency data on factors that decrease teachers' motivation

Themes/Categories/Codes	<i>f</i>	%
Factors that decrease teachers' motivation*	22	
Social and Communicative Challenges		
Negative parental attitudes	13	65
Negative student behaviors	8	40
Negative criticism	1	5
Institutional and Administrative Issues	9	
Negative school climate	5	25
Negative administrative style	2	10
Problems with administration	2	10
Personal and Professional Development Barriers	8	
Efforts going to waste	4	20
Lack of appreciation	4	20
Economic and Financial Challenges	6	
Financial difficulties	6	30
Working Conditions and Environmental Factors	5	
Increased workload	2	10

Illness	1	5
Unhappy people	1	5
Overcrowded classrooms	1	5
Education System and Policies	1	
System changes	1	5

*Some teachers expressed more than one opinion.

Some of the responses of the teachers to the related question are as follows:

(P10): "Here again, it seems that parents are the most important element who think about the teaching profession. This is the time we live in this process. You strive, you run, you try. You want to do something important, you want to do good things, but the parents can only look from the perspective of their child. They create expectations or special expectations for their child. Or their expectations are things outside of the curriculum or the events we are supposed to provide. When we fail to meet that expectation, the parents' attitude becomes negative. This puts us in a vicious circle and really lowers our motivation."

(P6): "Parents can lower our motivation; students' bad remarks can sometimes really lower it. The bad remarks of the administration on the teacher can also decrease our motivation."

How teachers cope with challenges

Teachers were asked the question "In your opinion, what factors decrease a teacher's motivation? How do the challenges you face in your profession affect your motivation?" and according to the answers, the theme of how teachers cope with challenges was obtained. There are two categories and seventeen codes under this theme. According to the seventeen codes under this theme, teachers feel demotivated and fatigued when faced with challenges and deal with them by continuing to work at a certain standard and focusing on the goal. Following the content analysis, two categories emerged in this theme:

Table 9

Frequency data on how teachers cope with challenges

Themes/Categories/Codes	<i>f</i>	%
How teachers cope with challenges*	20	
Feelings		
Short-term motivation decrease	6	30
Decrease in motivation	4	20
Fatigue	4	20
Getting angry	1	5
Withdrawal	1	5
Feeling down	1	5
Discouragement	1	5

Feeling of fed-up	1	5
Fear of failure	1	5
Behaviors	16	
Continuing to work at a certain standard	7	35
Focusing on the goal	2	10
Desiring to be useful	2	10
Directly intervening in problems	1	5
Sharing the problems experienced with one's surroundings	1	5
Keeping the desire to succeed alive	1	5
Taking breaks	1	5
With a love for the profession	1	5

*Some teachers expressed more than one opinion.

Some of the responses of the teachers to the related question are as follows:

(P1): *"Inevitably, sometimes people get bored. Because we are human. No matter how much we love our profession, no matter how much we love students and children, no matter how much we believe that knowledge is sacred, sometimes we get bored. Most of the time this happens for the reasons I just mentioned. But again, as I mentioned before, we motivate ourselves. There is a saying, "Whoever teaches me one letter, I will be his slave for 40 years." says Hazrat Ali. When I think in this way, teaching is a very sacred profession. I really don't say this just for the sake of saying it, sacred is a very important word. In this sense, teaching is a sacred profession. That's why I overcome all these things by thinking about the sanctity of teaching from my point of view, or sometimes I think like this; everything never goes straight in life. There will be thorns in our feet, we will be sad at times. We will cry at some point. We will encounter some negativities. But these negativities, as I said sometimes, do not discourage us, even if they give us boredom. We love our profession, and we try to strive to be productive in our profession in the best way."*

(P6): *"Like I said, it's short-lived. It goes out like a straw flame. Then I move on again. I say, you know, there was a saying that they stoned the crooked tree, what was it, hodja? There was such a saying. I say this is you, this is your work, your labor, or this is your goal, this is your life. He is like that, you are like this, so I say go on your way. You don't have to please anyone. If you are satisfied, when you put your head on your pillow, I earned halal money today, I did my job well, I taught my lesson well, and I am good with the students, if your mind is at ease, it is conscientiously and religiously okay for me. The money I get is halal."*

Changes in teachers' motivation during the process

Teachers were asked the question " How has your motivation changed over time? (How were you in the early years of your career? How do you see yourself now?)" and according to the answers, the theme of changes in teachers' motivation during the process was obtained. There is one category and two codes under this theme. According to the two codes under this theme, most teachers' motivation was high in the early years and motivation is high now. Following the content analysis, one category emerged in this theme:

Table 10

Frequency data on changes in teachers' motivation during the process

Themes/Categories/Codes	<i>f</i>	%
Changes in teachers' motivation during the process*	20	
Motivational change		
Motivation was high in the early years and motivation is high now	15	75
Motivation was low in the early years and motivation is high now	5	25

*Some teachers expressed more than one opinion.

Some of the responses of the teachers to the related question are as follows:

(P10): "Believe me, I can say that I do it with the same love as the first day. I haven't experienced much change. I can say that I still go to class with the same love as I did on the first day."

(P7): "In terms of motivation, when you were first appointed, I guess I said, I don't know anything, I can't do this job. I mean, I really had a hard time, I always studied, even in my first years. Then, as I got used to it, I started to like it. But in my first year, thank God, it was always good. The exam results of my students, you know when I got there, I noticed the rise. Well, after that. It has always been like that. So, it was different at this school. It got better. I mean, this school has a laboratory. For example, I have just started to be able to do all the experiments. It wasn't like that before. When I graduated from university, I didn't know anything, I couldn't do anything, I didn't have any materials. I always worked in village schools, but as I tried to do it myself, as I watched it on the internet and in the comfort of this environment, I mean, it gave me a lot in that professional sense."

Teachers' self-evaluations

Teachers were asked the question "If you were to grade yourself, how would you assess yourself?" and according to the answers, the theme of teachers' self-evaluations was obtained. There are five categories and twenty-four codes under this theme. According to the twenty-four codes under this theme, teachers feel inadequate, find self-assessment challenging, strive for self-improvement, and have good communication with students. Teachers usually gave themselves 70, 80, and 90 points. Following the content analysis, five categories emerged in this theme:

Table 11

Frequency data on teachers' self-evaluations

Themes/Categories/Codes	<i>f</i>	%
Teachers' self-evaluations*	14	
Self-Assessment and Competence Perception		
Feels inadequate	8	40
Finds self-assessment challenging	4	20
Has not achieved goals	1	5
Feels burnt out	1	5

Technological Proficiency	3	
Unable to keep up with technology	3	15
Professional Development and Attitudes	16	
Strives for self-improvement	3	15
Diligent	2	10
Acts impulsively	2	10
Proficient in their field	2	10
Questions their profession	2	10
Ambitious	1	5
Idealistic	1	5
Humble	1	5
Has a fighting spirit	1	5
Loves their profession	1	5
Communication and Interaction	4	
Has good communication with students	2	10
Gets angry with students	1	5
Prepares for classes	1	5
Scoring	17	
70	6	30
80	4	20
90	4	20
100	1	5
40	1	5
60	1	5

*Some teachers expressed more than one opinion.

Some of the responses of the teachers to the related question are as follows:

(P11): "Now I am less literate outside of science. Sometimes I learn new things from my friends, for example, you may not know the life cycle of a whale because it is very special, but it comes up in a question. You get it wrong. For example, it depresses you. I immediately research the life cycle of the whale again. You need to constantly improve yourself. You need to follow technology. I can think that we have a little bit of trouble in following the technology. Because technology changes very fast. I actually like technology and I can apply it, but it is very difficult to follow it one-to-one. So, it can be said that I am a little behind in terms of technology. But the smart board sent by our state made our work very easy. At the point of accessing technology, the smart board is very helpful, especially in my branch. Smartboard applications close this gap for me. Because when I give an example to the child, I can open it on the internet, I can open it on the smart board, I don't say think about the bat, I open the bat, the child sees it. So, technology may be the missing point. Some curricula are heavy, some are light. It is very difficult to transfer these to

children. I mean, some outcomes are open-ended. Whatever you tell is as valid as it is. Here, the boundaries need to be clear and unambiguous. Frankly, our ministry needs to change this plan a bit more. It needs to say that you will explain these, and you will not explain these. For example, I teach according to the annual plan, but the child gets very different questions in the mock exams. My teacher says, "You didn't explain this. It actually hurts us a lot, but they are two very different areas. That can create a bit of a gap, but I explained to the children the reason for this. I mean, I tell them that we must explain these things according to our annual plan. Sometimes, of course, I sometimes go out as an extra and say, "Look, when you face the test, these will also come up. These inconsistencies can lower success a little bit. Also, the student profile has changed a lot. The fact that students who do not want to listen to the lesson, who have disciplinary problems, or who have no goals are in the same class affects our success criteria a lot. In other words, there needs to be a solution such as an open secondary school so that if a child wants to go to industry, we don't force him/her to go to school. Because the child prevents other friends from listening to the lesson. This also affects our success. It necessarily interferes with the subject we are going to teach. It also lowers our success. So it can be that point."

(P18): "Should I give a grade? Actually, my boundaries are still too hard in certain areas. I think I need to soften a little bit more because we were taught differently. A little bit more... as I said, we were taught how to teach in a very academic sense, so after years and years of being in the profession, look, I am still changing, I am still developing, and I still don't feel enough. Because children are developing so fast, or rather the world is developing so fast and it is really hard to keep up with it, it is really hard to keep yourself up to date, and it is really hard to keep yourself up to date all the time. Change is a very difficult thing, but at least I'm in a constant effort to say that I will change. I'm not stubborn, just a little harder. First of all, I do what I know, and then when it doesn't work, I switch to a new one. I would probably break the score from there. Therefore, I would give myself 9 points out of 10."

Discussion, Conclusion & Suggestions

This research provides a comprehensive description of phenomena in the field of education by exploring teachers' sources of motivation in-depth and the meanings they attribute to their motivation. The findings are organized around several themes that have a significant impact on teachers' motivation.

School from the teachers' perspective: This study's exploration into teachers' perceptions of school uncovers a rich, multidimensional understanding that spans emotional connection and belonging, career and professional development, social and community engagement, personal and academic development, and motivation and school engagement. The emphasis on "Second home" and "Family" within the Emotional Connection and Belonging category underscores a profound sense of attachment and identification with the school environment, suggesting that for many teachers, schools are more than just workplaces; they are communities where profound bonds are formed. This finding aligns with the theoretical framework proposed by [Noddings \(1992\)](#), who argued for the importance of nurturing relationships in educational settings, positing that care and mutual respect are fundamental to effective teaching and learning.

The data also indicate a strong perception of schools as pivotal in Career and Professional Development, underlined by references to schools as "The future of society" and "A place that directs toward a profession." This view reflects

the understanding that schools play a crucial role not just in student learning but also as institutions that contribute to societal progress through the professional growth of their staff, echoing the sentiments of Fullan (2007), who discussed the importance of continuous learning and innovation in educational environments.

In terms of Social and Community Engagement, the identification of schools as settings for socialization and as the governance of the community point to the significant role schools play in shaping social values and community leadership, resonating with the community of practice concept outlined by Wenger (1998), where learning is seen as a social process that occurs in communal contexts.

The Personal and Academic Development category, with schools described as "Life" and "The place that nurtures individuals," reflects an understanding of schools as vital in shaping individuals' personal and academic growth, a notion supported by Dewey (1938), who emphasized the importance of education in fostering reflective thinking and personal development.

The emphasis on Motivation and School Engagement, with codes like "A place approached with joy and playfulness," highlights the importance of creating engaging and enjoyable learning environments, which is in line with the intrinsic motivation theory proposed by Deci and Ryan (2000), suggesting that fostering an environment of enjoyment and interest is crucial for effective learning.

Based on the study's findings, it is recommended that educational policies and practices prioritize the creation of school environments that foster emotional connections, encourage continuous professional development, and facilitate social and community engagement.

Teaching from the teachers' perspective: The data derived from the content analysis of teachers' perspectives on teaching reveals a multifaceted view that underscores the profound impact and contribution of teaching to both individual learners and society at large. The most significant aspect, as highlighted by the teachers, is the ability to "touch the future generation," which garnered the highest frequency. This perception aligns with the understanding of teaching as a forward-looking endeavor, where educators play a pivotal role in shaping the minds and attitudes of future citizens. Additionally, the emphasis on "building," "being useful," and "creating positive change" further illustrates teachers' recognition of their role in nurturing growth and fostering positive societal transformations.

The categories of "Professional Identity and Values," "Personal and Professional Development," "Social and Emotional Aspects," "Student-Centered Approach," and "Service to Society" reflect a comprehensive view of teaching that transcends the mere transmission of knowledge. Teachers view their profession as a "sacred duty" and a "job done with love," highlighting the intrinsic values and emotional investment inherent in teaching. The importance of personal and professional development, alongside the ability to engage with children on a social and emotional level, demonstrates a commitment to holistic education that values emotional intelligence, empathy, and personalized learning.

In comparison to existing literature, these findings resonate with the work of Hattie (2009), who emphasizes the significant impact of teachers on student learning outcomes and the importance of teacher-student relationships in educational success. Similarly, the emphasis on professional identity and values aligns with Day's (2004) exploration

of the complex interplay between personal and professional identities in teaching. However, the specific focus on "serving the homeland" and viewing teaching as a "service to society" introduces a patriotic dimension that is less prominent in global educational research, suggesting a unique cultural or national perspective among the respondents.

These insights contribute to the broader discourse on teaching and learning, affirming the critical role of teachers in shaping future generations and the multifaceted nature of teaching as a profession. Future research should further explore the cultural and contextual factors that influence teachers' perceptions of their roles, as well as the impact of these perceptions on educational practices and outcomes. Professional development opportunities that are centered on enhancing teachers' ability to engage with students on both an emotional and intellectual level should be provided by educational institutions. This approach is critical for nurturing a holistic educational environment that values emotional intelligence and empathy, as well as personalized learning, reflecting the profound impact and contribution of teaching highlighted by teachers themselves.

Initiatives aimed at recognizing and celebrating the role of teachers in fostering positive societal transformations and building the future generation should be established by policymakers and educational leaders. Such initiatives would not only honor the sacred duty and love with which teachers approach their profession but also support the development of a professional identity that is deeply connected to service to society and the nurturing of future citizens.

Success through the eyes of teachers: The analysis of teachers' perspectives on success highlights a comprehensive understanding that transcends traditional metrics of academic achievement. The emphasis on "achieving goals" and "individual-specific development" as the most frequently cited codes indicates a shift towards a more personalized and holistic view of success. This approach acknowledges the importance of aligning educational objectives with individual student needs and interests, thereby making the learning process more engaging and meaningful. Additionally, the significance given to "making the subject enjoyable" and "achieving the objectives in the curriculum" reflects an understanding of the role of enjoyment and curriculum alignment in facilitating effective learning.

The categorization into "Individual Development and Learning Process," "Teacher-Student Relationship and Interaction," "Professional Attitude and Responsibility," and "Success and Recognition" further elucidates the multifaceted nature of success from a teacher's standpoint. The data suggest that success in education is not solely defined by academic outcomes but also by the quality of interactions between teachers and students, the continuous professional and personal development of educators, and the acknowledgment of their efforts and achievements.

Comparing these findings to existing literature reveals alignment with the work of [Ryan and Deci \(2000\)](#), who argue that intrinsic motivation and the satisfaction of basic psychological needs are crucial for effective learning and personal development. The emphasis on individual development and making learning enjoyable resonates with their Self-Determination Theory, which highlights the importance of autonomy, competence, and relatedness in education. However, the focus on "winning" and "receiving praise" introduces elements of extrinsic motivation that contrast with the intrinsic motivation focus suggested by Deci and Ryan, indicating a nuanced understanding of success that incorporates both intrinsic and extrinsic motivators.

These insights contribute to the educational discourse by advocating for a more nuanced and comprehensive understanding of success that encompasses both academic achievements and the development of positive relationships, emotional growth, and personal fulfillment. Future research should explore the balance between intrinsic and extrinsic motivators in defining success in educational contexts and examine how this balance impacts student motivation and learning outcomes.

It is recommended that educational strategies be developed to prioritize the alignment of educational objectives with the individual needs and interests of students, thereby enhancing the engagement and meaningfulness of the learning process. This recommendation is grounded in the understanding that success extends beyond traditional academic metrics to include personalized and holistic development, as underscored by teachers' emphasis on "achieving goals" and "individual-specific development."

The importance of incorporating both intrinsic and extrinsic motivators in educational practices should be recognized, with a particular focus on creating learning environments that foster enjoyment and curriculum relevance. This approach is advocated to address the nuanced understanding of success that includes both academic achievements and the fostering of positive relationships, emotional growth, and personal fulfillment, aligning with [Deci and Ryan's \(2000\)](#) Self-Determination Theory on the significance of autonomy, competence, and relatedness in education.

Sources of inspiration for teachers' choice of profession: The exploration of what inspires individuals to pursue a career in teaching reveals two primary categories of influence: "Professional Idol/Personal Influence" and "Internal Motivations". The most significant source of inspiration, as indicated by the frequency data, is the influence of teachers themselves, followed by family. This suggests that role models within the teaching profession play a crucial role in attracting individuals to the field, underscoring the impact of personal interactions and experiences with educators who embody the values and practices of effective teaching. Similarly, the role of family in influencing career choices highlights the importance of support and encouragement from one's immediate social environment in shaping career aspirations.

The secondary category, "Internal Motivations," which includes a love for children, a passion for teaching, a love of service, and the influence of books, points to the intrinsic motivations that drive individuals to choose teaching as a profession. This underscores the importance of personal fulfillment, a desire to contribute positively to society, and the influence of literature in shaping one's professional path.

Comparing these findings with existing literature, the emphasis on role models and personal influence aligns with the work of [Bandura \(1977\)](#), who highlighted the importance of observational learning and modeling in career choice. The significance of internal motivations is also supported by [Deci and Ryan's \(1985\)](#) Self-Determination Theory, which posits that intrinsic motivations are critical for sustaining long-term engagement in a profession. However, the specific influence of books as a source of inspiration is less commonly discussed in the literature, suggesting a potential area for further research into how literature can inspire educational career choices.

These insights contribute to the understanding of teacher recruitment and retention by highlighting the complex interplay of external influences and internal motivations in the decision to become a teacher. Future research should

explore how these sources of inspiration can be leveraged to attract and retain high-quality candidates in the teaching profession.

It is recommended that teacher recruitment strategies be designed to emphasize the significant role of professional idols and personal influences, as these have been identified as primary motivators for individuals choosing the teaching profession. This approach should involve showcasing real-life stories and testimonials from educators who embody effective teaching values and practices, thereby illustrating the profound impact that role models within the teaching profession can have on attracting new teachers.

The development of programs and initiatives that highlight the importance of internal motivations, such as a love for children, a passion for teaching, and a desire to contribute positively to society, should be prioritized by educational institutions and policymakers. These programs could include workshops, seminars, and reading groups that explore the role of personal fulfillment in shaping one's decision to pursue a career in teaching, acknowledging the critical role of intrinsic motivations as supported by [Deci and Ryan's \(1985\)](#) Self-Determination Theory in sustaining long-term engagement in the teaching profession.

Ideal Teaching Horizon: The concept of the ideal teaching horizon, as revealed through the perspectives of teachers, encompasses a multifaceted approach to the profession. The prioritization of continuous self-improvement and the ability to connect with students underscores a commitment to both personal and professional development. This dual focus is reflective of a holistic educational philosophy that values the dynamic interplay between teacher growth and student engagement. Furthermore, the emphasis on being affectionate, establishing effective communication, and fulfilling one's duty properly aligns with the understanding that teaching is not merely a transfer of knowledge but a complex, relational process that involves emotional intelligence and ethical responsibility.

The categorization into "Professional Development and Competence," "Student Relationships," "Communication and Interaction," and "Role Model and Social Adaptation" highlights the comprehensive nature of effective teaching. It suggests that ideal teachers are not only knowledgeable and skilled in their subject matter but also adept at building relationships, communicating effectively, and serving as positive role models within the community. This perspective aligns with the broader educational research that emphasizes the importance of teacher-student relationships, teacher efficacy, and the socio-emotional aspects of teaching ([Hattie, 2009](#); [Noddings, 2005](#)).

Comparing these findings to existing literature, the focus on continuous improvement and adaptability resonates with the principles of reflective practice as described by [Schön \(1983\)](#), suggesting that ideal teachers are reflective practitioners who continuously seek to enhance their teaching methods and understanding of student needs. However, the specific emphasis on humor and being cheerful presents a nuanced aspect of teacher-student interaction not extensively explored in traditional educational research, indicating a potential area for further study regarding the impact of teacher personality on learning environments.

These insights into the ideal teaching horizon contribute to the discourse on teacher education and professional development by underscoring the multifaceted competencies required for effective teaching. Future research should

further, investigate how these qualities can be cultivated in teacher preparation programs and professional development initiatives to enhance educational outcomes.

It is recommended that teacher preparation programs and professional development initiatives be specifically designed to foster the development of emotional intelligence and ethical responsibility among educators. This recommendation is based on the understanding that effective teaching encompasses not only the transfer of knowledge but also a complex, relational process that involves connecting with students on a deep, personal level. The integration of training that focuses on building relationships, effective communication, and serving as positive role models should be considered essential components of these programs.

The importance of incorporating humor and cheerfulness into teacher-student interactions should be recognized and explored further in educational research and practice. This recommendation arises from the observation that these personality traits contribute significantly to creating a positive learning environment and enhancing student engagement. Therefore, strategies to cultivate such qualities in teachers, acknowledging their potential to positively impact student learning experiences and outcomes, should be developed and implemented within the framework of teacher education and ongoing professional development.

Teachers' sources of motivation: The investigation into teachers' sources of motivation reveals a complex interplay of factors that fuel their commitment and drive. Predominantly, student-centered motivations, including student success and direct interactions with students, emerge as the primary sources of energy for teachers. This underscores the intrinsic reward system embedded within the teaching profession, where the progress and achievements of students serve as a significant motivational force. Moreover, the emphasis on producing outcomes and the impact teachers have on their students' lives highlight the importance of tangible results and personal fulfillment in sustaining teacher motivation.

In addition to student-centered motivations, the analysis identified personal and professional values such as love for the profession, perfectionism, and adherence to national values as critical motivational factors. These elements reflect a deep-seated passion for teaching and a commitment to excellence and societal contributions, indicating that motivation in teaching is not solely extrinsic but deeply rooted in intrinsic values and aspirations.

The role of social and institutional interaction, particularly being appreciated and receiving positive feedback, further illustrates the importance of recognition and support from the school community and colleagues in reinforcing teachers' motivation. These findings align with the Self-Determination Theory (Deci & Ryan, 1985), which emphasizes the need for autonomy, competence, and relatedness as fundamental psychological needs driving motivation.

However, the influence of infrastructure and resources, such as new laboratories and books, suggests that environmental factors also play a significant role in motivating teachers, indicating a blend of intrinsic and extrinsic factors contributing to their overall motivation.

Comparing these insights with existing literature, the strong focus on student success and engagement finds resonance with Maslow's Hierarchy of Needs (Maslow, 1943), where the achievement and recognition aspects align with esteem needs, and the personal values and passion for the profession reflect self-actualization. Nevertheless, the

specific mention of national values and perfectionism as sources of motivation may differ from broader educational research, suggesting a unique cultural or individual perspective on motivation in teaching.

These findings offer valuable implications for policy and practice, suggesting that enhancing teacher motivation requires a multifaceted approach that addresses not only the professional development needs but also the emotional and psychological well-being of teachers. Future research should explore the implementation of strategies that foster a supportive and appreciative school environment, alongside opportunities for personal and professional growth, to sustain and enhance teacher motivation.

The implementation of recognition and support systems within educational institutions is recommended to reinforce teachers' motivation, as highlighted by the significant role of social and institutional interactions. Such systems should be designed to provide teachers with appreciation and positive feedback from both the school community and their colleagues, thereby addressing the fundamental psychological needs of autonomy, competence, and relatedness as identified in the Self-Determination Theory (Deci & Ryan, 1985).

The development of infrastructure and resources, including the provision of new laboratories and books, is recommended to enhance teachers' motivation by addressing both intrinsic and extrinsic motivational factors. This approach acknowledges the importance of environmental factors in motivating teachers and suggests that a balanced blend of support for personal and professional growth, alongside tangible resources, is crucial for sustaining and enhancing teacher motivation.

Factors that decrease teachers' motivation: The analysis of factors that decrease teachers' motivation highlights a complex landscape of challenges that educators face, which can significantly impact their professional enthusiasm and commitment. Predominantly, social and communicative challenges such as negative parental attitudes and negative student behaviors emerge as significant demotivators. These issues underscore the importance of a supportive and respectful environment for teachers, where constructive feedback and positive interactions predominate. Institutional and administrative issues, including a negative school climate and problematic administrative styles, further exacerbate the problem by creating an atmosphere that can stifle teacher motivation and innovation.

Personal and professional development barriers, such as the perception of efforts going to waste and a lack of appreciation, pinpoint the critical need for recognition and opportunities for growth and advancement within the profession. Economic and financial challenges also play a crucial role, with financial difficulties being highlighted as a significant stressor that can dampen teachers' motivation.

Working conditions and environmental factors, including increased workload and overcrowded classrooms, contribute to the stress and burnout that can detract from teachers' motivation. Lastly, education system and policy changes can induce uncertainty and frustration, particularly when such changes are frequent, poorly communicated, or implemented without adequate support for teachers.

These findings align with existing literature that identifies similar factors as detrimental to teacher motivation. For instance, research by Ingersoll and Smith (2003) and Maslach and Leiter (1999) has documented the impact of workplace conditions, administrative support, and professional autonomy on teacher burnout and motivation.

Furthermore, [Deci and Ryan's \(1985\)](#) Self-Determination Theory underscores the need for autonomy, competence, and relatedness as fundamental to sustaining motivation, suggesting that undermining these needs can lead to decreased motivation among teachers.

However, while the literature extensively discusses the impact of these factors on teacher motivation, the specific emphasis on certain factors such as the immediate impact of negative parental attitudes and student behaviors may vary across different contexts, indicating the need for context-specific strategies to address these challenges.

These insights underscore the necessity for a multifaceted approach to support teachers, encompassing improved communication, administrative support, professional development opportunities, and attention to economic and workload concerns. Future research should focus on developing and implementing interventions that address these factors comprehensively to enhance teacher motivation and retention.

The establishment of robust support systems within educational institutions is recommended to mitigate the negative impacts of social and communicative challenges on teachers' motivation. These systems should prioritize the creation of a supportive and respectful environment where constructive feedback and positive interactions are encouraged, directly addressing the demotivating effects of negative parental attitudes and student behaviors.

The development and implementation of comprehensive professional development programs are recommended to address personal and professional development barriers faced by teachers. Such programs should be designed to offer recognition, opportunities for growth, and advancement within the profession, thereby countering the perception of wasted efforts and a lack of appreciation, which have been identified as significant factors decreasing teachers' motivation.

How teachers cope with challenges: The exploration of how teachers cope with challenges in their profession sheds light on the resilience and strategies employed by educators to maintain motivation and performance despite adversities. The findings indicate a significant emotional and behavioral response to challenges, encompassing feelings of demotivation, fatigue, and a range of coping behaviors such as maintaining standards and goal-oriented focus.

The emotional responses, including short-term motivation decrease, fatigue, and feelings of being overwhelmed, underscore the psychological toll that challenges can have on teachers. These findings resonate with the concept of emotional labor in teaching, where educators must manage their emotions to fulfill the professional demands of their role ([Hochschild, 1983](#)). The reported feelings of anger, withdrawal, and discouragement highlight the need for emotional resilience among teachers to navigate the complex emotional landscape of their profession.

Behaviorally, teachers exhibit a strong commitment to professional standards and objectives, as evidenced by continuing to work at a certain standard and focusing on the goal. This determination is reflective of a deep-seated professional ethos and a commitment to the educational mission, despite the emotional toll. Strategies such as directly intervening in problems, sharing challenges with peers, and keeping the desire to succeed alive suggest a proactive approach to overcoming obstacles and fostering a supportive professional community.

These findings align with existing literature that emphasizes the importance of resilience and adaptive coping strategies in the teaching profession. Research by [Tait \(2008\)](#) highlights the role of resilience in teacher retention and

job satisfaction, suggesting that the capacity to bounce back from setbacks is crucial for long-term success in teaching. Furthermore, the emphasis on goal orientation and maintaining standards aligns with goal-setting theory (Locke & Latham, 2002), which posits that specific and challenging goals can enhance motivation and performance.

However, the literature also suggests that relying solely on individual coping strategies may not be sufficient. There is a growing recognition of the need for systemic support, including professional development, mentorship, and well-being initiatives, to address the multifaceted challenges faced by teachers (Day & Gu, 2010).

These insights underscore the necessity of providing holistic support systems for teachers that address both emotional resilience and professional competencies. Education policy and school leadership should prioritize creating a supportive environment that acknowledges the emotional labor of teaching and provides resources for professional development and peer support. Encouraging a culture of openness and collaboration can further empower teachers to share strategies and support each other in overcoming challenges.

The provision of comprehensive support systems for teachers, addressing both emotional resilience and professional competencies, is recommended to be prioritized by education policymakers and school leadership. These systems should be designed to recognize and mitigate the emotional labor associated with teaching, offering resources for professional development, mentorship, and well-being initiatives that empower teachers to maintain motivation and performance amidst challenges.

The fostering of a culture of openness and collaboration within educational institutions is recommended to enhance the sharing of strategies and support among teachers for overcoming professional challenges. This culture should encourage direct intervention in problems, peer sharing of challenges, and sustaining the desire to succeed, thus contributing to the development of a supportive professional community that values resilience and adaptive coping strategies.

Changes in teachers' motivation during the process: The investigation into the changes in teachers' motivation over time reveals a significant insight into the dynamics of professional development and personal growth within the teaching profession. The data indicates that a majority of teachers experienced high levels of motivation both at the beginning of their careers and at the current stage. This sustained motivation over time suggests that despite the challenges and changes within the educational landscape, many teachers retain a strong sense of purpose and commitment to their profession.

The fact that motivation remained high for most teachers from the early years to the present highlights the resilience and adaptability of educators. This enduring motivation is often fueled by a passion for teaching, continuous professional development, and the intrinsic rewards of seeing student growth and success. Additionally, the increase in motivation over time for a smaller group of teachers suggests that as educators gain experience, they develop more effective coping mechanisms, a deeper understanding of their educational impact, and possibly a stronger connection with their students and community.

These findings are consistent with the literature on teacher motivation and professional development. Research by Day and Gu (2010) suggests that teachers' commitment and motivation can be maintained and even enhanced over

time through reflective practice, ongoing professional development, and supportive professional communities. Similarly, the concept of teacher resilience, as explored by Tait (2008), indicates that overcoming challenges can lead to a stronger sense of professional efficacy and motivation.

However, the literature also acknowledges that teachers' motivation can fluctuate due to various external and internal factors, including workload, educational policy changes, and student behavior challenges (Ingersoll & Smith, 2003). The relatively stable levels of high motivation reported in this study may not capture the full spectrum of experiences across the profession, highlighting the need for supportive measures that address the diverse challenges teachers face.

The findings suggest that supporting teacher motivation requires a holistic approach that addresses both the challenges and the opportunities within the teaching profession. Policies and practices that promote professional development, acknowledge and reward teacher effort and success, and foster supportive professional communities can contribute to sustaining teacher motivation. Additionally, recognizing and addressing the potential sources of stress and burnout is crucial for ensuring that teachers remain engaged and motivated throughout their careers.

The implementation of policies and practices that foster an environment conducive to continuous professional development and reflective practice is recommended to be prioritized by educational leaders and policymakers. Such initiatives should aim to sustain high levels of motivation among teachers by acknowledging and rewarding their efforts and successes, thereby addressing the diverse challenges and opportunities within the teaching profession.

The development of supportive professional communities and the provision of resources to address potential sources of stress and burnout among teachers are recommended to be integrated into the educational system. This approach would ensure that teachers remain engaged and motivated throughout their careers by offering mechanisms for coping with workload, educational policy changes, and student behavior challenges, thus contributing to a stronger sense of professional efficacy and motivation over time.

Teachers' self-evaluations: The theme of teachers' self-evaluations as gleaned from the provided data highlights a nuanced understanding of their professional competencies, challenges, and aspirations. The majority of teachers appear to engage in a critical self-assessment, indicating feelings of inadequacy and the challenge of self-assessment itself. This reflective practice is crucial for professional growth, yet it also underscores the internal pressures teachers face in striving to meet their standards and goals.

Teachers' self-reports of feeling inadequate or unable to keep up with technological advancements reflect a common concern within the profession about staying relevant and competent in a rapidly evolving educational landscape. The emphasis on striving for self-improvement and being diligent showcases a commitment to professional development and a continuous effort to enhance their teaching practice.

The mixed feelings towards their profession, ranging from questioning their career choice to expressing love and dedication to teaching, illustrate the complex emotional landscape teachers navigate. The range of scores (from 40 to 100, with the majority between 70 and 90) further indicates a broad spectrum of self-perceived competence and satisfaction with their professional abilities.

These findings align with the literature on teacher self-efficacy and reflective practice. Research by [Bandura \(1997\)](#) on self-efficacy highlights the importance of teachers' beliefs in their abilities to influence student outcomes and navigate challenges. The reflective practice, as discussed by [Schön \(1983\)](#), emphasizes the role of reflection in learning from experiences to improve teaching methods and outcomes.

However, the literature also points to the potential downsides of overly critical self-assessment, such as burnout and decreased motivation ([Maslach et al., 2001](#)). The balance between critical self-reflection and maintaining positive self-efficacy is crucial for teacher resilience and long-term job satisfaction.

These insights suggest that supporting teachers in their self-evaluation processes requires a balanced approach that fosters reflective practice while providing the tools, resources, and support systems necessary to address feelings of inadequacy and the challenges of keeping pace with technological and pedagogical advancements. Professional development programs should be tailored to encourage a growth mindset and resilience, emphasizing the value of continuous learning and adaptation. Furthermore, creating a culture that values and rewards ongoing learning and self-improvement can enhance teachers' self-efficacy and job satisfaction.

The development of professional development programs that are tailored to enhance teachers' self-efficacy and resilience is recommended to be undertaken by educational institutions. These programs should provide the necessary tools, resources, and support systems to address the feelings of inadequacy and challenges related to technological and pedagogical advancements, fostering a growth mindset and emphasizing the importance of continuous learning and adaptation.

The creation of a culture within educational settings that values and rewards ongoing learning and self-improvement is recommended to be prioritized by school leadership and policymakers. This culture should aim to balance critical self-reflection with maintaining positive self-efficacy, thereby supporting teacher resilience and long-term job satisfaction, while mitigating the potential downsides of overly critical self-assessment such as burnout and decreased motivation.

In conclusion, it is recommended that a series of strategies and training programs be developed to increase teachers' motivation. The implementation of these strategies can have a positive impact on teachers' job satisfaction. As a result, there is potential for an overall enhancement in the quality of education. In a rapidly evolving educational landscape, the continuous exploration and understanding of teachers' motivations remain paramount. Recognizing the profound connection between teachers' intrinsic motivations and the quality of education, ongoing efforts to support and enhance these motivations are crucial. The themes unveiled in this research, encompassing the personal meaning of school, the sacred role of teaching, and the diverse dimensions of success, contribute to a comprehensive understanding of the intricate factors shaping teachers' experiences. As we navigate the complexities of teacher motivation, the implementation of tailored strategies and training initiatives emerges as a pathway to cultivate a thriving educational environment, empowering teachers and, in turn, enriching the overall educational experience.

The study has two important limitations. First, the small sample size of only 20 teachers from a specific region of Türkiye limits the generalizability of the findings to different regions and school types. Second, the use of only semi-

structured interviews as the data collection method and the fact that these interviews were conducted face-to-face may lead to response bias and omitted topics due to time constraints.

Ethic

This study was ethically approved by the decision of the Necmettin Erbakan University Scientific Research Ethics Committee dates 09/06/2023 and numbers 2023/277.

Author Contributions

This article was jointly written by three authors.

Conflict of Interest

The authors declare that they have no conflicts of interest.

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The Mediating Role of Relationship Satisfaction Between Authenticity and Self-Esteem in Romantic Relationships

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Abstract

This study examines the mediating role of relationship satisfaction in the relationship between relationship authenticity and self-esteem of individuals in romantic relationships. Mediation analysis was conducted in this study using a correlational design. The study group consisted of 512 individuals, 370 females and 142 males. The findings revealed that relationship satisfaction played a partial mediating role in the relationship between relationship authenticity and self-esteem. These findings were discussed in the light of the related literature.

Key Words

Romantic relationship • Self-esteem • Relationship satisfaction • Authenticity

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Introduction

Throughout various stages of human life, there are certain developmental tasks that emerge and need to be addressed. It is a well-known fact that as childhood comes to an end and adolescence begins, establishing close relationships becomes a prominent task among these. While the qualities of close relationships vary, it can be said that romantic relationships, especially in adolescence, take center stage. It is known that having a healthy romantic relationship has positive effects on an individual's life. Some studies have shown that one of these effects is on self-esteem. In their study, [Luciano and Orth \(2017\)](#) found that individuals in romantic relationships experienced an increase in their self-esteem. Furthermore, it has been revealed that continuing such a relationship for at least one year leads to even greater improvements in self-esteem.

The concept of self-esteem is widely discussed in the field of social psychology, with various definitions in different contexts. Among the accepted definitions of self-esteem, [Rosenberg's \(1979\)](#) description stands out. According to Rosenberg, self-esteem is generally defined as an individual's positive evaluation of themselves. Other definitions in the literature approach self-esteem in the context of "sense of power," "inner-out self-esteem," "sense of competence," and "self-evaluation-worth" ([Mruk, 2006](#)). When examining these different definitions, it becomes evident that self-esteem definitions primarily emphasize two aspects: competence and worth ([Gecas, 1982](#)). An individual's perceptions of their competence and worth concerning themselves can be considered important in developing an authentic self. In their study, [Tolman and Porche \(2000\)](#) found that individuals with low levels of authenticity also had low self-esteem. This finding suggests that authenticity is closely related to self-esteem, as individuals who can honestly and freely express themselves in their relationships are more likely to have higher self-esteem.

Although authenticity is emphasized as a personality trait, the capacity to behave authentically arises from a person feeling safe when expressing themselves honestly in interactions with others ([Gouveia et al., 2015](#)). [Harter \(2002\)](#) defines authenticity as an individual's ability to explain themselves in terms of their internalized values, emotions, and desires. Authenticity in a relationship, as defined by [Lopez and Rice \(2006\)](#), is described as a relational schema that supports the benefits of mutual and accurate sharing of one's true self with a partner, despite risks such as personal discomfort, partner disapproval, or relationship instability. This definition expands on the four dimensions of authenticity put forward by [Kernis and Goldman \(2006\)](#): an individual's awareness of their own inner motives, emotions, and cognitions; the ability to evaluate oneself impartially despite others' opinions; acting in accordance with one's values rather than expectations; and engaging in open and honest interactions with others, enabling one to express their true self. Being authentic in a relationship fosters healthy communication, which is a significant factor affecting relationship satisfaction in romantic relationships ([Meeks et al., 1998](#)). Therefore, it is believed that individuals who can be authentic in their relationships will experience greater satisfaction in their romantic relationships ([Downing, 2008](#)).

Relationship satisfaction is one of the most critical factors for the healthy functioning of a romantic relationship. While there are various definitions of relationship satisfaction in the literature, [Hendrick's \(1988\)](#) definition stands out. According to Hendrick, relationship satisfaction involves an individual's evaluation of their emotions, thoughts,

and behaviors related to the romantic relationship they are in. Interaction theory suggests that individuals determine their relationship satisfaction by comparing their current relationship with various alternative options (Thibaut & Kelley, 1959). Sabatelli (1988) similarly suggests that relationship satisfaction emerges as a result of the interaction between an individual's expectations of the relationship and their partner's behaviors. Examining these definitions, it becomes evident that relationship satisfaction is primarily based on subjective evaluations and explains the happiness individuals derive from their relationship and the bonds they work to build.

In light of this literature, it is thought that the role of relationship satisfaction in the relationship between self-esteem and authenticity is crucial. With this research, romantic relationships and the dynamics within them, which involve many complex variables, can be better understood. Additionally, it is believed that this study will create practical applications and research fields for practitioners in the field. The variables examined in the context of romantic relationships can also be applied to different types of close relationships. Particularly in today's context where individuality is emphasized in relationships, this study, which will serve as a situation assessment regarding this matter, will help us better understand the relationship between self and relationships. In this context, the aim of this research is to examine the mediating role of authenticity in the relationship between self-esteem and relationship satisfaction for individuals.

Method

This section provides information about the research model, the study group, the data collection tools, and the data analysis processes.

Research Model

In this study, a relational design was employed. According to Heppner and others (2013), relational designs are used to investigate the relationships between two or more variables. The causal relationships between the variables of the study, which are authenticity in the relationship (predictor variable), relationship satisfaction (mediator variable), and self-esteem (outcome variable), were assessed through mediation analysis.

Study Group

The study group that participated in this research consists of 512 individuals (370 females and 142 males) who are in romantic relationships. The age range of the group is between 17 and 55 ($\bar{X} = 32.20$). The study group was formed using a convenience sampling method, where individuals easily accessible for responding to measurement instruments are selected (Cohen et al., 2007). Data was collected via Google Forms platform and participants was asked about their relationship experience initially. If participant candidate didn't have any romantic relationship experience whatsoever, platform redirected them last page of the form.

Data Collection Tools

Personal Information Form: A Personal Information Form prepared by the researchers was used to describe the study group (such as age, gender and current relationship status) and collect data about the independent variables to be used in the study.

Authenticity in Relationship Scale: The Authenticity in Relationship Scale (AIRS), developed by Lopez and Rice (2006), was adapted to Turkish by Akbay (2015). This scale consists of a total of 23 items, measuring honesty (items 1, 2, 3, 4, 5, 6, 7, 8, 15, 18, and 22) and impartiality (items 9, 10, 11, 12, 13, 14, 16, 17, 19, 20, 21, and 23). The response categories for the scale are marked on a 9-point rating scale, ranging from "not at all descriptive" (1 point) to "very well descriptive" (9 points). Items 9, 10, 11, 12, 13, 14, 16, 17, 19, 20, 21, and 23 are reverse-scored. Scores for the honesty subscale can range from 11 to 99, while scores for the impartiality subscale can range from 12 to 108. Total scores can be obtained from the scale, with scores ranging from 23 to 207. The increase in the scores obtained from the scale indicates an increase in the tendency of individuals to behave authentically in their relationships. As a result of the adaptation study, Cronbach's α coefficient for the whole scale (23 items) was found to be .82; $\alpha = .76$ for the first factor with 11 items and $\alpha = .79$ for the second factor with 12 items. The reliability coefficients obtained by dividing the scale into two halves are as follows; .72 for factor 1, .75 for factor 2 and .80 for the total. In this study, Cronbach's alpha internal consistency coefficient for the whole scale was .87.

Rosenberg Self-Esteem Scale: The Rosenberg Self-Esteem Scale (Short Form) was used to determine individuals' perceptions of their self-worth. This scale was developed by Rosenberg (1965) and adapted to Turkish by Çuhadaroğlu (1986). The scale consists of 10 items, with an equal number of positive and negative statements, measured on a 4-point Likert scale. Higher scores on the measurement tool indicate higher self-esteem. Çuhadaroğlu (1986) reported the Cronbach's alpha coefficient for the scale as 0.76. In this study, the Cronbach's alpha coefficient for the scale was found to be 0.82.

Relationship Assessment Scale: The Relationship Assessment Scale, developed by Hendrick (1988), was adapted to Turkish by Curun (2001) to measure the satisfaction individuals derive from their romantic relationships. This 7-item scale consists of 5 positive and 2 negative items, measured on a 7-point Likert scale. Higher scores on the scale indicate higher relationship satisfaction. In the adaptation study, the Cronbach's alpha coefficient for the scale was reported as 0.88. In this study, the Cronbach's alpha coefficient for the scale was found to be 0.85.

Procedure

The application was conducted via Google Forms on the internet, and data was collected only from voluntary individuals. Before the application, basic information about the purpose of the research and the measurement instruments was provided to individuals, and their consent was obtained. The data collection process took approximately fifteen minutes.

Data Analysis

Descriptive statistics and Pearson correlation coefficients were used for data analysis. When examining kurtosis and skewness values, it was observed that the data in the study exhibited a normal distribution (kurtosis = -0.25, skewness = -0.26 for self-esteem; kurtosis = -0.31, skewness = -0.54 for authenticity in the relationship; kurtosis = -0.70, skewness = 0.27 for relationship satisfaction). In the research, the statistical significance of the mediated effects in the tested model was examined using the approach based on Ordinary Least Squares Regression and the Bootstrap Method, using software developed by Hayes (2012). Bootstrapping is an intensive computation method that involves

repeatedly drawing samples from the data set and estimating the indirect effect in each resampled data set (Preacher and Hayes, 2008). This way, "bootstrapping" serves as a resampling process that is assumed to represent the population of the original sample (Byrne, 2010, p. 330). Additionally, as an inferential process, the Bootstrap confidence interval is superior to the Sobel test (Hayes, 2012) and offers a lower Type 1 error rate (Preacher and Hayes, 2008). Therefore, this method was chosen for the study because it allows for controlling covariate variables that may potentially influence the relationships between variables. The Bootstrap analyses of the study were conducted using the "Multiple Mediation Model 4" through the PROCESS Macro. The statistical significance of the mediating role of the mediator variable was examined on 5,000 bootstrap samples. In the study, authenticity in the relationship was the independent variable, relationship satisfaction was the mediator variable, and self-esteem was the dependent variable. In the model testing in the study, variables such as "gender, age, and relationship status" were assigned as control variables (covariates) as they might potentially affect the relationships between variables. The significance level in the study was set at .05. IBM SPSS 20.0 software was used for data analysis.

Findings

To describe the relationships between variables in the study, Pearson correlation analysis was employed. Descriptive statistics and correlation analysis results for self-esteem, authenticity in the relationship, and relationship satisfaction variables are presented in Table 1.

Table 1

Descriptive statistics and pearson correlation coefficient values for the variables of the study

Variables	X	Sd	1	2	3
1. Authenticity in the Relationship	153.50	27.74	-		
2. Relationship Satisfaciton	35.13	9.12	.54**	-	
3. Self-Esteem	32.09	4.52	.25**	.29**	-

When examining Table 1, the arithmetic mean and standard deviation values for the study group are as follows: for authenticity in the relationship, $X= 153.50$, $Ss=27.74$; for relationship satisfaction, $X= 35.13$, $Ss= 9.12$; and for self-esteem, $X= 32.09$, $Ss= 4.52$. The results of the correlation analysis conducted in the research indicate the following significant relationships: A positive and significant correlation between authenticity in the relationship and relationship satisfaction ($r= .54$, $p<.01$). A positive and significant correlation between authenticity in the relationship and self-esteem ($r= .25$, $p<.01$). A positive and significant correlation between relationship satisfaction and self-esteem ($r= .29$, $p<.01$).

The findings from this study, which investigated the mediating role of relationship satisfaction between authenticity in the relationship and self-esteem, are presented in Figure 1.

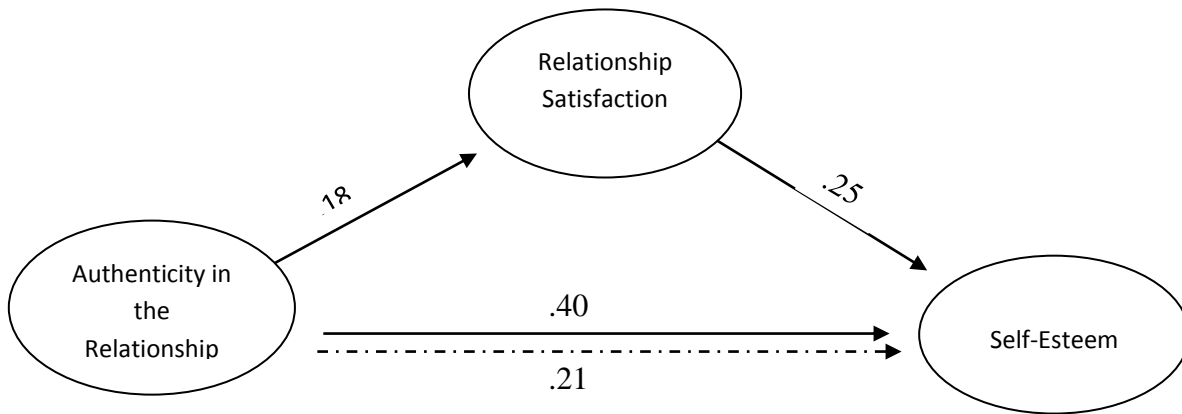


Figure 1. Mediation role of relationship satisfaction between authenticity in the relationship and self-esteem, with unstandardized beta values. * $p < .05$, ** $p < .01$, *** $p < .001$.

When examining Figure 1, it can be observed that the total effect of the authenticity in the relationship variable on the self-esteem variable ($c = .40$, $SH = .07$, $t = 5.85$, $p < .001$) is significant. Additionally, the direct effect of authenticity in the relationship on relationship satisfaction ($B = .18$, $SH = .02$, $t = 14.64$, $p < .001$) is also significant. When looking at the direct effect of the mediator variable, relationship satisfaction, on self-esteem ($B = .25$, $SH = .03$, $t = 4.47$, $p < .001$), it is clear that the effect is significant.

When authenticity in the relationship and the mediator variable, relationship satisfaction, are included in the analysis together, the relationship between authenticity in the relationship and self-esteem in terms of direct effects has weakened, and the significance value has decreased somewhat ($c = .21$, $SH = .12$, $t = 2.56$, $p < .001$). In light of these results, it can be said that relationship satisfaction mediates the relationship between authenticity in the relationship and self-esteem. Furthermore, the entire model is significant ($F_{(2,509)} = 27.74$, $p < .001$), explaining 30% of the total variance in self-esteem.

The indirect effects of authenticity in the relationship on self-esteem through relationship satisfaction are provided in Table 2.

Table 2.

Indirect effects of relationship authenticity on self-esteem through relationship satisfaction

Effects	Product of Coefficients				Bootstrap	
	Point Estimation	SE	z	p	95% BCa Confidence Interval	
					Low	High
Indirect Effect	.0919	.0052	4.2696	.000***	.0098	.0300
Total Effect	.4011	.0704			.0271	.0545
Direct Effect	.2093	.1241			.0049	.0370

$N = 702$, $k = 5000$, * $p < .05$, ** $p < .01$, *** $p < .001$ BCa: Bias corrected and accelerated 5000 bootstrap samples, which have been adjusted to account for bias in the results.

In the research, the results indicate that the estimations were evaluated and corrected for bias within a 95% confidence interval based on 5000 bootstrap samples. When examining Table 2, it is observed that the indirect effect of authenticity in the relationship on self-esteem through relationship satisfaction (the difference between total and direct effects/c-c') is statistically significant (point estimate= -.0919 and 95% BCa CI [.0098, .0300]). It has been determined that relationship satisfaction plays a partial mediating role in the relationship between authenticity in the relationship and self-esteem.

Discussion and Conclusion

This study examined the mediating role of relationship satisfaction in the relationship between individuals' authenticity in relationships and self-esteem. The findings suggest that the experiences individuals accumulate throughout their lives can influence their self-esteem. This study provided evidence that self-esteem is associated with authenticity in relationships, highlighting that self-esteem is not solely about self-evaluation but is also closely related to the quality of one's relationships. This finding is in line with the sociometer theory proposed by [Leary and Baumeister \(2000\)](#), which suggests that self-esteem is not only about self-evaluation but also tied to the quality of our interactions with others.

This study similarly showed that self-esteem is related to authenticity, which is based on self-evaluation, but relationship satisfaction, in other words, the quality of our relationships with others and our perception of it, has an impact on self-esteem. A study by [Heppner et al. \(2008\)](#) found that experiencing authenticity, autonomy, and competence throughout the day has a positive effect on self-esteem. Similarly, this study shows that authenticity in relationships is positively related to self-esteem. In the same study ([Heppner et al., 2008](#)), it was discussed that being able to establish intimacy with others, in other words, being able to connect with others predicts self-esteem. It can be argued that the ability to establish this closeness is closely related to satisfaction in the relationship. The relationship between satisfaction and self-esteem, which is one of the important points emphasized by this research, is supported by the research conducted by Heppner et al. We can discuss the structure that emerged here with the emphasis that romantic relationships have an important place among the sources that the individual feeds his/her self-esteem throughout his/her life.

[Zeigler-Hill et al. \(2011\)](#) found that men with unstable self-esteem have more positive evaluations of their romantic relationships. The authors suggest that these individuals regulate their self-esteem and related feelings through their romantic relationships. The results of our study show that an individual's ability to reveal himself/herself in a relationship, that is, to be authentic, also provides emotional balance as it positively predicts self-esteem. In other words, it can be said that the direct and indirect effects of individuals' authenticity on self-esteem are parallel to Zeigler-Hill et al.'s study in a different dimension.

[Wang \(2015\)](#) examined the mediating role of relationship satisfaction in the relationship between power and self-esteem. According to Wang, while power predicts self-esteem, relationship satisfaction and authenticity make a significant contribution to this prediction. Although Wang's results are in parallel with this study, they provide different clues about the relationships within the model in question. Considering power as an individual's perception of being able to influence and change others, the study, referring to the work of [Kipnis \(1972\)](#), emphasized that

individuals who have power, that is, who have the perception that they can influence others, also have high self-esteem. Based on this definition, the study concluded that relationship satisfaction and authenticity play a mediating role in the relationship between power and self-esteem. Although the current study reveals similar results, it is thought that the studies on the power variable put forward by Wang can be addressed within the romantic relationship.

Swann and Bossom (2010) argue that close relationships are one of the most important sources of self-esteem. As the sociometer theory suggests, establishing close relationships is one of the main criteria in self-evaluation. This individual evaluation stems from the person's innate need to establish relationships. In this study, it was similarly concluded that the self-esteem of individuals who are in romantic relationships increases, as well as the increase in the satisfaction that the individual receives from the relationship while expressing himself/herself comfortably and openly in these relationships contributes to this effect. We can argue that these results obtained within the framework of the model are effective on self-esteem not only by having a relationship, but also by authenticity and satisfaction in the relationship that will increase the quality of the relationship in question, as supported by the literature.

As a result, this study revealed that self-esteem, which is defined as the positive self-evaluation of individuals, is predicted by the concepts of authenticity in relationship and relationship satisfaction in individuals in romantic relationships. In addition, within the proposed model, it has been observed that the ability of individuals to be authentic in the relationship, namely, to express their own selves without any reservations within the relationship, partially mediated the impact on self-esteem, while relationship satisfaction also played a partial mediating role. We believe it is appropriate to discuss that the findings support the notion that the obstacle to individuals behaving authentically in romantic relationships is the fear of harming the relationship. Furthermore, it could be argued that when this risk is acknowledged and an environment conducive to authentic behavior is established, supported by relationship satisfaction, it may provide genuine support for self-esteem.

Accordingly with the result of this study, field workers such as psychological counselors, psychologist and psychotherapist could conduct self-esteem as a variable in their therapy sessions. Especially in couples therapy processes, concepts of self and self-esteem are not often addressed on an individual basis, with practitioners typically focusing on the systems within which couples operate. Based on the findings of this study, it is suggested that the concept of self-esteem be approached more carefully in therapy sessions addressing romantic relationship problems, including couples therapy. Particularly because individuals who have not completed the process of differentiation of self may struggle to express authenticity in relationships, and this situation is thought to be directly related to self-esteem, it is believed that practitioners' focus on the relationship between systemic approach concepts and self-esteem could be beneficial. Additionally, researchers working in the field of close relationships are recommended to conduct experimental studies aimed at developing authenticity. Finally, reevaluating the concept of self-esteem within the framework of systemic approach principles could create an important area for future research.

Ethical Statement

It is declared 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. There is no conflict of interest in the research. The authors received no financial support for the authorship, research, and/or publication of this article.

Author Contributions

First author: Data collection, introduction, discussion

Second Author: Data collection, data analysis, method, findings

Conflict of Interest

Authors declare no conflict of interest for this study.

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Investigation of Quality of Life and Self-Regulation Skills of 4-6 Years Old Children

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Abstract

In this study, the relationship between quality of life and the self-regulation skills of preschool children between the ages of 4 and 6 was examined. In this context, data was collected from 855 mothers living in seven different geographical regions of Türkiye. Children's quality of life was assessed by their mothers using the "Kindl Quality of Life Scale," and their self-regulation skills were assessed using the "Self-Regulation Skills Scale." Pearson correlation coefficients and multiple linear regression analyses were used to analyze the data. According to the results of the study, there were positive and significant relationships between children's quality of life and self-regulation skills sub-dimensions. In addition, it was concluded that children's quality of life was significantly positively predicted by the self-regulation sub-dimensions of attention, working memory, inhibitory control emotion, and inhibitory control behavior. The results obtained were discussed within the scope of the relevant literature, and some suggestions were provided, taking into account the study's limitations.

Key Words

Preschool children • Quality of life • Self-regulation skills

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Introduction

Self-regulation can be defined as the ability to initiate activities according to the appropriate situation, comply with people's demands, terminate ongoing activities as needed, and adjust the frequency, intensity, and duration of one's behavior in various environments (Kopp, 1982). According to another definition, self-regulation involves a set of behaviors that monitor, direct, and manage one's performance (Hofmann, Schmeichel, & Baddeley, 2012). Recent findings reveal a significant relationship between self-regulation skills developed in early childhood and subsequent academic success (Birgisdottir Gestsdottir & Thorsdottir, 2015; McClelland, Acock, & Morrison, 2006). Children who develop strong self-regulation skills in early childhood are more likely to achieve academic success in the future and experience lower rates of substance abuse and delinquency. On the other hand, low self-regulation skills are associated with problems such as peer rejection, obesity, a tendency to commit crimes, and difficulty following rules (Vink et al., 2020; Savina, 2021). It is seen that preschool education has a facilitating effect on the acquisition of self-regulation skills; it also helps to develop vocabulary, math skills, and positive attitudes toward reading (Macdonald, Beauchamp, Crigan, & Anderson, 2014; Ponitz, McClelland, Matthews, & Morrison, 2009). In this context, the early development of self-regulation skills has a facilitating and functional role in both social and academic terms throughout life (McClelland et al., 2014; Özbey, Mercan, & Alisinanoğlu, 2018).

The phenomenon of self-regulation, which plays crucial roles in both preschool and later stages of human development, is not solely addressed from one perspective. When examining the literature, it becomes evident that the approaches to the sub-dimensions of self-regulation vary. One approach categorizes self-regulation into two distinct dimensions: top-down and bottom-up. The bottom-up dimension is related to stress physiology, attentional focus, and emotional arousal, while the top-down dimension consists of working memory, inhibitory control, and attention (Blair & Raver, 2012). According to another approach, self-regulation consists of behavior, emotion, and attention regulation sub-dimensions (Fındık Tanrıbuyurdu, 2012). According to another approach, self-regulation has three dimensions: metacognitive knowledge, metacognitive regulation, and emotional motivational regulation (Whitebread et al., 2004). These different approaches indicate that multiple factors influence self-regulation. In the literature, it is seen that there are many studies to determine the factors related to self-regulation. For example, the relationship between cognitive tempo and self-regulation in children was found to be positively significant (Yıldız, 2021). In another study found that self-regulation skills were also related to academic achievement, literacy performance, vocabulary, internalizing problems, externalizing problems, social competition, and intelligence (Smithers et al., 2018). Another study reveals that individuals with high levels of self-regulation skills have healthier eating habits, are controlled in terms of weight gain or loss, and are also successful in interpersonal functioning, well-being, and harmony. On the other hand, individuals with low levels of self-regulation skills were found to be prone to risky behaviors involving addiction, and these individuals were also more likely to engage in abnormal behaviors (de Ridder et al., 2012; John, et al., 2023). In another similar study, individuals with high self-regulation skills were found to have high sleep quality and physical health, low substance use, a low likelihood of obesity, low anxiety, and suicidal thoughts, low depressive symptoms, low peer bullying victimization, and high levels of school responsibility (Robson, Allen, & Howard, 2020).

As seen from recent studies, self-regulation is one of the important skills that shape an individual's life. However, basic life skills need to be developed to develop, implement, and evaluate appropriate behavior. At this point, while self-regulation is an important concept, the concept of quality of life, which encompasses factors such as an individual's actions and the results of their actions, the solutions they bring to the problems they face, and their social ties, is also very effective (Risemberg & Zimmerman, 1992; as cited in Çiltaş, 2011). It is believed that an individual's physical health has a positive impact on both their quality of life and self-regulation. Additionally, factors such as emotional support from family and school, high self-esteem, and the establishment of healthy friendships play a crucial role in enhancing an individual's overall well-being (Bilaç, Bilaç, & Öztürkcan, 2014).

Quality of life is the perception that individuals have about their situation within the context of their culture and personal values. Quality of life encompasses various aspects, including physical functions, psychological well-being, social relationships both within and outside the family, environmental factors, and personal beliefs. Quality of life is defined as a multidimensional concept, as it takes into account various factors that influence an individual's overall well-being. As a concept that is intensely related to the expectations and experiences of individuals, it may change over time. Therefore, it is thought to be quite difficult to measure objectively (Carr, Gibson, & Robinson, 2011).

There have been different definitions of quality of life throughout history. In the early ages, quality of life was defined as absolute success, while in ancient and medieval times, quality of life was often defined in terms of possessing a high level of virtue and beauty. Looking at the definition in modern times, it is stated that happiness is not a sufficient variable for quality of life (Koltarla, 2008). Thorndike, for the first time in the historical process, defines the concept of quality of life as the individual's response to his/her social environment. Weinstein and Frankel explained the quality of life as determining one's limits and achieving life satisfaction (Müezzinoğlu, 2005). Quality of life is not limited to a single aspect of an individual's well-being. It is widely accepted that it encompasses the individual's overall state of well-being across multiple dimensions, including the physical, psychological, and social aspects, and plays an integral role in terms of health and productivity (Koltarla, 2008; Küpeli, 2009; Demirci, 2011; Demiriz & Ulutaş, 2016). The 'quality' aspect of quality of life pertains to the individual's level of well-being, which can be assessed using various criteria such as emotional state, preferences, and attitudes, as well as more tangible measures like time, quantity, and test results (Perim, 2007; Koltarla, 2008; Aşut, 2014). From this point of view, Bilaç and Öztürkcan (2014) considered the quality of life as having three sub-dimensions, namely the spiritual, physical, and social dimensions of the factors affecting the life satisfaction of a person within a period. In the literature, it is stated that the factors affecting quality of life begin to develop in early childhood. For example, according to a study conducted by Sawyer et al. (2004), individuals with a low quality of life in adulthood had problems with their quality of life in childhood. From this point of view, it becomes clear that addressing quality of life from an early age is of critical importance.

Because adults and children have different developmental structures, their emotional reactions, perceptions, and social expectations toward their experiences are also different from each other. Various experiences, such as peer relations, school adaptation, and playing games, constitute an important point in children's self-perceptions (Sarı & Cenkseven, 2008). Thus, it is important to understand and interpret the child's cognitive, social, affective, and

physical frameworks in a good way (Akyalçın, 2012). One of the characteristics that emerges here is the family factor. It is said that the attention received from the family in early childhood, parental attitudes, interest, approval, and acceptance from siblings and close relatives play an important role in the child's quality of life (Gander & Gardiner, 2007; Dermott, 2014). Similarly, when a child steps outside the family circle, the concept of friendship plays an important role in his or her life. The child socializes in the environment of friends and begins to actively communicate with his or her environment (Erten, 2012). Therefore, quality of life, which has an important place in a child's life, has been examined in terms of its different dimensions and relationships with different variables. For example, Özbey, Mercan, and Alisinanoğlu (2018) examined the relationship between quality of life and the self-regulation skills of preschool children. According to the results of the study, while children's quality of life differed significantly according to the type of school attended, family type, and parental education level, no differentiation was found in terms of gender. It was concluded that there was a moderately positive relationship between children's self-regulation skills and quality of life. Terry and Heuber (1994) conducted a study examining the relationship between quality of life and self-concept in children. This study found a highly positive relationship between children's self-concept perceptions and their quality of life. Berman et al. (2016) focused on the relationship between parental quality of life and child quality of life (physical well-being, psychological well-being, parental relationships, social relationships, autonomy, and school). According to the study, it was concluded that the relationship between family and children's perceptions of quality of life is low, the quality of life of children living with a single parent is lower than that of those living with two parents, and the quality of life does not differ in terms of gender.

Based on the theoretical explanations and research findings mentioned above, there is a belief that quality of life and self-regulation are interconnected. Accordingly, this study seeks to answer the following questions:

1. Is quality of life predicted by self-regulation and attention skills?
2. Is quality of life predicted by self-regulation and working memory skills?
3. Is quality of life predicted by self-regulation, inhibitory control, and emotional skills?
4. Is quality of life predicted by self-regulation inhibitory control-behavior skills?

Method

Study group

In line with the aim of the research, the study was conducted by the relational survey model. The study employed a snowball sampling method. A total of 855 mothers with children aged 4-6 years from different geographical regions of Türkiye participated in the study. Data were obtained from the research group through an online questionnaire. Mothers assessed their children's behavior using the provided scales. The demographic characteristics of the sample group are shown in Table 1. According to the information given in Table 1, 462 (54%) of the children participating in the study were girls, and 393 (46%) were boys. Of the children participating in the study, 285 (33.3%) were 4 years old, 258 (30.2%) were 5 years old, and 312 (36.5%) were 6 years old. Participants came from seven different regions of Türkiye in varying proportions. Of the children who participated in the study, 429 (50.2%) were from the Aegean Region, 150 (17.5%) from the Marmara Region, 66 (7.7%) from the Central Anatolia Region,

153 (17.9%) from the Mediterranean Region, 12 (1.4%) from the Black Sea Region, 33 (3.9%) from the Eastern Anatolia Region, and 12 (1.4%) from the Southeastern Anatolia Region. Regarding the educational status of the mothers of the children, 270 (31.6%) of the mothers were primary school graduates, 309 (36.1%) were high school graduates, and 276 (32.3%) were university graduates. Regarding the employment status of the mothers of the children, 550 (64.3%) of the mothers were not working. 147 (17.2%) were public sector employees; 158 (18.5%) were private sector employees.

Table 1

Descriptive information on participants

Demographic characteristics	f	%
Gender of Children		
Girls	462	54
Boys	393	46
Age of Children		
4 years old	285	33.3
5 years old	258	30.2
6 years old	312	36.5
Geographical Regions		
Aegean Region	429	50.2
Marmara Region	150	17.5
Central Anatolian Region	66	7.7
Mediterranean Region	153	17.9
Black Sea Region	12	1.4
Eastern Anatolia Region	33	3.9
Southeastern Anatolia Region	12	1.4
Education Status of Mothers		
Primary education	270	31.6
High School	309	36.1
University	276	32.3
Employment Status of Mothers		
Not working	550	64.3
Public Employee	147	17.2
Private Sector Employee	158	18.5

Research Instruments and Processes*Kindl Quality of Life Scale (Family Form for Young Children Aged 3-6 Years)*

It was developed by [Sieberer and Bullinger \(1998\)](#) and adapted into Turkish by [Eser et al. \(2008\)](#) to assess the health-related quality of life of children and adolescents over the age of three. The scale offers five distinct sub-forms, categorized based on self-administration or parental administration and age groups. Based on self-administration, there are versions for young children (aged 4-6 years), children (aged 7-13 years), and adolescents (aged 14-17 years). There are also forms for families of young children (3-6 years) and for families of children or adolescents (7-17 years). This study used the form answered by the families of young children (3-6 years). This form is a five-point Likert-type scale (1=never, 2=rarely, 3=sometimes, 4=very often, 5=always). The scale has seven dimensions: physical well-being, emotional well-being, self-esteem, family, friends, school, and illness. Scores for

the dimensions can be calculated independently, or the scale form can be used as a total score. Higher scores on the scale indicate a higher quality of life. In the original form of the scale, Cronbach's alpha reliability coefficient of the 3-6-year-old family form was found to be .95. In this study, Cronbach's alpha reliability coefficient of the 3-6-year-old family form was found to be .85.

Self-Regulation Skills Scale for 4-6 Year Old Children (Mother Form)

The Self-Regulation Skills Scale, developed by Erol and İvrendi (2018), is designed for mothers of 4-6-year-old children. The scale has 20 items and is a five-point Likert-type scale (1=never, 2=rarely, 3=sometimes, 4=very often, 5=always). The highest score that can be obtained from the scale is 100, and the lowest score is 20. The scale has four sub-dimensions: "attention," "working memory," "inhibitory control-emotion," and "inhibitory control-behavior." The scale's assessment can be based on both the total score and its sub-dimensions. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) conducted for the scale demonstrated that the validity of the scale met established criteria. It is seen that Cronbach's alpha internal consistency coefficient of the self-regulation skills scale is .90, and the internal consistency coefficient of the sub-dimensions varies .75 and .89 (Erol & İvrendi, 2018). For this study, Cronbach's alpha internal consistency coefficient for the total score of the scale was .90, and the internal consistency coefficient of the individual sub-dimensions varies between .75 and .89.

Data Analysis

Initially, the suitability of the data for parametric statistics was assessed. Since the data showed a normal distribution, it was determined that it was suitable for the use of parametric statistics. Pearson correlation coefficients were computed to explore the relationships among variables during data analysis. In addition, multiple regression analysis was used to determine the predictive power of self-regulation skills on quality of life. The analyses were conducted using the SPSS 26 software in a computer environment.

Results

In this part of the study, correlation values between self-regulation skills and quality of life were given first, followed by regression analyses.

Table 2

Correlation values and descriptive statistics between variables

Variables	1	2	3	4	5
1. Quality of Life	-				
2. Self-Regulation Attention	.39***	-			
3. Self-Regulation Working Memory	.43***	.60***	-		
4. Self-Regulation Inhibitory Control-Emotion	.35***	.57***	.60***	-	
5. Self-Regulation Inhibitory Control-Behavior	.16***	.49***	.36***	.47***	-
Mean	73.73	21.70	20.92	18.95	11.85
Standard Deviation	10.45	4.19	3.09	3.47	3.31
Skewness Coefficient	-.13	-.36	-.84	-.56	.04
Kurtosis Coefficient	-.51	.22	.85	.73	-.23

***p<.001

Considering the analysis results in Table 2, it is seen that there is a positive significant relationship between quality of life and self-regulation attention ($r=.39$, $p<.01$); self-regulation working memory ($r=.43$, $p<.01$); self-regulation inhibitory control-emotion ($r=.35$, $p<.01$) and self-regulation and inhibitory control-behavior ($r=.16$, $p<.01$).

Table 3

Multiple linear regression analysis results regarding the prediction of quality of life by self-regulation skills

Predictor Variables	B	β	t	p	Regression result
Self-Regulation Attention	.56	.22	5.35**	.000	R=.47 R ² = .22 F= 60.95 Durbin-Watson=2.08
Self-Regulation Working Memory	.89	.27	6.45**	.000	
Self-Regulation Inhibitory Control-Emotion	.32	.11	2.61**	.009	
Self-Regulation Inhibitory Control-Behavior	-.31	-.10	-2.72**	.007	

Multiple linear regression analyses were performed to examine the role of self-regulation skills in predicting quality of life in children (ages 4-6). Based on the analysis results presented in Table 3, every sub-dimension of self-regulation skills significantly predicted quality of life ($F_{Reg} = 60.95$, $p<.01$). When standardized beta (β) values are examined, it is seen that the strongest predictors of quality of life are self-regulation working memory ($\beta = .27$) and self-regulation attention ($\beta = .22$). Accordingly, self-regulation inhibitory control-emotion ($\beta = .11$) and self-regulation inhibitory control-behavior ($\beta = -.10$) predict quality of life at a lower level. According to the related R^2 value, self-regulation skills explained 22% of the total variance observed in quality of life.

Discussion, Conclusion & Suggestions

The study aimed to analyze the relationship between quality of life scores and self-regulation skills among children aged 4-6 years. As a result of the analysis, it was seen that all sub-dimensions of self-regulation skills were related to quality of life. The analysis results were contextualized and discussed in the context of relevant literature. Previous literature has predominantly focused on quality of life within the realm of health. Therefore, the results obtained were discussed through studies dealing with similar scales and variables.

Upon reviewing the research findings in the literature, it is seen that there is a relationship between early childhood quality of life and self-regulation skills (Özbey, Mercan, & Alisinanoğlu, 2018). One of the most important resources a child has in early childhood is play, and play is very important for both quality of life and self-regulation skills. Children socialize and establish relationships through play (Erten, 2012). Behaviors such as exhibiting success-oriented behaviors during play, motivating oneself, waiting for one's turn during play, stopping talking, and listening when one needs to listen to a person are seen to be related to the concept of self-regulation. In addition, if the child can define the game he or she plays, choose the right items to use, and fulfill the homework given at school, it shows that his or her coping skills have developed and that he or she has self-regulation skills (Keleş & Alisinanoğlu, 2014).

As a result of the analyses conducted in the current study, it is seen that self-regulation explains 22% of the quality of life in early childhood. At this point, self-regulation emerges as an important variable, as do different variables such as physical health, mental health, family climate, and living standards. Children with low self-regulation skills in early childhood experience various problems such as problems related to the pleasure zone (Macdonald, Beachamp, Crigan, & Anderson, 2014), low academic skills (Clark, Pritchard, & Woodward, 2010), school adaptation problems (Blair, 2002), problems in mental and motor skills (Chrysochoou, Bablekou, Masoura, & Tsigilis, 2013), absent-mindedness, and an inability to focus. These problems are thought to indirectly affect and reduce the child's quality of life.

When the relevant literature is examined, it is not only sufficient for children to use their cognitive capacities to acquire new information, but they also need to be able to regulate and control their emotions, behaviors, and attention (Raver, Smith-Carter, McCoy, Roy, Ursache, & Friedman, 2012). Regulation of attention is one of the important skills that develop in early childhood (Davis, Harris, & Burns, 2010). From an early age, it is considered very important for children to gain focusing skills by developing attention to learn or solve a problem by putting aside distracting objects or thoughts (Bodrova & Leong, 2007). Based on this, when attention, the first sub-dimension of self-regulation skills, is considered, it is seen that children with low attention levels are absent-minded and have problems focusing on a situation (Bodroca & Leong, 2007). Children with low levels of attention have problems completing the tasks they want to do, and accordingly, there is a possibility of distancing themselves from the satisfaction they will get from these tasks. At this point, attention is a variable that increases or decreases the child's quality of life.

There is a positive relationship between working memory, the second sub-dimension of self-regulation skills, and quality of life. Working memory is related to the short-term storage and processing of information (Prebler, Krajewski, & Hasselhorn, 2013). In general, working memory is associated with many important areas, such as language skills (Chrysochou, Bablekou, Masoura, & Tsigilis, 2013), math skills (Alloway & Alloway, 2010), and mental and motor skills (Lehmann Quaiser-Pohl & Jansen, 2014). The child's planning, organizing, and monitoring of cognitive processes is carried out through working memory. When reduced to a little more detail, Baddeley (1986) reported that working memory has functions such as temporarily keeping verbal and auditory information in memory, storing visual and spatial information, planning, organizing, and monitoring cognitive processes, and controlling attention (cited in Prebler, Krajewski, & Hasselhorn, 2013). In this context, working memory affects many aspects of life, such as social and academic life (Vandenbroucke et al., 2018). Considering this relationship, it is observed that individuals' quality of life increases as a result of healthy working memory (Üneri & Çakın Memik, 2007).

As a result of the analyses, inhibitory control behaviors and emotions, the third and fourth sub-dimensions, were found to be related to quality of life. These dimensions are related to the child's ability to be aware of and observe his or her thoughts and to control them (Posner & Rothbart, 2000). With the inhibitory control mechanism, the child can control different emotions such as anger, joy, sadness, and impulses that want to emerge (Whitebread & Basilio, 2012). Studies have shown that lack of control can lead to attention deficits and behavioral disorders (Meltzer &

Krishnan, 2007), and children with low control skills are also at risk in terms of social development (Watson & Bell, 2013). It is seen that a problem in the child's inhibitory control mechanism will be reflected in many areas of life in general and will affect the quality of life.

In the current study, it is seen that self-regulation skills and quality of life are among the important issues affecting the future life of the child. In this direction, in parallel with the finding of a positive relationship between children's self-regulation skills and quality of life, it can be suggested that parents and preschool teachers should cooperate to carry out activities and studies that support children's self-regulation skills in the preschool process (Özbey, Mercan, & Alisinanoğlu, 2018). At the same time, teachers can plan attention-enhancing activities for children to gain attention-impulse control. In addition, activities with parent participation can be planned for parents about what self-regulation is, why it is needed, and what can be done to improve self-regulation (Ural, Gütekin Akduman, & Şepitçi Sarıbaş, 2020).

Since the study was conducted with children in early childhood, it has some limitations. Since the scales applied were scored based on the observation skills of family members, what the child feels and what the family observes may differ. This constitutes a limitation of the study. In addition, quality of life is affected not only by the self-regulation variable but also by many situations in life. At this point, the study ignores the environmental factor while examining quality of life. As another point, since the study is family-based, it is thought that re-conducting this study by controlling points such as family functionality in future studies will contribute to the literature.

Ethic

We declare that the research was conducted in accordance with the ethical standards of the institutional and 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.

Author Contributions

This article was written with the joint contributions of five authors.

Conflict of Interest

No potential conflict of interest was reported by the authors.

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Early Field Experiences of PTEs in ELT Programme of a State University in Türkiye

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Abstract

Teaching programs in Türkiye consist of a 4-year process. Internship practice takes place in the last year of this process, each in two separate terms. Prospective teachers observe, evaluate, prepare course content, and teach under the guidance of in-service English teachers in public schools affiliated with the Ministry of National Education and with the support of supervisors at the faculties and complete their internship. However, the timing of the process is thought to be too late, which is carried out during the 4-year education period and where prospective teachers will be actively involved in schools/real teaching environments and gain experience. "Early Field Experience" (EFE), which is also found in the world literature and has exemplary applications, has been implemented in some private universities in Türkiye today but has not yet found its place in state universities. This current research studies the subject of "Early field experience". The present study focussed on the effects of "Early Field Experience" practice in a state university in Türkiye. The study analyses the reflections of EFE on prospective teachers' anxiety and makes the voices of prospective teachers heard. In this convergent mixed method study, STAS (Student Teacher Anxiety Scale - Hart, 1987) was used as a quantitative data collection tool, and a semi-structured interview form consisting of open-ended questions was employed for the qualitative part. In the study, prospective teachers of English (PTEs) had an EFE implementation process covering 10 weeks of observation and internship. The results of the quantitative data showed that there was a significant difference between pre-test and post-test scores for the level of anxiety of PTEs ($t=4.16$; $p<.05$) in favour of the post-test. Findings of interviews revealed that the prospective teachers' concerns were in the areas of teaching, students' background, classroom management, readiness to teach, and burnout before the EFE; and after the EFE, they experienced improvements in classroom management, appropriate language use, readiness to teach, experience and teaching content.

Key Words

Early-field experience • Teaching anxiety • Prospective teachers of English

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Introduction

Faculties of Education are assigned to prepare prospective teachers for their forthcoming careers both theoretically and in practice. With this purpose, in the context of ELT, the Council of Higher Education (CoHE) offers a two-term internship for the practice part of the ELT undergraduate programme as *Teaching Practice 1* and *Teaching Practice 2*. (2018, https://www.yok.gov.tr/Documents/Kurumsal/egitim_ogretim_dairesi/Yeni-Ogretmen-Yetistirme-Lisans_Programlari/Ingilizce_Ogretmenligi_Lisans_Programi.pdf). In the earlier practices of internship programmes of CoHE, PTEs used to take these courses as *School Experience* and *Teaching Practice* (https://www.yok.gov.tr/Documents/Kurumsal/egitim_ogretim_dairesi/OgretmenYetistirme/ingilizce_ogretmenligi.pdf). Nonetheless, the experts' views, similar voices, and longitudinal observation of the PTEs seem to support the necessity for an earlier practicum practice. Here, the *Early Field Experience (EFE) Practice* comes into play.

Practicum practices have long been actively leading prospective teachers in a number of objectives such as meeting theory with practice, introducing teaching environments, and offering opportunities for experience in teaching. To address the requirements and expectations of the prospective teachers, practicum practices are integrated within the ELT programmes in the final year. Early field experience (EFE) practices in the ELT context, as well, is meant to accomplish several goals, such as enhancing PTEs' professional growth and increasing their ability to teach foreign languages in an earlier term, in addition to all these aforementioned objectives.

Early Field Experience (EFE) Practice

The practicum at Türkiye's teacher education faculties is structured to encompass the first and second semesters of the fourth (senior) grade. During both semesters, they are expected to deliver about six hours of lectures each week. However, during the early field experience, students observe for a few weeks after learning about the policies and procedures of the school from their tutors. Following this, PTEs teach for ten weeks at a time for one hour a week under the guidance of their mentors, receiving feedback along the way. In this way, they get ready for their practicum in the fourth (senior) grade by concentrating on their errors and refining their lectures. From this perspective, it can be understood that Dewey's ideas work as a basis and rationale for field experience (Huling, 1998), which can be explained as experiential learning suggesting the idea that people learn by doing/experiencing. The teaching profession, which is totally and entirely focused on learning, takes two sides of the coin: the teacher and the learner. Interacting with both, teaching necessitates theory and practice (Lux et al., 2017) at the same time as early as possible.

Within teacher education programmes, early field experiences (EFEs) are classroom-based occurrences intended to support authentic pedagogical learning (Wilson et al., 2001 as cited in Rodriguez-Arroyo, 2009). Provided by real classroom settings, the PTEs are taking the chances for real teaching. Early Field Experience (EFE) Practice offers a realistic foresight of the teaching, allowing prospective teachers to assess whether they are well-suited for a career in education.

Offered early or late within the frame of the programme, field experiences are meant to (Wilson et al., 2002) provide a preview of the profession, giving insights about classroom management, and chances for practical implications of theory. Nonetheless, there has always been a call for the necessity to "early" implement this

practice into the programmes. Dating even back to the 1970s, early field experiences (EFEs) were suggested to be included within the language teaching programmes by researchers such as [Herold \(1977\)](#), [Jorstard \(1975\)](#), and [Wing \(1975\)](#). Although EFEs were long regarded to be significantly effective, it wasn't until the beginning of this century that only a very limited number of private universities in Türkiye enhanced opportunities for EFE. Dating right before the updated ELT undergraduate programme of CoHE in 2006, a practice might definitely stick to the memories having PTEs taking internship practices both in their 2nd and 4th years. Unfortunately, currently, no early field experiences are available within the context of ELT departments of State Universities. Although many studies have been conducted on the effectiveness of EFE practices ([Evans, 1986](#); [Fleener, 1998](#); [Huling, 1998](#); [Freeman, 2010](#); [Lux et. al, 2017](#); [Cirillo et al., 2020](#)), also with the voices of PTEs unheard on the challenges brought forward because of having the practicum practices late, EFE practices are yet to be implemented.

From the PTEs' perspectives about their teaching practices, one of the biggest challenges brought by is the overall teaching anxiety. Teaching anxiety of prospective teachers has long been an issue of concern and defined as an impediment for language learners ([Horwitz, 1988](#); [Young, 1991](#)). PTEs express and are mostly observed to have concerns on teaching English as 'the full-time teacher'. Psychologically speaking, they occasionally have feelings of demotivation, and inadequacy when it comes to expressing themselves in English and incompetence in terms of their teaching abilities. Therefore, anxiety was noted as a common occurrence among pre-service teachers. Lack of opportunities to speak English and insufficient classroom experience to handle the context of young learners are a couple of the causes of this concern. In response, teacher preparation institutions have implemented field experiences to decrease future educators' anxieties about teaching English as a second language. Therefore, a switch from traditional teacher preparation programs to field-based programs ([Houston & Huling, 1998](#) as cited in [Huling, 1998](#)) is expected.

Rationale and Purpose of the Study

Kolb's Theory of Experience (2014) guided the theoretical basis of the research providing a model and a framework on the critical interchange among education, work, and personal development emphasising the significance of "learning from experiences". Grasping the significance of the necessity of practicum at the early stages of teaching, and considering the gap in the field- also having no thesis studies conducted available on the CoHE database, and lacking enough number of implementation studies in the context of Türkiye, the researchers aimed to examine the effects of EFE practice on PTEs. To shed light on the impact of EFE, this implementation research study was carried out seeking answers to the following research questions.

Research Questions:

1. What are the anxiety levels of teachers in English Language Teaching Department before and after their Early Field Experience?
2. Is there a significant difference between the pre and post-tests of the anxiety levels of pre-service teachers in English Language Teaching Department?
3. What are the perceptions of ELT Pre-service teachers towards "Early Field Experience"?

Method

Research Design

This study dwells upon a convergent mixed methods research design, in which both quantitative and qualitative data were used to have a comprehensive analysis of the case. Aiming at collecting data in a one-phase design, both qualitative and quantitative data were collected to merge results to be compared (Creswell & Creswell, 2018). In the quantitative part of the study, the STAS (Student Teacher Anxiety Scale - Hart, 1987) scale was included as a pre-test and post-test. In the qualitative part, semi-structured interviews were employed right before and after the Early Field Experience (EFE) process of PTEs. With a one-phase design, the pre-test and the pre-interview were conducted right before the implementation process. Upon the completion of the implementation process, post-test and post-interview were employed.

Research Sample/Study Group/Participants

The study was conducted on all 3rd year ELT students at a state university, holding the only ELT department in the city, in the Fall and Spring Terms of the 2021-2022 Academic Year. The participants were selected on convenience sampling method considering convenience and availability (Creswell & Creswell, 2018). Their ages ranged between 20-22. A total number of 90 students (52 female and 38 male) participated in the quantitative part of the study. 9 students (7 females and 2 males) participated in the qualitative part of the study on voluntary basis, the process went on until data saturation was reached with repeated replies. Within the framework of the *Teaching English to Young Learners* course, they're sent to Early Field Experience schools. The EFE schools were selected on voluntary basis. At the time of the research, they had taken one-term-*Teaching English to Young Learners* course without EFE practice, which provided theory and micro-teaching of the concept.

Research Instruments and Processes

In this study, an implementation was envisaged in which the prospective English language teachers studying in the 3rd year have the "Early Field Experience" within the scope of the *Teaching English to Young Learners* course. At the beginning and the end of the implementation, data was collected from prospective teachers voluntarily and evaluated within the scope of the theory. During the implementation phase, two consent forms were used: one for informed consent and the other for voluntary participation, in which the participants granted permission to participate freely. Based on mixed methods research design, the process was handled within three sub-headings:

a. Quantitative Data Collection:

STAS (Student Teacher Anxiety Scale - Hart, 1987) scale was included both as a pre-test and post-test in the present study. The scale consists of 26 items and 4 sub-factors as *Evaluation Anxiety*, *Pupil and Professional Concerns Anxiety*, *Class Control Anxiety*, and *Teaching Practice Requirements Anxiety*. 8 items go for *Evaluation Anxiety*, 7 items go for *Pupil and Professional Concerns Anxiety*, 5 items are related to *Class Control Anxiety*, and 5 for the *Teaching Practice Requirements Anxiety*. The scale was tested again for reliability issues and found to be valid and reliable for the pre- (Cronbach Alpha=.97) and for the post (Cronbach Alpha= .94) application. The pre-test was conducted right before the participants started their Early Field Experience, and the post-test was applied at the end of the Early Field Experience (EFE).

b. Qualitative Data Collection:

In order to have an in-depth understanding of PTEs' perceptions towards EFE, two semi-structured interviews were carried out right before and after the implementation process. Before the EFE, the questions aimed at diagnosing the PTEs' anxieties about their teaching. The post-interview questions focused on the effectiveness of the EFE process. The pre-interview questions were first formulated by the researchers upon the diagnosis of the anxiety and concerns of the prospective teachers on teaching. Then the questions were revised and finalised under the guidance of the field experts. Following the same procedures, post-interview questions were formulated with the aim of identifying the effectiveness of EFE. Face-to-face interviews were conducted in the focus group model as six to eight interviewees (Creswell & Creswell, 2018) were accepted as ideal. The interviews were held on voluntary basis and when the saturation was reached with repeated replies the process stopped. The finalised versions (with a final reliability of 0.96 by Miles & Huberman's (1994) formula after the analysis) of the interview questions are presented below:

Questions for the Pre-Interview:

1. Do you have any concerns about the teaching process and what do you think are the reasons for these concerns?
2. What are your expectations about the EFE process?

Questions for the Post-Interview:

1. How far do you think EFE was effective in terms of your teaching?
2. Have you experienced any significant differences in your concerns and expectations after the EFE?

c. Implementation Process:

Early Field Experience Model (EFE) aims to provide practicum and real teaching chances for the prospective teachers in the early period. With this aim in mind, the researchers planned a two-term practice of EFE. The early field experience (EFE) practice of this present study aimed to improve PTEs' teaching skills before their internship in their final years at the faculty. The research consisted of 2 terms of their 3rd (junior) year. In the fall term, after 8 weeks of theoretical information was given to prospective teachers in the content of Teaching English to Young Learners (TEYL) course, a micro-teaching practice was carried out for 6 weeks. In this way, each student had the chance to apply the stages of a sample lesson practically by giving a 25-minute micro-lesson. Within the framework of the research, during the EFE practice in the spring term, PTEs were given a total of 4 hours of theory about the early field experience: 2 hours by the supervisor at the ELT department and 2 hours by the mentor teacher at the public primary school. The supervisor informed PTEs on topics such as how to address children, how to choose appropriate methods, how to give the most appropriate instructions, and how to ensure classroom control. The mentor teacher at the public-school covered topics such as the functioning of the school, the rules to be followed, the places at school such as library, canteen, staff room, and the background of the students in the classes. In the spring term, a fixed class was assigned for each student in the public primary school and they taught one hour a week for 10 weeks. In this way, PTEs were able to get involved in the EFE practice within the framework of TEYL long before their practicum practices in their final years.

Data Analysis

Based on mixed-methods research design, data were collected in terms of qualitative and quantitative methods for the present study. Before the analysis, data set was checked for any missing data. Ready for the process, quantitative data were analysed through SPSS 17 (Statistical Package for the Social Sciences) statistical programme. Data were analysed with dependent and independent t-test, which are included in parametric statistics, since the N was 50 and above, and the groups showed homogeneous distribution as a result of Levene's test, and the Kolmogorov-Smirnov (K-S) goodness of fit showed normal distribution, and the arithmetic mean and standard deviation scores of the groups were calculated and compared. The significance level was taken as $\alpha=0.05$ in the comparisons and the differences were interpreted. The levels of anxiety were calculated as (26 being the lowest, and 130 being the highest score) 26-52 Very Low, 52-78 Low, 78-104 Medium, 104-130 High.

As for the qualitative data analyses, 12 students participated in the pre-interview, being on voluntary basis, 3 of the participants chose not to participate and 9 students took part in the post-interview. Missing data were checked and not included within the analysis. Therefore, a total number of interview data from 9 participants were analysed. First, the two researchers coded the meticulously transcribed interview data before having content analysis. The researchers chose the initial codes and identified the units of meaning in the data by going over the transcribed information considering the research questions, and the quantitative data collection scale. After independently reviewing the data, necessary changes or revisions that should be made to the preliminary codes were jointly discussed. The researchers ultimately arrived at agreed-upon codes and categories. Two outside/external researchers were also included within the analysis process at this stage for reliability concerns, and the final reliability was calculated as 0.96 by Miles and Huberman's (1994) formula. The researchers finished the content analysis and identified 5 themes for the pre-interview and 2 themes one of which has 5 sub-themes for the post interview- 7 in total that would aid in addressing the research questions through focused coding.

Results

Quantitative Findings

To study the anxiety levels of the PTEs, STAS (Student Teacher Anxiety Scale- Hart, 1987) was applied as a pre-test and post-test. First, the findings were presented to show the difference between the pre and post-tests in terms of sub-factors (See Table 1).

Table 1

Dependent t-test results of anxiety levels of 3rd year English Language Teaching students according to sub-factors

Sub-factors		N	X	SD	t	p
Evaluation	Pre-Test	90	27.88	9.26	3.94	.000
	Post Test	90	24.35	7.79		
Pupil and professional concerns	Pre-Test	90	22.20	7.44	2.93	.004
	Post Test	90	20.19	6.22		
Class control	Pre-Test	90	15.20	4.57	3.89	.000
	Post Test	90	13.42	3.80		
Teaching practice requirements	Pre-Test	90	15.73	5.42	2.62	.010
	Post Test	90	14.32	4.18		

* $p < .05$

According to Table 1, "Evaluation anxiety" mean scores of the pre-test and post-test were found to be (X=27.88) and (X=24.35) respectively. When the table was analysed, it was noted that there was a significant difference between pre and post-test findings for "Evaluation anxiety" of pre-service English teachers' anxiety levels (t=3.94; $p < .05$) in favour of the post-test. As for the "Pupil and professional concerns anxiety", the mean scores of the pre-test and post-test were found to be (X=22.20) and (X=20.19) respectively. The results showed that there was a significant difference between pre and post-test findings for "Pupil and professional concerns anxiety" of pre-service English teachers' anxiety levels (t=2.93; $p < .05$) in favour of the post-test. "Class control anxiety" mean scores of the pre-test and post-test were found to be (X=15.20) and (X=13.42) respectively. It was found out that there was a significant difference between pre-test and post-test for "Class control anxiety" of pre-service English teachers' anxiety levels (t=3.89; $p < .05$) in favour of the post-test. In relation to "Teaching practice requirements anxiety", the mean scores of the pre-test and post-test were found to be (X=15.73) and (X=14.32) respectively. It was seen that there was a significant difference between pre-test and post-test for "Teaching practice requirements anxiety" of pre-service English teachers' anxiety levels (t=2.62; $p < .05$) in favour of the post-test.

Second, the findings were presented to show the difference between the pre and post-test overall scores.

Table 2 presents the dependent t-test results according to anxiety levels of 3rd year English Language Teaching Students.

Table 2

Dependent t-test results according to anxiety levels of 3rd year English Language Teaching Students

Anxiety		N	X	SD	t	P
Total	Pre-test	90	81.00	24.03	4.16	.000
	Post Test	90	72.29	18.80		

* $p < .05$

Considering the findings of Table 1, it was indicated that the mean scores on the pre- and post-tests were, respectively, X=81.00 (Medium) and X=72.29 (Low). The results also showed that there was a significant

difference between pre-test and post-test scores for the level of anxiety of PTEs ($t=4.16$; $p<.05$) in favour of the post-test.

Qualitative Findings

To study the perceptions of the PTEs towards EFE, two semi-structured interviews were carried out right before and after the implementation process. Table 3 presents the themes and their frequencies of the first and second set of interviews before and after the implementation.

As seen in Table 3, the results of the interviews are separated into two categories: those obtained from the interviews conducted prior to the study and those obtained from the interviews conducted with PTEs following the implementation. Relevant findings from these two PTE interviews can be divided into the categories shown in Table 3.

Table 3

Themes and their frequencies of the first and second set of interviews before and after the implementation

Interview (Pre-phase)	Themes (Concerns about...)	Frequency	Sample excerpts
	Teaching practice concern	6	<p>PTE 1: "Especially the fear of not being enough for my students. I mean, how will I teach, how will I continue, will they understand me, will I understand them? I am a little anxious about competence."</p> <p>PTE3: "One of them is about time management, because what I thought at first was, will I be able to teach for 40 minutes? Because we started with 20-minute presentations and now we will apply it twice as much, will I be able to teach the lesson within this time? Will I be able to finish it? What will I do if there is too much time left?"</p>
	Ss' background LI interference	3	<p>PTE 6: "Second graders do not even know how to read and write."</p> <p>PTE5: "I will speak English and they won't understand, that's it!"</p>
	Classroom management	7	<p>PTE7: "I am actually concerned about the issue.... I think the classes in Türkiye are too crowded for language teaching.....I think we spend so much time on noise, and personal interaction so we don't have time to focus on language, or teaching..... when the classes are so crowded I won't be able to control the classroom and can't keep up with the lesson plan or would like to give individual feedback but can't share enough time for each student."</p> <p>PTE9: "The crowded classes make me a little nervous. While I'm busy with materials, for example, because of the crowded class, the students may hurt each other at a moment that I cannot notice. This sometimes gives me nightmares."</p>
	Identity concern: Readiness to teach	3	<p>PTE5: "I don't have a close relationship with the students. Especially for the young age, because I'm not a kind of a person who gets on well with kids. I'd like to have some fun activities with them but that's not really my thing."</p> <p>PTE2: "I can personally say that I get on well with the kids. In this way, students want to take part- and they do- they love the teacher and this has an impact on learning. That's why we- as teachers- need to get on well with the kids. And is there any way to solve this? Now, I think there is. Spending time with children, being in the classroom environment and observing children would help."</p>
	Possible future risk of burnout	2	<p>PTE5: "After a year or two, I'm afraid to keep the lesson going in Turkish through the coursebook like traditional teachers."</p> <p>PTE1: "the fear of becoming 'a traditional teacher'"</p>
Interview (Post-phase)	Themes (Improvement in...)		
	Classroom management	5	<p>PTE2: "Classroom management. Most of the time, children used to stand up and come to us. This was a problem. It changed and was better towards the end. It depends on your authority. I still need to keep going but I've improved a lot. When I did this, it contributed to my classroom management. For example, a student was</p>

		<p>getting up, coming or causing a disturbance. He was talking to his friend. You know, he wanted attention or he was bored, so I understood him, I picked him up and brought him near me, for example. I was doing something related to the subject. For another 15 or 20 minutes, the child started to listen to the lesson in a more focused way.”</p> <p>PTE 6: “They used to put their hands on my shoulder, and say “What’s up?” I was shocked. Unfortunately they saw me as a friend, not as a teacher. ‘Will they ever listen to me?’ ‘Will they ever see me like this?’ I wondered if they would see me as a ‘teacher’ ‘an authority’. Then I realised that it’s a matter of patience. Only in this way I would make a good teacher. And I overcame this. They used to walk around the class with their friends pretending they’re putting the rubbish in the dustbin. I decided to use reward and punishment.”</p>
Appropriate language use	6	<p>DG (PTE9): “At first, I gave the instructions in Turkish. Later, Turkish first and English later. In the following 4 weeks, I used English first and Turkish later. I think this is working. I mean, I didn’t speak English the whole time, to be honest, because they insisted me a lot. They insisted that you speak English very well, but we really don’t understand anything.”</p> <p>GNV (PTE1): “...And when I spoke English in class more, I felt better. I said “I’m done 😊 Im a teacher”. I felt silly speaking Turkish in class. Speaking Turkish makes no sense in an English class. I used to defend the idea but 😞 no. It’s so ridiculous that you’re an English teacher speaking Turkish. What’s the deal? ...It goes slowly, gradually with simple sentences.”</p>
Motivation/Readiness to teach (Self-awareness to be a teacher)	6	<p>DG(PTE4): “So I was even thinking of doing a different profession. But from the moment I started, I realised that it was very easy, there was nothing much. There was nothing to force me. I didn’t want to be a teacher at first, now I want to be a teacher.”</p> <p>AŞ(PTE7): “At first I wanted to teach in a high school when I was appointed. Because I had a very big fear. Anxiety and prejudice against children, but now I would love to be a primary school English teacher.”</p> <p>ATV(PTE3): “I think it’s getting better in terms of motivation....When I talk to some of my friends, there are many people who think that they are afraid of the English teaching profession at first, that they cannot do it, but now they have changed their minds or vice versa. So what I see as important here is that PTEs realise whether they can be a teacher or not. Because teaching is in my opinion, a really important profession for me. I mean, it raised awareness of what it’s like to be a teacher.”</p>
Experience	4	<p>DG (PTE4): “First of all, I actually thought that teaching was much more difficult. I mean, I thought that it would be very difficult to deal with children and so on, so I was even thinking of doing a different profession. But from the moment I started, I realised that it was very easy, there was nothing much. They had nothing to force me. I mean, when we look at it from other professions, it is actually easier than other professions I have done so far. Therefore, first of all, it helped me in that regard.”</p> <p>ATV(PTE3): I can say that I was trembling with excitement when I entered in the class in the first week. I was excited more than scared. Because for the first time, I was really in a face-to-face experience with children. And considering the point I have reached now, I think I feel really comfortable. I start the lessons with ease.</p> <p>TK(PTE6): I told my friends at other universities about the EFE they had pity for me and said: “Was it really necessary? Just because you’re going to do it next year.” So I was worried. You know, whether it would really be like that or not, but it was very useful. I mean, I really had fears about the 4th grade, I mean, how it would be, or if I would be able to do this internship, but now it feels so easy that I am not afraid at all. It was also very useful. I think it was a great experience.</p>
Teaching content	2	<p>CY(PTE9): I actually realised the importance of getting preparations before the lesson.</p> <p>ATV(PTE3): I know what to do, I prepare the activities, I can give instructions in English like “we are going to do now”. At first I was only speaking Turkish because they didn’t understand, then I realised that after I gradually turned to English, they also did it as well.</p>
Effectiveness	9	<p>CK(PTE2): I think it’s very, very, very useful. I mean, it’s really incredibly useful. It’s going to be much, much more intense in the 4th grade. It was very good that it was once a week. It wasn’t tiring for us too much, but it was very useful. I experienced the environment, the children, their levels. I think it can even be taken in the first semester of the 3rd grade.</p> <p>DG(PTE4): You know, I have no worries left. the sooner I overcome the anxiety.....</p> <p>ATV(PTE3): I really think it was very useful. We started our internship in the third year. I think the timing was pretty fine.</p>

TK(PTE6): *It was also fine for me. We could have started in the first term of the 3rd year.*

As seen in Table 3, the themes were separately studied and grouped for the pre- interview phase and the post-interview phase. The themes were identified as “Concerns” for the pre-interview phase in respect to the statements of the students to be inclined to be worried and insecure about their teaching practices. The themes for the post-interview phase were identified as “Improvements” right after the EFE process as the concerns seemed to be resolved thus the themes were named accordingly.

As for the pre-interview phase, the voices mostly pile up around *Classroom management concerns* and *teaching practice concerns* themes with a frequency of 7 and 6 respectively. They’re followed by *students’ background concerns* and *identity concerns* ($f=2$ for each). The last theme *Possible future risk of burnout* represents the least frequency ($f=2$).

As for the post-interview phase, *Improvement in Effectiveness* theme reflects the voices of all the PTEs ($f=9$). The same percentage of voices of PTEs ($f=6$) revolve around *improvement in appropriate language use* and *improvement in motivation*. *Improvement in classroom management* and *experience* themes represent the statements of PTEs with frequencies of $f=5$ and $f=4$ respectively. The least represented theme was *improvement in teaching content* ($p=2$).

Discussion, Conclusion

The findings of the study, which represent the analysis of both quantitative and qualitative data, are thoroughly examined and discussed in detail below in order to address all of the research questions posed by the current study. To find answers to RQ 1 “What are the anxiety levels of pre-service teachers in English Language Teaching Department before and after their Early Field Experience?”, the data gained by the quantitative data tool STAS (Student Teacher Anxiety Scale) were analysed and thoroughly reviewed. The average total score was found to be medium ($X= 81.00$) before the EFE, and low ($x=72.29$) (see Table 2) after the EFE. This finding indicates a decline in the anxiety levels of the PTEs, which might be counted as positive as anxiety being a negative term. That might well be interpreted as positive effects of EFE on PTEs’ teaching anxiety, which implies that the EFE was efficient in fighting against PTEs’ teaching anxieties.

As for the RQ2 “Is there a significant difference between the pre and post-tests of the anxiety levels of pre-service teachers in English Language Teaching Department?”, there found to be a significant difference in terms of all sub-factors ($p=.000$ for *Evaluation*, $.004$ for *Pupil and Professional Concerns*, $.000$ for *Class Control*, $.010$ for *Teaching Practice Requirements* $<.05$) (See Table 1) and in total ($p=.000 < .05$) (See Table 2). Considering the findings of Table 1 and Table 2, it can be suggested that there exists a positive effect of EFE on the anxiety levels of the PTEs. These findings go in line with the answers given to the RQ1, which show an improvement in the treatment of anxiety levels after EFE. This finding is also supported by Jorstad (1975) suggesting that the inclusion of EFE helps relieve the anxiety of prospective teachers which goes in line with the above-mentioned findings.

The qualitative findings of the present study hold forth answers to RQ3 “What are the perceptions of ELT pre-service teachers towards ‘Early Field Experience?’”. Considering the themes created according to the data gained within the pre-phase of the interviews, the concerns of the PTEs revolve around *teaching practice*

concerns, students' background, classroom management, identity concerns: readiness to teach, and possible future risk of burnout.

Given the theoretical background only and lack of actual teaching experience yet, it's not surprising to anticipate feelings of inadequacy in terms of *teaching practice*. The voices of PTEs were commonly towards this aspect in terms of their concerns. The main issues raised were uncertainty and a lack of confidence in oneself.

(PTE1) *"Especially the fear of not being enough for my students. I mean, how will I teach, how will I continue, will they understand me, will I understand them? I am a little anxious about competence."*

(PTE3): *"One of them is about time management, because what I thought at first was, will I be able to teach for 40 minutes? Because we started with 25-minute presentations and now we will apply it twice as much, will I be able to teach within this time? Will I be able to finish it? What will I do if there is too much time left?"*

(PTE5): *"You know, will I be able to prepare my teaching properly or will I be able to convey the content to them, will I be able to attract their attention?"*

They still continued to have faith that attending class would be beneficial and held out hope that the experience would change things for the better, therefore what they expect to have more is *"experience"*. Hos (2019) stated that in her study, some of the participants think that despite being demanding and exhausting, this experience helped them become more knowledgeable, experienced, and conscious.

(PTE3): *"...I think this is due to inexperience and lack of preparation and experience....what I expect is 'experience'"*

(PTE2) *I would not say I have very big fears. Improving yourself will take time, in class. Having a reading activity, we will need to give feedback. Personal feedback will take time. For the first time, for example, if I cannot make it on time, I will for the second time. Everyone else did it in the same way. That's why I don't take it as a pressure.....lack of experience matters.....experience will solve most of, no even nearly all of the problems and anxieties we have discussed here. That's why my only expectation is that I want to experience everything. For example, it will challenge me about classroom management. This will add experience and I will be able to control the class that I can control them. I mean, I believe that it will add experience for those who will have difficulties in this way.*

Another concern was related to *students' background*. Lacking experience, the PTEs were uncertain about the target audience. The students' lack of L2 was one of the concerns stated. PTEs were uncomfortable with the lack of a means to communicate. They didn't know how to use the language.

(PTE1): *Children do not know English well, we try to teach English to the child by speaking English even though the child does not speak English. I'm a little worried about that, I mean, if they don't understand me, I can do something with gestures, or mimes. What can I do if they don't get it again? I am a little worried about that.*

(PTE6) : *Second graders do not even know how to read and write.*

(PTE5): *I will speak English and they won't understand, that's it!*

Related to *students' background*, the expectation about EFE was to be able to use appropriate language.

(PTE6) “.....adjusting my language to an appropriate one so that they (students) will be able to understand me.

PTEs frequently voiced concerns about *classroom management*, citing their inability to exert control over the students mostly because of the crowded classrooms.

(PTE7): *I am actually concerned about the issue.... I think the classes in Türkiye are too crowded for language teaching.....I think we spend so much time on noise, and personal interaction so we don't have time to focus on language, or teaching..... when the classes are so crowded, I won't be able to control the classroom and can't keep up with the lesson plan or would like to give individual feedback but can't share enough time for each student.*

(PTE9): *The crowded classes make me a little nervous. While I'm busy with materials, for example, because of the crowded class, the students may hurt each other at a moment that I cannot notice. This sometimes gives me nightmares.*

There were also accounts of identity concerns: *readiness to teach*, and in the search for solutions, EFE was perceived as a remedy because it offered opportunities for experience.

(PTE5): *“I don't have a close relationship with the students. Especially for the young age, because I'm not a kind of a person who gets on well with kids. I'd like to have some fun activities with them but that's not really my thing.”*

(PTE9): *“I don't really get on well with the children. For the early field experience, how far can I get sincere with the children? I would appreciate, if experience would help.”*

(PTE2): *I can personally say that I get on well with the kids. In this way, students want to take part- and they do- they love the teacher and this has an impact on learning. That's why we- as teachers- need to get on well with the kids. And is there any way to solve this? Now, I think there is. Spending time with children, being in the classroom environment and observing children would help.*

Possible future risk of burnout or the fear of becoming one of “those teachers” was reported as a concern upon their forthcoming teaching careers.

(PTE 5): *“After a year or two, I'm afraid to keep the lesson going in Turkish through the coursebook like traditional teachers.”*

The PTEs also provided opinions regarding the EFE's timing just prior to its implementation. The schedule and timing were approved by all PTEs, who also emphasized the importance of having this kind of procedure much earlier.

(PTE 2): *“It's really efficient to have the EFE before the 4th grade. The question is that is it too late to be in the 4th grade or just the time, I think it's better to be in the 3rd grade. What's more, we need to have it for both terms in the 3rd grade.”*

(PTE4): *“I think it is the right time.”*

(PTE5): *“I basically agree on the idea that the practicum needs to be taken to an earlier grade. Either in the 2nd grade or towards the end of the second term of the 1st grade for a week or two....at least we might have an idea about the issue. For me, it’s better in the 3rd grade. Earlier grades make it more efficient.”*

(PTE8): *I definitely think that it should be before the 4th grade. It becomes more serious then.*

As for the themes gained within the post-phase of the interview, it can be accepted that a significant improvement has been observed and identified. The voices of the PTEs supporting the improvement vary among *classroom management, appropriate language use, motivation and readiness to teach, experience, and teaching content*. The themes of concerns within the pre-phase show consistency with the themes of improvement within the post-phase. Following the application, concerns raised earlier were resolved.

The first concern related to *teaching practice* was addressed and resolved under the themes of *teaching content* and *experience* in the post-interview phase. The PTEs were concerned about lack of experience and how to deal with tasks, how to teach, and plan the flow of the lesson. After the EFE, in line with their expectations of having experience, the PTEs stated their actual teaching performances were effective, which is also seen as a chance for preparing themselves for teaching (Evans,1986). The longitudinal impacts of EFEs were also visible from the eyes of the principals as they observed teachers having a field-based programme background perform better as if they’re more experienced even in their novice teaching years (Huling, 1998).

(PTE3): *“I know what to do now. I prepare the activities, I can give instructions in English like “we are going to do now”. At first, I was only speaking Turkish because they didn't understand, then I realised that after I gradually turned to English, they also did it as well.”*

(PTE 4): *“First of all, I actually thought that teaching was much more difficult. I mean, I thought that it would be very difficult to deal with children and so on, so I was even thinking of doing a different profession. But from the moment I started, I realised that it was very easy, there was nothing much. Therefore, first of all, it helped me in that regard.”*

(PTE3): *“I can say that I was trembling with excitement when I entered in the class in the first week. I was excited more than scared. Because for the first time, I was really in a face-to-face experience with children. And considering the point I have reached now, I think I feel really comfortable. I start the lessons with ease.”*

(PTE 6): *When I told my friends at other universities about the EFE, they had pity for me and said: “Was it really necessary? Just because you're going to do it next year.” So I was worried. You know, whether it would really be like that or not, but it was very useful. I mean, I really had fears about the 4th grade, I mean, how it would be, or if I would be able to do this internship, but now it feels so easy that I am not afraid at all. It was also very useful. I think it was a great experience.*

Another concern was related to *“Students’ background/Appropriate language use”*. This problem of PTEs’ having an inclination to turn to L1 when they get overwhelmed was resolved through experience gradually again as stated by the PTEs. PTEs expressed that they learned to simplify and adjust their language accordingly in time with the real classroom experience.

(PTE2): *“As for simplification, I mean, I really need to use it in a very simple way. I realised that. They need to like English to understand. They need a lot of games.... If you make it fun... I made it that way and the result was good. The simpler the language I use, the easier they learn. They understand me better.”*

(PTE3): *At first I used L1 more. In my first lesson, they didn't even understand me. As they didn't understand, I used 70 to 80% Turkish, the remaining 20% was English. But as the weeks passed by, I started to change this ratio. 80% to 70% and to 60% gradually. Then it dropped to 50% and 40%. Now, I started to speak English more in general. Now, I use Turkish only when they don't really pay attention to me, I use it as “Children, please listen!” in Turkish. When I give instructions, I may direct them in Turkish. They already understand when I explain in English after I demonstrate them. I've figured it out.*

(PTE6): *I was concerned about simplifying my language. At first, I greeted the class with “Good Morning” in vain. The children didn't even have a response for this simple thing, they asked each other what was going on. I was shocked. I managed it this way: First, I spoke in English, and then translated it into Turkish. I mean I used them both. In time, gradually, we ended up only in English. I mean, they understood what I was saying shortly. It ended up in target language use.*

(PTE9): *At first, I gave the instructions in Turkish. Later, Turkish first and English later. In the following 4 weeks, I used English first and Turkish later. I think this is working*

The most striking example was PTE1 who regarded speaking English in class really difficult as the students would not understand, and revolved into a real supporter of using target language in class.

(PTE1): *...And when I spoke English in class more, I felt better. I said “I'm done! Im a teacher”. I felt silly speaking Turkish in class. Speaking Turkish makes no sense in an English class. I used to defend the idea but, no. It's so ridiculous that you're an English teacher speaking Turkish, like Maths teacher not using any numbers at all. What's the deal?It goes slowly, gradually with simple sentences.*

One of the most highlighted concern was *Classroom management* within the Pre-phase. Resolutions related to this theme were classified under the same name within the post-phase. PTEs figured it out through patience, experience (Lux et. al, 2017), trial and error, and reward and punishment.

(PTE2): *Classroom management. Most of the time, children used to stand up and come to us. This was a problem. It changed and was better towards the end. It depends on your authority. I still need to keep going but I've improved a lot. When I did this, it contributed to my classroom management. For example, a student was getting up, coming or causing a disturbance. He was talking to his friend. You know, he wanted attention or he was bored, so I understood him, I picked him up and brought him near me, for example. I was doing something related to the subject. For another 15 or 20 minutes, the child started to listen to me in a more focused way.*

(PTE6): *They used to put their hands on my shoulder, and say “What's up?” I was shocked . Unfortunately, they saw me as a friend, not as a teacher. ‘Will they ever listen to me?’ “Will they ever see me like this?” I wondered if they would see me as a ‘teacher’ ‘an authority’. Then I realised that it's a matter of patience. Only in this way I would make a good teacher. And I overcame this. They used to walk around the class with their friends pretending they're putting the rubbish in the dustbin. I decided to use reward and punishment.*

(PTE8): I tried something like changing the seats of the misbehaving student, for example, or for the activities, I was choosing the uneasy students and in that way, my prejudices were a little bit more gone gradually.

Readiness to teach concern within the pre-phase was resolved and transformed into *readiness to teach* and *self-awareness to be a teacher*. As Jorstad (1975) suggested EFE would provide chances for PTEs to reflect on their ideas to be a teacher by observing the classroom environment. PTEs reported a decrease in anxiety about becoming a teacher and a complete change of mind through experience. This might also be associated with *possible future risk of burnout concern*.

(PTE4): *So I was even thinking of doing a different profession. But from the moment I started, I realised that it was very easy, there was nothing much. There was nothing to force me. I didn't want to be a teacher at first, now I want to be a teacher.*

(PTE1): *I didn't want to be an English teacher until 8 weeks ago. I wanted to be a teacher, but not English. But I realised that the students were so sweet. My skills helped to motivate the students. It was a lot of fun to prepare activities. The children loved me, I could have fun with the children, and we played a lot of games. Every time I came, they asked what we were going to do, what we were going to play, I was very happy, so it was good, it motivated me, it really motivated me, you know, I wanted to study another teaching profession before, now I want to be an English teacher, so I want to be an English teacher, the early field experience process motivated me.*

(PTE7): *At first I wanted to teach in a high school when I was assigned. Because I had a very big fear, anxiety and prejudice against children, but now I would love to be a primary school English teacher.*

(PTE5): *You know, I was thinking that I would not be able to attract the attention of the children when I entered the classroom.... Afterwards, my communication with the children changed to be good.... I don't have worries about the children anymore.*

One of the PTEs suggested that not only for becoming a teacher but also to get to know oneself, EFE was shedding light on the idea of how teaching looks like before it's too late. Herold (1977) also suggested the same by stating that earlier practices would save time and money by providing PTEs chances to see whether the teaching is well-suited for them or not.

(PTE3): *I think it's getting better in terms of motivation for me....When I talk to some of my friends, many people think that they were afraid of the English teaching profession at first, that they could not do it, but now they have changed their minds or vice versa. So what I see as important here is that PTEs realise whether they can be a teacher or not. I mean, it raised awareness of what it's like to be a teacher.*

Another PTE supported this view and gave chances to getting to know oneself. S/he described EFE as an awareness-raising process.

(PTE): *"At first, I actually came here thinking that teaching was a very easy profession. I said I could do it, I mean we did all kinds of things. Then, when I started the EFE, I realised that this was not the case. So that was the anxiety. I think it has decreased now, but I don't know. I mean, we are more prepared for next year, so we know what we can face, so I am not very worried right now."*

As an overall evaluation, all the PTEs agreed upon the effectiveness of EFE, which goes in line with the findings of the study carried out by Cirillo et. al (2020). The timing was found quite appropriate and it might be taken even earlier and expanded to a-year-period.

(PTE2): *“I think it's very, very, very useful. I mean, it's really incredibly useful. It's going to be much, much more intense in the 4th grade. It was very good that it was once a week. It wasn't tiring for us too much, but it was very useful. I experienced the environment, the children, and their levels. I think it can even be taken to the first semester of the 3rd grade.”*

(PTE4): *You know, I have no worries left. the sooner I overcome the anxiety.....*

(PTE3): *I really think it was very useful. We started our internship in the third year. I think the timing was pretty fine.*

(PTE6): *It was also fine for me. We could have started in the first term of the 3rd year.*

Making a blend of the quantitative and qualitative findings of the present study, it can be concluded that the EFE has positive influences on PTEs' motivation, self-awareness, lowering their anxieties, change of minds in terms of shaping their future careers. Also having limited research conducted in the field that is similar to the present study, it is expected to give insights to the forthcoming studies with its findings and contribute to the field providing a sample for an early field practice.

Suggestions

The present study shed light on the Early Field Experience (EFE) practices providing both qualitative and quantitative findings. As the study was limited to Teaching English to Young Learners (TEYL) context, further studies could well be conducted with target groups of different levels such as secondary schools, high schools, colleges, and different age as teenagers and young adults. Also, considering the gap in the field and CoHE lacking these in any of the teacher education fields, more studies on EFE practices should be conducted.

This study provided valuable data in terms of the effectiveness of the EFE practice within a state university ELT context. Regarding the positive reflections of the practice, it might be suggested that EFE be included in the undergraduate ELT programmes by CoHE.

Ethic

This study was ethically approved by the ethics committee of University, with the date and decision number of 08/04/2022 - 2022/126.

Author Contributions: Equally divided between the authors.

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Measurement Tool for The Determination of Misconceptions About Change of State

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Abstract

Misconceptions are one of the most serious obstacles to education. Chemistry is one of the sub-disciplines of science. Failure to learn basic chemistry concepts accurately and completely may appear as misconceptions. The focus of the study is on state change. The aim of this study is to develop a valid and reliable measurement tool that can be used to determine the misconceptions of pre-service science teachers about change of state. The research is a quantitative study. The study data were obtained using the survey method. Within the scope of the study, a four-tier diagnostic test was developed by the researchers as a measurement tool. The participant group of the study consisted of pre-service science teachers from all grade levels continuing their undergraduate education in the science teaching department of a faculty of education in the Central Anatolia region. A total of 221 pre-service science teachers, who were selected using the convenience sampling method, constitute the study group of the research. Through the analysis of the data, it was determined that the four-tier change of state misconception diagnostic test developed by completing the validity and reliability studies within the scope of the research was a valid and reliable measurement tool.

Key Words

Science education • Change of state • Misconceptions

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Concepts

The basis of learning is built on making sense of and associating new information with the existing knowledge of the individual. According to many researchers, including Ausebel, one of the most substantial factors affecting learning is the existing knowledge of individuals, that is, their prior knowledge (Brod, 2021; Hailikari et al., 2008). In this context, in order for learning to take place fully and accurately, the individual's prior knowledge, that is, the existing knowledge, should be purified from false learning (Agra et al., 2019; Potvin et al., 2015). Knowledge acquired in daily life can sometimes lead to unscientific mislearning and misconceptions (Khalid & Embong, 2019). Misconceptions are a serious problem encountered in the teaching of all branches of science. Pose significant obstacles to healthy and accurate learning processes. In order for learning to take place correctly and error-free, concepts must be learned and understood correctly and error-free. When concepts are learned incompletely or incorrectly for some reasons, it causes future learning to be structured incorrectly and incorrect learning to be realized. Misconceptions are very resistant structures and if they are not detected and corrected in the individual, they will affect all other learning throughout his/her life and cause him/her to be equipped with inaccurate and unscientific knowledge (Kurtulus & Tatar, 2021; Mataka & Taibu, 2020; Taylor & Kowalski, 2014).

Science is an active and living field. All the disciplines it includes are directly related to life. Science is a complex discipline that includes many sub-disciplines. In other words, it is a multidisciplinary science (Morillo et al., 2003). Chemistry is one of the sub-disciplines within science. Like other disciplines of science, chemistry is a science that is highly related to daily life (Gilbert, 2006; Icoz, 2015). Chemical science contains many abstract concepts due to its complex structure. Due to the difficulties experienced in the process of structuring and making sense of these abstract concepts in the individual, difficulties or mislearning may occur in learning. In this context, chemistry is one of the branches of science in which misconceptions are frequently encountered (Nahum et al., 2004). When the literature is perused, there are numerous studies focused on misconceptions in chemistry science subjects (Al-Balushi et al., 2012). For example; chemical bonds (Coll & Treagust, 2001; Dhindsa & Treagust, 2009), atomic structure (Park & Light, 2009; Stefani & Tsaparlis, 2009), oxidation and reduction (Barke et al., 2009), electrochemistry (Ahtee et al., 2002; Lin, et al., 2002) acids and bases (Cetingul & Geban, 2005; Lin & Chiu, 2007; Yasa & Kocak, 2022) and chemical equilibrium (Bilgin, 2006). Upon examination of the studies, it is observed that different researchers aimed to determine the misconceptions in the subjects of chemistry science with different methods. Misconceptions can be identified with many different methods. Each method has advantages and disadvantages. Interview, open-ended questions, multiple-choice tests and tiered diagnostic tests can be given as examples. Recently, tiered diagnostic tests have been widely used (Maharani et al., 2019; Putri et al., 2021).

Rationale and Purpose of the Study

The subject of change of state is among the basic topics of chemistry. In this context, the complete and accurate teaching of this subject is important in order to prevent the formation of misconceptions related to chemistry science in individuals. It is important that science teachers, who introduce chemistry-related topics to young age groups, do not have misconceptions about their sub-disciplines in order to prevent future generations from having misconceptions. Pre-service teachers should graduate from the faculties of education with complete and accurate

information. In fact, teachers transfer the information that they think is correct to students. If there are misconceptions in this information, these misconceptions will also be transferred to future generations. When the literature is examined, there is no specific measurement tool developed for the determination of misconceptions about change of state. In this regard, the purpose of this study is to develop a valid and reliable measurement tool for the subject of change of state and present it to the literature. As the measurement tool to be developed, a four-tier misconception diagnostic test specific to the subject of change of state was preferred. Four-tier diagnostic tests provide data not only on misconceptions but also on the prior knowledge that causes these misconceptions. Four-tier diagnostic tests were preferred because of their ability to provide data on individuals' lack of knowledge, scientific knowledge, misconceptions, false positives and false negatives. It is thought that the misconceptions of pre-service science teachers can be determined with the phased diagnostic test developed within the scope of the study. In this context, the areas where misconceptions are present can be identified and the elimination studies can be focused on these areas.

Method

This quantitative study aimed to develop a valid and reliable measurement tool for identifying misconceptions among pre-service science teachers regarding changes in state.

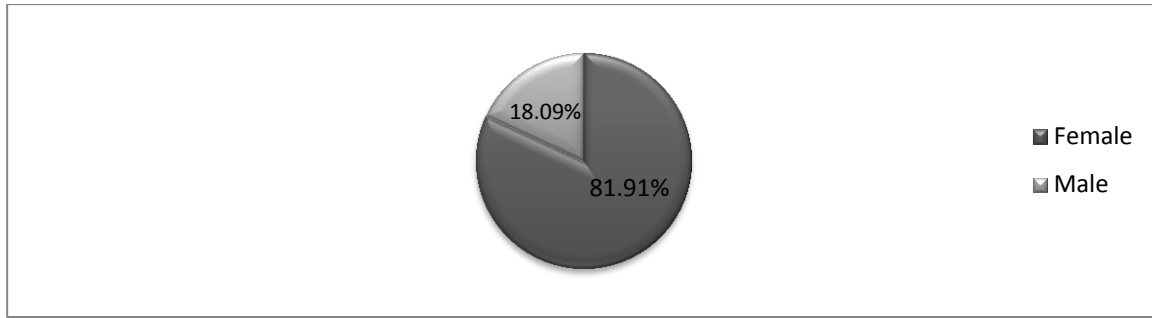
Research Design

This research, which was conducted to develop a valid and reliable tiered diagnostic test that can be utilized to determine the misconceptions of pre-service science teachers about change of state, is a quantitative research. The data of the study were gathered by survey method. The survey method used to diagnose the current situation is one of the scientific research method. The survey method is a scientific research method that aims to describe a past or present situation as it is (Groves et al., 2009).

Study Group

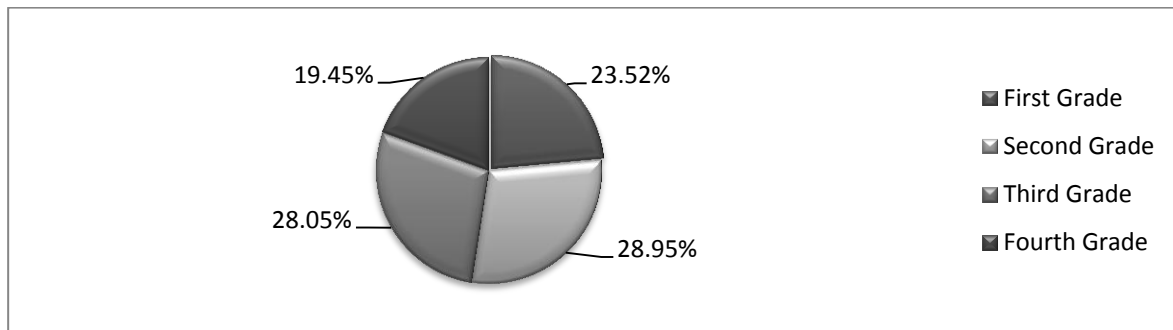
The participant group of the study comprised 221 pre-service science teachers. The participant group of the study consisted of pre-service teachers from each grade level continuing their undergraduate education in the science teaching department of a state university in Türkiye. The convenience sampling method was utilized to determine the participant group. This approach, commonly referred to as convenience sampling, involves selecting samples from readily available and applicable units due to constraints such as time, budget, and available workforce (Kılıc, 2013). The study data were gathered in the spring semester of the 2023-2024 academic year.

The study group of the research consisted of 181 (81.91%) female and 40 (18.09%) male pre-service teachers (Graph 1).



Graph 1. Gender distribution of pre-service science teachers

The participant group consisted of 52 first-year (23.52%), 64 second-year (28.95%), 62 third-year (28.05%) and 43 fourth-year (19.45%) pre-service teachers (Graph 2).



Graph 2. Distribution of pre-service science teachers according to grade level

Research Instruments and Processes

The research is a test development study. In the study, a four-tier misconception diagnostic test was developed for the subject of change of state. The test was developed by the researchers within the extent of the study. The misconception diagnostic test comprising four tiers, developed as part of the study consists of eight questions in its draft form. Each question in the test consists of four stages in total. During the test development process, instructor observations and misconceptions in the literature were taken as the basis for the preparation of questions and options. Question patterns and options were prepared by blending the misconceptions that the researchers decided existed in the students with the findings of the studies in the literature through informal observations during theoretical and practical lessons. An item pool was created with the prepared questions. The item pool was analyzed by the researchers and eight questions which is thought to contain all of the possible misconceptions on this subject were decided. The eight questions were converted into multiple-choice format. With the addition of reason and trust steps to the multiple-choice test format, it was transformed into a four-tier diagnostic test. The developed draft test was sent to three field experts and expert opinions were obtained. The test was finalized by making the necessary arrangements with the feedback from the expert opinions. The multiple-choice test was administered to the pre-service science teachers who constituted the participant group of the study for validity and reliability studies.

After the validity and reliability analyses, the test developed to determine misconceptions about the subject of change of state was finalized with seven four-tier questions. The researchers personally conducted the data collection process. The data were collected at one time. All pre-service teachers who participated in the study answered the questions voluntarily.

Data Analysis

Data were analyzed with Excel and SPSS package programs. In the data analysis phase, the data were calculated separately according to the possible outcomes of the four-tier misconception diagnostic test. These possible outcomes are scientific knowledge, misconceptions, false positives and false negatives. The data remaining after these calculations represent the lack of knowledge rates of individuals. Throughout the calculations, a coding system was employed where the correct answers were represented as '1,' and the incorrect answers as '0' for all questions. In the step where the question of being sure or not in the confidence steps was questioned, the options of absolutely sure and sure were coded as '1', and the options of not sure and absolutely not sure were coded as '0'. When computing the scientific knowledge score, the calculation was derived from data coded as 1-1-1-1, indicating that pre-service teachers answered all components of the question correctly. When computing the misconception score, the calculation was performed using data coded as 0-1-0-1, signifying that pre-service teachers provided incorrect responses to the first and third components of the question while expressing confidence in both confidence steps. When calculating the false positives, i.e. correct scores with incorrect reasons, the calculation was made over the data coded as 1-1-0-1, i.e. the cases where the pre-service teachers answered the first step of the question correctly, the third step incorrectly and were sure of both confidence levels. When computing false negatives, denoting incorrect scores with correct reasoning, the calculation used data coded as 0-1-1-1. This one represents instances where pre-service teachers answered the first step of the question incorrectly, the third step correctly, and expressed confidence in both confidence levels.

Before proceeding to the validity and reliability analyses, four pre-service science teachers (one from each grade level) who were not included in the research study group were asked to read the test and it was determined whether the overall test had any problems in terms of expression and fluency.

Results

Before starting the validity and reliability studies, the reliability coefficient was calculated for the draft test consisting of eight questions as a preliminary study. The coefficients were calculated separately for scientific knowledge and misconception scores and KR-20 analysis was used. The sample for the preliminary study was determined to be 40. Considering that the test consisted of eight questions, five times the number of participants was sufficient for the pretest (Tavşancıl, 2002). The reliability coefficient of the pretest with 40 participants was calculated as KR-20; ,598 for misconception scores and KR-20; ,613 for scientific knowledge scores. Both numbers indicate that the reliability of an 8-item test was achieved. When interpreting the reliability coefficient for tests containing less than fifteen items, the coefficients calculated as 0.50 and above are interpreted as sufficient reliability (Kehoe, 1994).

The four-tier misconception diagnostic test for change of state was administered to 221 pre-service science teachers to complete the validity and reliability studies. The validity and reliability studies were developed using the data collected from pre-service science teachers.

Validity Analysis Findings of the Test

Validity analyses in four-tier diagnostic tests are completed in four steps. To decide that the four-tier tests are valid, the findings of these four steps are evaluated and conclusions are reached. The four items are listed as expert opinion, factor analysis, positive and negative false rates, and the correlation coefficient calculated between certain stages (Taban & Kiray, 2021).

Validity Analysis 1; Expert Opinion

When the questions were prepared, creating the item pool, and selecting the questions were completed, the draft test was sent to two science and one chemistry educators working as faculty members in different universities. Expert opinions were obtained about the questions, and the test was reorganized in line with the expert opinions. The test was reorganized in line with the expert opinions. Thus, the test was ready for data collection for validity and reliability studies.

Validity Analysis 2; Factor Analysis

In order to ascertain the construct validity of the four-tier diagnostic test developed to determine pre-service science teachers' misconceptions about change of state, it was decided to conduct exploratory factor analysis. Before the factor analysis, Kaiser-Meyer-Olkin (KMO) values and Barlett Sphericity test results were examined to determine the adequacy of the sample size. As a result of the analysis, the KMO value of the test was calculated as ,675. The Barlett Sphericity test result was significant ($p < .005$). Both values indicate that the data are appropriate for factor analysis (Kaiser, 1970; Shrestha, 2021).

After deciding on the adequacy of the sample, factor analysis was performed. As a consequence of the factor analysis, it was determined that the factor load of the third item was below 0.4 and it was decided to remove from the scale. After the third item was removed from the scale, the factor analysis was repeated. The test consisting of seven questions showed a three-factor structure. The items and factor loads are presented in Table 1.

Table 1

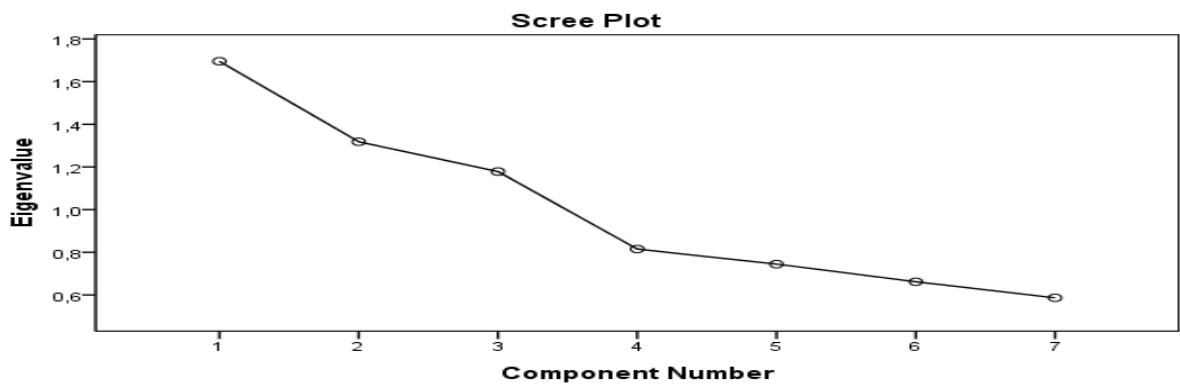
Exploratory factor analysis results of the four-tier change of state misconception test

Test Questions	Factor 1	Factor 2	Factor 3
Question 7	,803		
Question 3	,802		
Question 1		,852	
Question 5		,692	
Question 4		,512	
Question 6			,738
Question 2			,692

It was observed that the factor loadings of all questions were higher than "0.4". Among the items that make up the test, items 7 and 3 were under the first factor, items 1, 5, and 4 were under the second factor, and items 6 and 2 were under the third factor. When the items under the first factor were analyzed, it was found appropriate to name this factor as "external factors". The second factor consisting of items 1, 5 and 4 was named "states of matter" and the factor consisting of questions 2 and 6 was named "boiling". When the factor variances were analyzed, it was observed that the first factor named external factors explains 22.047% of the total variance, the second factor named states of matter explains 19.925% of the total variance and the last factor named boiling explains 17.911% of the total variance. All factor eigenvalues were greater than "1" and the three factors explain 59.883% of the total variance. The eigenvalue graph of the identified factors is given in Figure 1. It was seen that there are three factors with eigenvalues greater than 1 and 1 and that the slope continues to decrease continuously after the third factor and the graph moves horizontally.

Figure 1

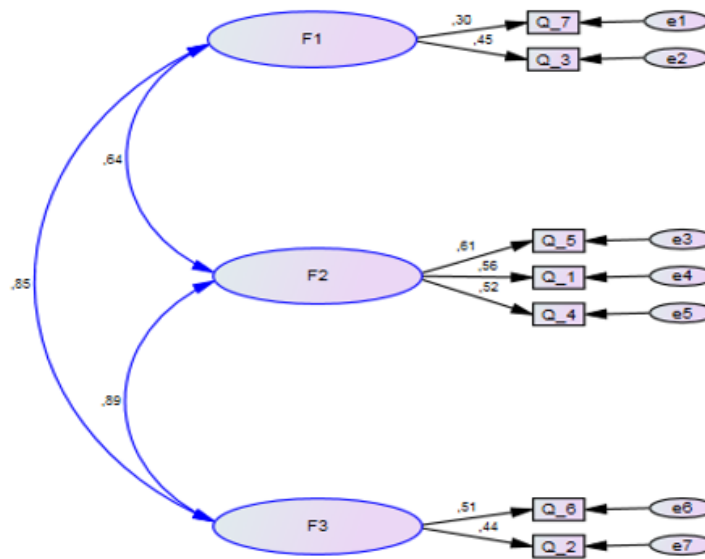
Factor eigenvalue graph obtained as a result of exploratory factor analysis of the four-tier change of state misconception diagnostic test



The three-factor structure identified in the exploratory factor analysis was confirmed through confirmatory factor analysis. For confirmatory factor analysis, data obtained from 215 pre-service science teachers from each grade level who were not included in the main study group of the research were used. AMOS program was preferred for confirmatory factor analysis. The path diagram obtained as a result of the analysis is presented in Figure 2.

Figure 2

Path diagram obtained as a result of confirmatory factor analysis



The factor loadings of the first factor, external factors, are between 0.30-0.45, the factor loadings of the second factor, states of matter, are between 0.52-0.61, and the factor loadings of the last factor, boiling, are between 0.44-0.51. According to the results of the confirmatory factor analysis, strong relationships were found between the first factor and the second factor at a positive level of 0.64, between the second factor and the third factor at a positive level of 0.89, and finally between the first factor and the third factor at a positive level of 0.85.

Since the multivariate normality assumption is met for the analysis data, the Maximum Likelihood (MLR) estimation method is used for the models. For confirmatory factor analysis in the study, χ^2/df (the result of dividing the Chi-square fit statistic by the degrees of freedom), RMSEA (Root Mean Square Error of Approximation), S-RMR (Standardized Mean Square Residual), AGFI (Adjusted Goodness of Fit Index), GFI (Goodness of Fit Index), IFI (Incremental Fit Index), CFI (Comperative Fit Index) and TLI (Trucker Lewis Index) were examined. The fit indices used to determine whether the theoretical framework supports the data in confirmatory factor analysis are given in Table 2. (Hebebcı & Shelley, 2018; Kline, 2005; Tabachnick & Fidell, 2007).

Table 2

Confirmatory factor model fit indices of the four-tier change of state misconception diagnostic test

Fit Indices	Perfect Fit	Acceptable Fit	Fit Indices Observed in Test Model
x²/df	$x^2/df \leq 3$	$3 < x^2/df < 5$	1,50
RMSA	$0 < RMSA \leq 0,05$	$0,06 < RMSA \leq 0,08$,035
S-RMR	$0 \leq S-RMR \leq 0,05$	$0,05 < S-RMR < 0,08$,030
GFI	$GFI \geq 0,90$	$0,85 < GFI < 0,90$,988
AGFI	$AGFI \geq 0,90$	$0,85 < AGFI < 0,90$,970
IFI	$IFI \geq 0,95$	$0,90 < IFI < 0,95$,979
TLI	$TLI \geq 0,95$	$0,90 < TLI < 0,95$,957
CFI	$CFI \geq 0,97$	$0,95 \leq CFI < 0,97$,978

When the results of the analysis were examined, it was seen that all of the fit index coefficients calculated for the model are within the fit range. The results of the confirmatory factor analysis support the three-factor structure obtained from the exploratory factor analysis. The construct validity of the four-tier state change diagnostic test was ensured by both factor analyses.

Validity Analysis 3; False Positive and False Negative Rates

The four-tier diagnostic tests present factors such as participants' scientific knowledge, misconceptions and lack of knowledge, as well as their false positive and false negative rates. False positives are the results of individuals reaching the right conclusion with the wrong reason while answering a question. In other words, the individual answered the question correctly, but reached the correct answer with a wrong reason. However, the individual is sure of both his/her answer and the accuracy of the knowledge that is the reason for this answer. In this context, another name for these constructs is false reasoned truths. As a result of the analysis, the researchers' false positive average for the overall test was calculated as 4.20%.

Another construct that can be calculated with four-tier diagnostic tests is the construct we call false negatives. False negatives are when individuals arrive at the wrong answer to the content step with a correct reason. In other words, the individual give a wrong answer with a reason that is correct information. However, the individual is sure of the accuracy of the information given in both the content and reason steps. In this context, these constructs are also known as errors with correct reasons. As a outcome of the analysis, the average false negatives rate of the researchers for the overall test was calculated as 4.13%. In order to guarantee the validity of the four-tier misconception diagnostic tests, false positives and false negatives should be below 10% (Hestenes & Halloun, 1995). When the calculated values were analyzed, it was seen that both values were below 10%.

Validity Analysis 4; Correlation

One of the validity analyses of the four-tier diagnostic tests is the correlation coefficient calculated between the participants' step-by-step answers. The validity of this step in four-tier diagnostic tests is decided by calculating and evaluating 3 different correlation coefficients. These coefficients are;

1. Correlation calculated between the first (content) and second step (confidence) (First confidence score)
2. Correlation calculated between the third (reason) and fourth step (confidence) (Second confidence score)
3. Correlation calculated between the first (content) and third steps (reason) and between the second and fourth steps (both confidence scores).

The values acquired as a result of the analysis of the data obtained from the science teachers' candidates are presented in Table 3.

Table 3

Correlation between the scores of pre-service teachers

Confidence Scores	Pearson Correlation	Sig. (2-tailed)
First Confidence Score	.336	.000
Second Confidence Score	.340	.000
Both Confidence Scores	.385	.000

Before the correlation analysis, normality tests of the data groups were performed. Pearson product-moment correlation (simple linear correlation) was applied after the data were found to be normally distributed. As can be seen in the table, the Pearson correlation coefficient calculated between the answers of the pre-service science teachers to the first and second steps of the questions in the four-tier change of state misconception diagnostic test was calculated as .336. Another correlation coefficient calculated in the analyses was the Pearson correlation coefficient between the answers given by the pre-service teachers to the third and fourth steps of the test questions. This number was calculated as .340. The last coefficient required to complete the validity analysis is the Pearson correlation coefficient calculated for the participants' answers to the first and third steps and the second and fourth steps of the test. This coefficient was calculated as .385. All three Pearson correlation coefficients show that there is a positive and significant relationship between the data groups analyzed in the correlation analysis. In their study, according to [Taban and Kiray \(2021\)](#), given that misconception tests are inherently challenging, there should exist a positive and statistically significant correlation among the mentioned steps, even if it's modest. Evaluating based on this standard, it's evident that the validity criterion is satisfied.

It was seen that the four-tier change of state misconception diagnostic test developed with the results of this step in accordance with the literature is a valid measurement tool.

Reliability Analysis Results of the Test

Reliability analyses of misconception diagnostic tests are performed by evaluating two different coefficients. These coefficients are the reliability coefficients calculated according to the scientific knowledge and misconception scores of the participants.

First Type Reliability: Scientific Knowledge Reliability Coefficient;

This coefficient was calculated based on the scientific knowledge scores of the pre-service teachers from the misconception of change of state diagnostic test. The first type reliability coefficient of the change of state misconception diagnostic test is the reliability coefficient to be taken as a basis when it was used to calculate the scientific knowledge scores of the participants of the study. As a result of KR-20 analysis, this coefficient was calculated as .741.

Second Type Reliability: Misconception Reliability Coefficient;

This coefficient was calculated based on the misconception scores of the pre-service teachers from the misconception of change of state diagnostic test. The second type of reliability coefficient of the change of state misconception diagnostic test is the reliability coefficient to be taken as a basis when it was used to calculate the misconception scores of the participants of the study. As a result of KR-20 analysis, this coefficient was calculated as .521. When the reliability analyses were examined, the KR-20 value calculated for the scientific knowledge scores of the participants in the test was calculated as .741, while the KR-20 reliability coefficient value calculated for the misconception scores was calculated as .521. When interpreting the reliability coefficient for tests containing less than fifteen items, the coefficients calculated as .50 and above are interpreted as sufficient reliability (Kehoe, 1994). Considering that the developed four-tier misconception diagnostic test consists of seven items, the calculated coefficients showed that the test is reliable in both categories.

Figure 3

Four-tier change of state misconception diagnosis test sample question

5.1. A quantity of water at 10°C is cooled down to 0°C for freezing. Which of the following events occurs during this process?

a) Due to the freezing of water molecules, ice molecules become smaller.
b) Due to the freezing of water molecules, ice molecules do not move at all.
c) Due to the freezing of water molecules, the spaces between ice molecules increases, causing an increase in volume.

5.2. Are you sure about your answer the previous question?

a) Absolutely sure
b) Sure
c) Not sure
d) Absolutely not sure

5.3. Which of the following is your reason for selecting the above option?

a) Since water expands when it freezes, water molecules decrease in size.
b) The size of water molecules is smallest in the solid phase and largest in the liquid phase because during the transition from solid to liquid and from liquid to gas, the volume of molecules increases.
c) As the temperature decreases during the freezing of water, the temperature of the molecules also decreases, so the molecules freeze and their volume decreases.
d) Since water freezes and becomes solid, its molecules do not move.
e) Due to the hexagonal molecular arrangement in ice, there are more spaces between molecules compared to those in the liquid phase, resulting in an increase in volume.
f) Other.....

5.4. Are you sure about your answer the previous question?

a) Absolutely sure
b) Sure
c) Not sure
d) Absolutely not sure

The results of the validity and reliability analyses showed that the four-tier change of state misconception diagnostic test is a valid and reliable measurement tool for determining the current misconceptions of pre-service science teachers about state change. A sample question belonging to the "Four-tier Change of State Misconception Diagnostic Test" whose validity and reliability analyses were completed is given in Figure 3.

With the Four-Tier Change of State Misconception Diagnosis Test, the question and factor-based scientific knowledge, misconception, false positive, false negative and lack of knowledge ratios of pre-service teachers were determined. The findings are presented in Table 4.

Table 4

Rates of pre-service teachers' scientific knowledge, misconceptions, false positive, false negative and lack of knowledge

	Test Items	Scientific Knowledge	Misconceptions	False Positive	False Negative	Lack of Knowledge
Factor 1; External Factors	3	21.71%	7.69%	4.97%	18.55%	47.08%
	7	69.23%	3.61%	3.61%	4.07%	19.48%
Mean (%)	Factor 1	45.47%	5.65%	4.29%	11.31%	33.28%
Factor 2; States of Matter	1	74.66%	8.14%	0.45%	0.90%	15.85%
	4	25.33%	16.74%	3.61%	0%	54.32%
	5	40.27%	17.19%	6.78%	5.42%	30.34%
Mean (%)	Factor 2	45.75%	14.02%	3.61%	3.16%	33.46%
Factor 3; Boiling	2	80.09%	4.97%	1.35%	0%	13.59%
	6	32.12%	4.07%	8.59%	0%	55.22%
Mean (%)	Factor 3	56.10%	4.52%	4.97%	0%	34.41%

The question with the highest level of scientific knowledge is question number 2. 80.09% of the pre-service teachers answered this question correctly by being sure about the content and reason step. The lowest level of scientific knowledge belongs to question number 3. 21.71% of the pre-service teachers answered this question correctly by being sure about the content and reason step. When the results on factor basis were analyzed, the highest average scientific knowledge rate belongs to Factor 3. The average scientific knowledge of this factor is 56.10%. Factor 3 is followed by Factor 2 with an average of 45.75% and Factor 1 with an average of 45.47%.

The question with the highest rate of misconceptions among pre-service science teachers is question number 5. 17.19% of the pre-service science teachers answered the content and reason steps of this question incorrectly, confidently. The question with the lowest rate of misconceptions is question number 7. 3.61% of the pre-service teachers answered the content and reason steps of this question incorrectly with confidence. When the factor-based results were analyzed, the highest misconception average belongs to Factor 2. The misconception average of this factor is 14.02%. The average misconception value of Factor 1 is 5.65% and the average misconception value of Factor 3 is 4.52%.

When the false positive rates of the questions in the test were analyzed, it was seen that the highest rate belongs to question number 6. The false positive rate of this question is 8.59%. In other words, 8.59% of the pre-service science teachers in the participant group answered the content step of this question correctly but the reason step incorrectly. The question with the lowest false positive rate among the questions in the test is question number 1. 0.45% of the pre-service teachers, which corresponds to 1 person, confidently answered the content step of this question correctly but the reason step incorrectly. When we look at the results on factor basis, Factor 3 (4.97%), Factor 1 (4.29%) and Factor 2 (3.61%) are listed respectively.

When Table 4 was analyzed, it was observed that the question with the highest false negative average of the pre-service science teachers is question number 3 with a rate of 18.55%. 18.55% of the pre-service science teachers answered the content step of this question incorrectly and the reason step correctly. Among the questions in the test, questions numbered 2, 6 and 4 have the lowest false negative rate. The average false negative rate of all three questions is 0%. In these questions, no false negatives are found in any of the pre-service teachers. When the results on factor basis are analyzed, Factor 1 (11.31%), Factor 2 (3.16%) and Factor 3 (0%) are listed respectively.

As mentioned before, four-tier diagnostic tests reveal individuals' scientific knowledge, misconceptions, false positives and negatives, and lack of knowledge about the relevant topic. Test answers were calculated based on the probability of these five situations. In this context, when Table 4 was examined, the percentages of pre-service teachers' lack of knowledge are presented on the basis of questions and factors. When the knowledge deficit percentages of pre-service science teachers were analyzed, a general high level can be mentioned. The lack of knowledge is revealed when the pre-service teachers answer "I am not sure" to at least one of the confidence steps of the content and reason step of the questions in the four-step diagnostic tests. When the table was analyzed, it was seen that the highest percentage of lack of knowledge is calculated for the sixth question. 55.22% of the pre-service teachers are not sure about at least one of their answers to the sixth question. The lowest percentage belongs to the second question (13.59%). 13.59% of the pre-service teachers are not sure about at least one of their answers to the second question. When the rates of lack of knowledge was analyzed on a factor basis, they are listed as Factor 3 (34.41%), Factor 2 (33.46%) and Factor 1 (33.28%), respectively.

Discussion, Conclusion & Suggestions

This research was carried out to develop a valid and reliable measurement tool that can be used to determine the misconceptions of pre-service science teachers about change of state.

Within the scope of the study, a four-tier misconception diagnostic test was developed by the researchers and the validity and reliability analyses of this test were conducted. As a result of the factor analysis, which was the first validity step, it was decided that the third question in the test was insufficient in terms of factor loading and it was found appropriate to remove it from the test. Expert opinions were obtained from two science and one chemistry educators during the question preparation and draft development stages of the test. The false positive and false negative averages of the developed test were calculated below 10% as it should be. Correlation analysis, one of the validity analyses of the four-tier diagnostic tests, was conducted. Moderate and significant correlations were observed in all data groups analyzed. For reliability analysis, two different reliability coefficients were calculated.

These coefficients are KR-20 reliability coefficients calculated according to scientific knowledge and misconception scores. Both coefficients show that the test is a reliable measurement tool. The four-tier misconception diagnostic test for change of state consists of 7 questions. As a result of the analysis, the test showed a three-factor structure named external factors, states of matter and boiling. With the completion of validity and reliability analyses, the test showed that it is a valid and reliable measurement tool.

The focus of the research is change of state. Although change of state is a subject area of chemistry, it is an interdisciplinary subject. Students' incorrect or incomplete formation of the basic concepts of science in their minds leads to the formation of misconceptions. Misconceptions manifest themselves in change of state as in every field of education (Osborne & Cosgrove, 1983). When the literature was reviewed, it was seen that different researchers have studied misconceptions about change of state. For example; Morgil et al. (2009) investigated the misconceptions of students about the concept of melting and boiling and the effect of question and answer technique on the elimination of these misconceptions. The researchers reported that the question-answer technique was an effective method in eliminating students' misconceptions about the concepts of melting and dissolution. Paik (2015) examined the role of examples in 4th grade textbooks used as textbooks in Korea on students' perceptions of the concepts of evaporation and boiling. In the study conducted with fourth, fifth and sixth grade students, it was revealed that many students thought that evaporation events under heating conditions were boiling, while the same events without an obvious heating source were evaporation. Koomson & Owusu-Fordjour (2018) examined students' misconceptions about the water cycle and evaporation in a high school in Ghana. The researchers managed the data collection process through interviews and water cycle drawings requested from the students. As a result of the study, misconceptions were identified in about 25% of the students. Suhandi et al. (2020) examined the effectiveness of conceptual change laboratories on students' misconceptions about the concept of boiling. In the study conducted with 40 high school students, five-stage laboratory activities for conceptual change were used. As a result of the study, they stated that conceptual change laboratories were effective in eliminating high school students' misconceptions. As another example, Husnah et al. (2020) aimed to determine the misconceptions of eleventh grade (K-11) natural science students about the concept of boiling and the reasons for these misconceptions in one of the public high schools in Bandung Barat Regency. In the study conducted with 92 students, misconceptions were reported by 60%, scientific concepts by 13% and lack of knowledge by 27%. Among the misconceptions, the most misconceptions occur in the analysis of the effects of pressure at the boiling point with 65%.

When the literature was reviewed, it was seen that although there are studies in which misconceptions are detected with many different methods, the popular method for the detection of misconceptions recently is tiered diagnostic tests. Among the tiered diagnostic tests, four-tier diagnostic tests are more preferred because they can also present the causes of misconceptions in individuals. Four-tier diagnostic tests outperform both other methods and two- and three-tier diagnostic tests in terms of detecting false positives, false negatives, lack of knowledge, misconceptions and scientific knowledge. When the literature was reviewed, no four-tier diagnostic test was found for the topic of change of state. In this context, it is thought that the four-tier change of state misconception diagnostic test developed in this study can fill this gap in the literature. With the developed test, the points where the misconceptions of pre-service science teachers about change of state are concentrated can be identified, the reasons

can be analyzed and correction studies can be carried out. Experimental studies can be designed with the developed test and the effectiveness of the methods or tools on misconceptions can be determined.

Ethic

Ethical approval was obtained from Necmettin Erbakan University, Social Sciences and Humanities Scientific Research Ethics Committee with protocol number of 2023/556.

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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Students' Patience As Predictor of their Growth Mindset

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Abstract

The purpose of this study is to examine the predictive power of students' patience on the sub-dimensions of interpersonal patience and long-term patience and short-term patience; the growth mindset and its sub-dimensions of procrastination, belief in invariance, effort and belief in development. The study group of the research consists of 7426 students who are studying in different geographical regions of Türkiye. They were picked for the study by using the progressive sampling method. "Patience Scale" and "Growth Mindset Scale" were used for data collection. In the study, the relationship between the independent variable and the dependent variable was tested by Pearson product moment correlation coefficient analysis method and the predictive power of independent variables on the dependent variable was tested by multiple regression analysis method. According to the results, the long-term patience and then the interpersonal patience sub-dimension of students' patience predicts the variability in the procrastination and belief in invariance dimension of their growth mindsets. The long-term patience and then the interpersonal patience sub-dimension of the patience of them predict the variability in the effort and belief in invariance sub-dimension of the developmental traits. It statistically significantly predicts the variability of patience of them in growth mindsets. One of the suggestions developed within the scope of the research findings is to investigate the reasons why the short-term patience dimension does not predict the growth mindset like the other dimensions.

Key Words

Growth mindset • Belief in invariance • Student • Patience

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Introduction

Since growth mindset is a variable that affects students' academic achievement and learning, it has attracted great interest of academicians (Sisk et al., 2018). Growth mindset can be explained as individuals' beliefs about the development of their abilities (Yilmaz, 2022). Belief in growth mindset is associated with the belief that one's intellectual ability is malleable and can be developed with effort (Cheong et al., 2023). This belief may be related to patience of students. If patience is considered as the emotional core of a certain set of emotions, it can be said that perseverance, fortitude, endurance and self-control are relatives of this core emotion (Doğan, 2017). Patience, the capacity to delay gratification, gives students the power to focus on learning and avoid actions that are not in line with their goals and objectives (Berlinski, 2019). For this reason, students' patience can affect their growth mindsets. As in its simplest definition, patience is the tendency to wait calmly when faced with frustration or difficulties (Schnitker, 2012). Beliefs of them that they can develop their abilities and intelligence (growth mindset) may be related to their patience. The development of abilities is not an instantaneous process. It requires time and effort. Ensuring the continuity of the effort and time that students will devote to the development of their intelligence and abilities and being persistent about it may be related to their patience. In this study, the predictive power of students' patience on their growth mindsets was investigated. No research directly related to this issue was found in the sources that were scanned. For this reason, it is assumed that the findings of the research will fill an important gap in the literature. In this research, answers to the following questions will be sought:

- Is there a relationship between students' interpersonal patience, long-term patience and short-term patience sub-dimension scores and the growth mindset and its sub-dimensions of procrastination, belief in invariance, effort and belief in invariance?
- Do the interpersonal patience, long-term patience and short-term patience sub-dimensions of students' patience predict the variability in the growth mindset and its sub-dimensions of procrastination, belief in invariance, effort and belief in development?

Literature

In the study, it was aimed to examine growth mindsets of the students in terms of their patience. In the literature section of the study, the concepts of growth mindset development and patience were explained.

Growth Mindset

Growth mindsets of students are related to their mindsets. Mindset is the cognitive activities related to the tasks we perform and the cognitive frameworks we use to make meaning and interpretations (French, 2016; Mather et al., 2013). Mindset Theory relates to an individual's positive or negative beliefs that personality traits such as intelligence, ability, and temperament can be developed (Haimovitz & Dweck, 2017). Students have two types of theories. These are Trait and Incremental theories. Trait theory is the tendency of individuals to think that abilities are fixed, uncontrollable characteristics and that ability depends on factors beyond the control of the individual (Dweck, 1999; Dweck & Leggett, 1988). The incremental theory, on the other hand, is the way of thinking that the qualities individuals possess are malleable and that the relevant ability can be developed over time (Elliott & Dweck,

1988). According to Dweck (2016), there are two different perspectives on intelligence: existential and incremental. Existential theorists see themselves as a combination of fixed traits that can be evaluated and do not change (fixed mindset), whereas incremental theorists believe that traits or qualities can be developed through effort and experience (growth-oriented mindset).

Growth mindset is the belief that individuals can improve their intelligence through effort. Self-Theory of Development is a belief that a trait such as intelligence or ability can be grown or developed over time (Beere, 2016; Dweck, 2012; Keenan, 2018; Orosz et al., 2017; Yeager & Dweck, 2012). Students with a growth mindset perceive the skills related to embracing challenges, persevering in the face of obstacles, effort and work as a means of learning. They use feedback to improve and are inspired by the success of others; they are focused on learning (Dweck, 2012.) Self-Theory of Development is associated with self-confidence and resilience of students as learners, which in turn increases their positive mental health and well-being (Dweck, 2007; Yeager & Dweck, 2012). Students with a well-developed self-theory of development are aware of their own learning path and learn in that way, try to overcome difficulties and strive to learn. These students tend to be lifelong learners and are motivated by their personal development. They do not see failure as a threat and continue to learn in order to succeed (Dweck, 2012; Ng, 2018).

The fixed mindset dimension is the belief that qualities such as intelligence or ability are immutable (Yeager & Dweck, 2012). This belief entails the idea that individuals' basic characteristics are innate and cannot be changed or developed later (Dweck, 2016; Yeager & Dweck, 2012). With the fixed mindset, people make more progress when a task they encounter unfolds in a way that matches their understanding. However, when a task does not go as they have expected, they often decide that they do not have enough intelligence for the task and lose interest and give up easily. Therefore, when they start a task, they usually aim to get a good result quickly in order to keep their interest alive (Dweck, 2007). Students who have developed fixed mindset feel that making an effort makes them feel unsuccessful. According to them, if a person has talent, he/she does not need to make any effort. Only one's talent alone can make one successful (Bayrakçeken et al., 2021). Fixed mindset can lead students to procrastination. These students may prefer inaction and inactivity to doing and changing things (Yılmaz, 2022). Procrastinating students do not easily abandon their own truths and value judgments (Schein, 1990). Also, procrastinating individuals do not easily abandon their old habits and thoughts and do not accept that change and innovation can support them (Çankaya & Demirtaş, 2010). Negative reactions to change can create resistance (Zaltman & Duncan, 1977). Students with developed fixed mindset are resistant to change. These students do not want to get moving, be persistent or overcome obstacles (Yılmaz, 2019; Yılmaz, 2022).

Patience

Patience is defined as the capacity to tolerate or acquiesce to pain, problems or delays without becoming angry or irritated in the face of distressing situations such as pain, poverty, injustice, etc. (Oxford Dictionary, 2024; Turkish Language Association Dictionary, 2024). The word patience comes from the Latin root *pati*, which means "to suffer". As it can be understood from these definitions, patience is the ability to endure destructive situations, to cope

with the emotions caused by those situations, to control destructive emotions and to exhibit behaviors that would allow a person to cope with those situations without giving up.

According to [Blount and Janicik \(1999\)](#), patience is related to procrastination, self-control and self-regulation skills. Procrastination is related to how a person evaluates the delay and how he/she reacts to that process. Self-control is the ability to manage one's own emotions and behaviors in the face of delay. The self-regulation dimension is to find something to do, think of something else or re-evaluate the situation in a new way in situations that require patience ([Blount & Janicik, 1999](#)).

In this study, patience was evaluated in three dimensions which are short-term patience, long-term patience and interpersonal patience. Short-term patience refers to a person's patience in daily life ([Eliüşük & Arslan, 2016](#); [Schnitker, 2012](#)). Long-term patience is associated with being patient while facing difficulties in life. It is the person's ability to cope with any challenging situation. Interpersonal patience dimension is defined as the tolerance that a person shows to other people in social relationships ([Schnitker, 2012](#)). Patience is important for students. Because it is a necessary virtue when students are trying to do their homework, trying to meet their needs in the canteen, continuing to attend their classes, especially those in which they are uninterested, dealing with their relationships with disagreeable friends, trying to cope with parental expectations, and especially trying to adapt to the changes of adolescence ([Hanushek et al., 2020](#)).

Growth Mindset and Patience

Researches repeatedly show that students with a growth mindset are more motivated and achieve higher grades and achievement test scores in difficult subjects, especially in challenging school transitions. Besides, individuals' growth mindset leads them to believe that abilities can be developed through hard work, good strategies and good mentoring ([Dweck, 2014](#)). Belief in the development of one's own abilities may require patience. Patience is the tendency to wait calmly in the face of frustration, distress or pain ([Schnitker, 2012](#)). According to the literature, patience is positively related to academic achievement, goal achievement, and interpersonal success ([Schnitker, 2012](#)) and subjective well-being, virtue, and growth ([Schnitker & Emmons, 2007](#)). Similarly, patience is negatively related to loneliness and depression ([Schnitker, 2012](#)). Patience also has the power to catalyze the acquisition of other character strengths other than itself ([Pincoffs, 1986](#)).

Patience is also very important for adolescents because they have poorly developed self-management control ([Blakemore & Choudhury, 2006](#); [Casey et al., 2005](#)). Instead, adolescents have high impulsivity and thrill-seeking behavior ([Smith et al., 2012](#)). Adolescents are confronted with developmental tasks that require patience (applying to university, taking boring classes, and establishing romantic relationships). Some studies have found that individuals who exhibit patience and self-control during childhood or adolescence have better outcomes in terms of health, school performance, and social competence ([Golsteyn et al., 2014](#); [Mischel et al., 1989](#); [Moffitt et al., 2011](#)). As a result, patience can be seen as an active process that helps individuals to remain calm and capable of resisting in difficult situations. This process may affect the growth mindsets of students significantly.

Method

Research Model

In the study, it was aimed to determine the predictive power of students' patience on the Growth Mindset. In the study, correlational design was structured within the scope of quantitative research. Correlational design is carried out to describe the relationship between variables (Creswell, 2013). While the independent variable of the study was the students' patience, the dependent variable was Mindset Theories.

Sample Group

The study group of the research consists of students who are studying in different geographical regions of Türkiye and were determined by using the Progressive sampling method. In the progressive sampling process, students were stratified based on the region where they study. Schools in each stratum were assumed to be a cluster. The scales were applied in schools that were determined by using the random sampling method. The sample of the study consisted of 7426 students to whom the scales were applied in the selected schools.

Table 1

Statistical data about the sample group

	Gender	Frequency (f)	Percentage (%)
	Female	4392	59,1
	Male	3034	40,9
	Grade		
	7	2014	27,12
	8	1719	23,14
	9	1260	16,95
	10	1486	20,02
	11	947	12,75
	Total	7426	100

The study group consisted of 59.1% female and 40.9% male students. The students in the study group were 27.12% in the seventh grade, 23.14% in the eighth grade, 16.95% in the ninth grade, 20.02% in the tenth grade and 12.75% in the eleventh grade.

Data Collection Tools

Within the scope of the research, three data collection tools were used. These are; "Patience Scale", "Growth Mindset Scale" and "Personal Information Form".

Patience Scale

Patience Scale was developed by Schnitker (2012). It was adapted into Turkish by Eliüşük and Arslan (2016). The scale consists of 11 items and 3 sub-dimensions. The sub-dimensions of the scale are Interpersonal Patience, Long-Term Patience (patience in the face of difficulties in life) and Short-Term Patience (patience in daily life). The scale is a 5-point Likert-type scale. The fit indices of the scale are RMSEA= .076, CFI= .96, GFI= .93, NNFI=.94. Reliability coefficients; test-retest =.81, internal consistency = .82. Some items on the scale; "I know how to wait in

difficult times”, “I am patient with life’s difficulties”. The reliability internal consistency coefficients (Cronbach's Alpha) of the scale in the study group were .66 for the Interpersonal Patience dimension, .71 for the Long-Term Patience dimension and .65 for the Short-Term Patience dimension. For the whole Patience Scale, .80 was the result.

Mindset Theory Scale

Mindset Theory Scale was used to measure growth mindsets of individuals. Mindset Theory Scale developed by [Yilmaz \(2022\)](#) consists of 13 items. It consists of four sub-dimensions. These sub-dimensions are Procrastination, Belief in Invariance, Effort and Belief in Development. In the process of developing the scale, [Yilmaz \(2022\)](#) calculated the reliability coefficients of the Mindset Theory Scale as .72 for the Procrastination sub-dimension, .80 for the Belief in Invariance, .70 for the Effort sub-dimension, .77 for the Belief in Development sub-dimension, and .72 for the Fixed Self-Theory dimension. Some items on the scale; “It’s in my hands to develop my intelligence”, “I believe that even an intelligent person can improve his/her intelligence”.

For the Self-Theory of Development dimension, it was found to be .71. The reliability coefficient of the whole scale is .80. As a result of the internal consistency calculations of the scale, the internal consistency coefficients (Cronbach's Alpha) were found to be .75 for the Procrastination sub-dimension, .84 for the Belief in Invariance, .76 for the Effort sub-dimension, and .82 for the Belief in Development sub-dimension. The reliability coefficient of the whole scale was calculated as .85.

Data Collection

The questions in the data collection tool were administered online to students who volunteered to answer them. Students accessed the scale form from computers and tablets in the computer laboratories at their schools. They were enabled to answer the questions and scale items in the data collection tool by the necessary measurement environment were provided to them. Explanations were made in cases where the students did not understand the questions, had difficulties with them or asked for more explanation.

Data Analysis

While preparing the collected data for analysis, the outliers were first examined. According to [Tabachnick and Fidell \(2007\)](#), one-way outliers can be determined by converting the scores into Z scores. For this reason, the Z values of the values in the data set were examined and 11 data with Z values outside the range of +3 and -3 were excluded from the data set. The normality distribution assumptions of the data set were tested with skewness and kurtosis coefficients.

Table 2

Normality values of study data

Scales	Sub-Dimensions	Skewness Coefficient	Kurtosis Coefficient
Patience	Interpersonal patience	-.327	-.149
	Long-term patience	-.540	-.041
	Short-term patience	-.266	-.417
Growth mindset	Procrastination	.458	.120
	Belief in Invariance	.293	-.469
	Effort	-.482	-.033
	Belief in Development	-.602	-.060
	Growth Mindset	-.185	-.316

The normality assumptions, skewness and kurtosis coefficients of the data set collected in the study were analyzed (Table 2). The skewness and kurtosis coefficients of the students' mindset theories, dimensions and sub-dimensions of mindset theory, perseverance and its sub-dimensions vary between -.602 and .458. It was determined that the data set met the normal distribution conditions. According to [George and Mallery \(2016\)](#), if the skewness and kurtosis values take values between - 2 and + 2, the distribution can be accepted as a normal distribution. Since the skewness and kurtosis coefficients of the data set belonging to the research are between -2 and +2, it is assumed that it meets the normality conditions. Since the data set collected in the research met the assumptions of normal distribution, the analyzes were carried out with parametric tests. The relationship between the independent variable and the dependent variable was tested with Pearson Correlation Coefficient. In the study, the predictive power of the independent variables on the dependent variable was tested by using multiple regression analysis. Before the regression analyses, the absence of multicollinearity problem between the independent variables was accepted when the Variance inflation factors (VIF) was less than 10 and the tolerance value was greater than 0.1 and the Durbin-Watson value, which shows that there is no relationship between the error terms, was between 1.5 and 2.5 ([Kalaycı, 2010](#)). In educational research, the significance level is accepted as .05 ([Balci, 2004](#)). For this reason, the significance level accepted in the study is .05.

Findings

In this section, the findings and interpretations of the analyzes conducted within the scope of the objectives of the study are presented.

The relationship between patience of students and growth mindsets and their sub-dimensions was tested with Pearson Correlation Coefficient. The findings of this analysis are given in Table 3.

Table 3

The relationship between students' patience and self-theories of development

Scales	Sub-Dimensions		Patience		
			Interpersonal patience	Long-term patience	Short-term patience
Growth mindset	Procrastination	r	-.213**	-.234**	-.137**
	Belief in Invariance	r	-.080**	-.080**	-.062**
	Effort	r	.308**	.332**	.169**
	Belief in Development	r	.242**	.273**	.129**
	Growth Mindset	r	.290**	.316**	.173**

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

There is a significant positive correlation between students' mindset theories, effort and belief in development sub-dimension scores and interpersonal patience, long-term patience and short-term patience sub-dimensions of patience (p<.01). There is a negative correlation between students' mindset theories, procrastination and belief in invariance sub-dimension scores and interpersonal patience, long-term patience and short-term patience sub-dimensions of their patience (p<.01).

During the analysis process of the study, five multiple regression analyses were conducted to test the predictive power of the interpersonal patience, long-term patience and short-term patience sub-dimensions of the students' patience on the variability in the procrastination, belief in invariance, effort and belief in development sub-dimensions of the self-theory of development. Assumptions of regression analyses were tested for each of the multiple regression analyses. In the analyses conducted for this purpose, it was understood that there was no multicollinearity problem between the independent variables and there was no relationship between the error terms. Regression analysis was performed according to these results.

Table 4

The results of regression analysis on the prediction of students' patience on the procrastination sub-dimension of the growth mindset

Dependent Variable	Independent Variable	β	t	F	R2	VIF	Durbin-Watson
Growth Mindset	Fixed	13.369	82.585**	168.141**	.063		1.964
	Interpersonal patience	-.094	-7.241**			1.705	
	Long-term patience	-.178	-11.350**			1.605	
	Short-term patience	-.024	-1.803			1.308	

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

The regression model created to determine the predictive power of the students' patience for the variability in the procrastination dimension of the growth mindset was found statistically significant as a result of the analysis (F=168.141; P<.01). Students' patience predicts 6.3% of the variability in the procrastination dimension of the growth mindset. While the interpersonal patience and long-term patience sub-dimensions of the students' patience significantly predicted the variability in the procrastination sub-dimension of the growth mindsets (p<.01), the short-

term patience sub-dimension of their patience did not have a significant predictive value ($p > .05$). When the variability of the students' patience in the procrastination sub-dimension of the growth mindset was analyzed in terms of predictive power, the long-term patience sub-dimension of their patience had the greatest predictive power, followed by the interpersonal patience sub-dimension of their patience.

Table 5

The results of regression analysis on the prediction of students' patience on the belief in invariance sub-dimension of the growth mindset

Dependent Variable Growth Mindset	Independent Variable	β	t	F	R2	VIF	Durbin- Watson
Belief in Invariance	Fixed	8.516	54.972**	21.003**	.008		1.992
	Interpersonal patience	-.034	-2.765**			1.705	
	Long-term patience	-.046	-3.054**			1.605	
	Short-term patience	-.024	-1.872			1.308	

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

The regression model created to determine the predictive power of students' patience on the variability of developmental self-theories in the dimension of belief in invariance was found statistically significant as a result of the analysis ($F=21.003$; $P < .01$). Students' patience predicts 0.8% of the variability of their growth mindsets in the dimension of belief in invariance. While the interpersonal patience and long-term patience sub-dimensions of the students' patience significantly predicted the variability in the belief in invariance sub-dimension of the developmental self-theories ($p < .01$), the short-term patience sub-dimension of their patience was found to have no significant predictive value ($p > .05$). When analyzed in terms of the predictive power of the variability in the belief in invariance sub-dimension of growth mindsets of students' patience, the long-term patience sub-dimension of their patience has the greatest predictive power, followed by the interpersonal patience sub-dimension of their patience.

Table 6

The results of regression analysis on the prediction of students' patience on the effort sub-dimension of the growth mindset

Dependent Variable Growth Mindset	Independent Variable	β	t	F	R2	VIF	Durbin- Watson
Effort	Fixed	8.278	75.367**	367.084**	.129		1.989
	Interpersonal patience	.107	12.122**			1.705	
	Long-term patience	.179	16.826**			1.605	
	Short-term patience	-.002	-.184			1.308	

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

The regression model created to determine the predictive power of the students' patience on the variability of the growth mindset in the effort dimension was found to be statistically significant as a result of the analysis ($F=367.084$;

$P < .01$). Students' patience predicts 12.9% of the variability of growth mindset in the effort dimension. While the interpersonal patience and long-term patience sub-dimensions of the students' patience predicted the variability in the Endeavor sub-dimension of the developmental attributes significantly ($p < .01$), the short-term patience sub-dimension of their patience did not have a significant predictive value ($p > .05$). When the predictive power of the variability of students' patience in the effort sub-dimension of the growth mindsets was analyzed in terms of predictive power, the long-term patience sub-dimension of patience had the greatest predictive power, followed by the interpersonal patience sub-dimension of patience.

Table 7

The results of regression analysis on the prediction of students' patience on the belief in development sub-dimension of the growth mindset

Dependent Variable	Independent Variable	β	t	F	R ²	VIF	Durbin-Watson
Belief in Development	Fixed	9.175	77.117**	277.316**	.084		1.938
	Interpersonal patience	.083	8.667**			1.705	
	Long-term patience	.165	14.344**			1.605	
	Short-term patience	-.008	-.795			1.308	

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

The regression model created to determine the predictive power of students' patience for the variability of the growth mindset in the belief in development dimension was found statistically significant as a result of the analysis ($F = 277.316$; $P < .01$). Students' patience predicts 8.4% of the variability in the belief in development dimension of growth mindsets. While the interpersonal patience and long-term patience sub-dimensions of the students' patience significantly predicted the variability in the belief in development sub-dimension of the developmental self-theories ($p < .01$), the short-term patience sub-dimension of their patience was not found to have a significant predictive value ($p > .05$). When the predictive power of the variability of students' patience in the belief in development sub-dimension of the growth mindsets was analyzed in terms of predictive power, the long-term patience sub-dimension of patience had the greatest predictive power, followed by the interpersonal patience sub-dimension of patience.

Table 8

The results of regression analysis on the prediction of students' patience on the growth mindset

Dependent Variable	Independent Variable	β	t	F	R ²	VIF	Durbin-Watson
Growth Mindset	Fixed	37.568	101.341**	324.811**	.116		1.975
	Interpersonal patience	.317	10.691**			1.705	
	Long-term patience	.568	15.822**			1.605	
	Short-term patience	.039	1.260			1.308	

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

The regression model created to determine the predictive power of students' patience on the variability of their growth mindsets was found to be statistically significant ($F=324.811$; $P<.01$). Students' patience predicts 11.6% of the variability in growth mindsets. While the interpersonal patience and long-term patience sub-dimensions of students' patience significantly predicted the variability in their growth mindsets ($p<.01$), the short-term patience sub-dimension of their patience did not have a significant predictive value ($p>.05$). When analyzed in terms of the predictive power of the variability in the growth mindsets of students' patience, the long-term patience sub-dimension of patience has the greatest predictive power, followed by the interpersonal patience sub-dimension of patience.

Discussion, Conclusion and Recommendations

According to the results of the study, the long-term patience and then the interpersonal patience sub-dimension of students' patience predicted the variability in the procrastination and belief in invariance dimension of their developmental self-theories. Procrastination can be defined as an individual's tendency to postpone his/her actions and plans due to some reasons, feeling stagnation and laziness (Sekman, 2007). People who procrastinate may show tendencies such as stagnation, inaction, passivity, monotony, laziness, slothfulness, and may be unwilling to take action (Çankaya & Demirtaş, 2010). Students' procrastination may result from their lack of patience. Negative reactions to change can create resistance (Zaltman & Duncan, 1977). Resistance to change can be explained as the act of undermining the attempts to change the status quo (Timurkan, 2010). This resistance may result from individuals' lack of patience.

Notably, long-term patience of students is more predictive. Long-term patience is defined as the ability of individuals to cope with any challenging experience (Schnitker, 2012). The development of skills and intelligence may not be realized through momentary effort. It requires long-term effort and endeavor. It can be expected that students who do not have long-term patience may not develop their growth mindsets very much. Again, developing people's intelligence and abilities is a long-term and demanding process. The brain's ability to develop decreases with age (Reh, et al., 2020; Werker & Hensch, 2015). In the experimental study conducted by Kitzbichler et al. (2011), more cognitive effort was typically associated with a larger workspace configuration of brain networks, leading to brain development. In this study, for the brain to develop, the individual needs to exert more cognitive effort. Effort is an act that requires patience. Patient individuals can cope with difficulties and make an effort to accomplish tasks (Türkgeldi, 2019). As a result, patient individuals can develop their brains more because they will make the needed effort while performing cognitive activities, and this may affect their developmental self-theories.

Impatience may increase the development of students' procrastination and belief in invariance. Their growth mindsets are related to their belief in change. According to Polites and Karahanna (2012), individuals continue to use the existing system because changing something may be too stressful or emotionally draining (emotionally based procrastination). For this reason, individuals who lack patience can be expected to have belief in invariance. Developing intelligence and abilities may require support and collaboration with others (experts, teachers, mentors, coaches, etc.). If students do not have enough interpersonal patience, they may not receive the support they need from others for improving their intelligence and abilities. Previous studies have shown that adolescents with high

growth mindset have better emotional regulation, are able to change their behavior, motivate themselves, and maintain a high level of mental health in difficult times, thus reducing suicidal thoughts (Sinniah et al., 2015; Zhang et al., 2022). These research results support the findings of this study.

The long-term patience and then the interpersonal patience sub-dimension of students' patience predicted the variability in the effort and belief in development sub-dimension of the growth mindsets. The process of change starts primarily in the mind and is managed by emotions (Bulut, 2010). The belief in change has a structure including steps such as acting, insisting, and overcoming obstacles (Yalçın & Yılmaz, 2023). These skills, which are necessary in the process of change, are related to patience since patience means that an individual should restrain his/her inner impulses and use difficulty as a tool to achieve something beyond the self (Khormaei & Farmani, 2016). Students with patience can be expected to have higher belief in development. The persistence dimension of perseverance is associated with continuous striving (Duckworth & Gross, 2014). Students' belief in developing their abilities and intelligence may require action. Students' being in action requires desire, continuity and persistence. Such characteristics are associated with perseverance (Yalçın & Yılmaz, 2023). Perseverance is associated with continuous striving (Duckworth & Gross, 2014). According to these explanations, it can be expected that patience predicts the effort dimension of the mindset theory.

There is a positive relationship between patience and cognitive intelligence (Ackerman et al., 2005; Conway et al., 2003). Strong and active cognitive systems facilitate being more patient (McClure et al., 2004). In the literature, there is no study examining the growth mindset together with patience. The discussion part of the study was based on studies on similar topics. This study can be considered as one of the first studies to examine students' growth mindsets in terms of patience.

Based on the results of the study, the following suggestions can be made: Students' patience predicts their self-theories of development. Actions to improve their patience may indirectly affect their self-theories of development. Policy makers can make arrangements and revisions to improve patience of students in education programs. Researchers might want to consider that this study can be conducted with different sample groups and different data collection tools. The reasons why patience of them did not predict the growth mindset in the same way as the other dimensions of the short-term patience dimension can be investigated.

Ethic

I declare that the research was conducted in accordance with the ethical standards of the institutional and 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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Opinions of Individuals Exposed to Earthquake Regarding Their Psychological Inflexibility

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Abstract

This is a qualitative study conducted to evaluate the thoughts of individuals who were exposed to the earthquake that took place on 06.02.2023, centered in Kahramanmaraş, regarding their psychological rigidity. A phenomenological approach was adopted in the study. 14 participants were included in the study. Data were collected by audio recording with a semi-structured interview form. Content analysis technique was used to analyze the data. As a result of the analysis, it was determined that individuals exposed to the earthquake avoided the emotions of joy, happiness, love, sadness, anger and fear. It was determined that thoughts are suppressed and thoughts about the loss of family members are avoided. However, there are also participants who do not have avoidant thoughts or behaviors. Individuals exposed to earthquake reported situations such as fear of loss, nightmares, anxiety, hopelessness, rumination, powerlessness, failure, fear of punishment, burnout, embarrassment, claustrophobia, crying spells, eating problems, increase in alcohol/cigarette use, sleep problems, social isolation, excessive cleaning, staying away from entertainment, and disruption of social relations. In this study, after the trauma experienced, some individuals stated that they became aware of the value of life, created new options, had positive changes in social relations, and change in the perception of self. Considering the results, it is evaluated that practices aimed at increasing psychological flexibility will reduce the negative effects of traumatic experiences and increase psychological resilience in individuals.

Key Words

Individual exposed to earthquake • Psychological inflexibility • Psychological flexibility

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Introduction

Individuals experience many positive or negative experiences throughout their lives, with or without their own control. Individuals continue their lives by being affected positively or negatively by these experiences. Natural disasters occur without the influence of individuals and affect individuals psychologically, economically, physically and mentally. Disasters are man-made, natural or technology-induced events that cause the whole or a certain part of the society to experience social, economic and physical losses, interrupt or completely terminate social activities, and in which the affected sociology is inadequate in terms of coping skills (AFAD [Disaster and Emergency Management Presidency], 2024).

Individuals experiencing the disaster try to make sense of what they are experiencing, and they strive to cope with processes such as worrying about the recurrence of the disaster, feeling insecure, having sleep problems, fear, and nutritional problems (Cankardaş & Sofuoğlu, 2019). Any situation that catches individuals suddenly and unprepared and occurs without the influence of individuals results in mental, psychological and physical reactions in individuals and causes individuals to produce different reactions depending on their state of awareness and endurance (Friedman, 2015). Considering that natural disasters occur suddenly, cause severe damage, and catch individuals unprepared, natural disasters are among the events that are difficult to cope with (Kula, 2006).

Disasters, which are devastating traumatic experiences since the beginning of the world, are classified as natural and human-related. In line with the given classification, earthquakes are included in the group of natural disasters (Çınarlı, 2023). Earthquake, which is a natural event that cannot be prevented, is the phenomenon of vibrations occurring due to fractures in the earth's crust, spreading as waves and shaking the surroundings they pass through (Edemen et al., 2023). Earthquake prevents the individual from meeting the need for safety, which is one of the most basic needs, and poses a serious life threat to the individual as it is a disaster that destroys the living space (Caia et al., 2010).

Natural disasters that cause huge losses, such as earthquakes, are not limited to the time they occur. In the following process, it is engraved in the memory of the society, and individuals who are exposed to major disasters cannot escape the psychological effects of the disaster even years later and experience psychological problems (Özçetin et al., 2008). Individuals who experience a disaster may develop reactions of different intensity (depending on the magnitude of the earthquake). These individual reactions are categorized as cognitive, physical, social, and emotional reactions (Friedman, 2015).

Individuals who were exposed to natural disasters and survived may have been exposed to difficult experiences such as losing their relatives, loss of limbs and injuries, financial losses, degeneration of their social relationships, and changes in their work and living spaces. Therefore, as a result of these difficult experiences, post-traumatic stress disorder is observed more frequently (Acierno et al., 2006). In addition, depression, anxiety disorders, and psychosomatic complaints (Caia et al., 2010, Rubin & Wessely, 2020) can be seen at different severities due to the situational characteristics of the disaster and can affect the individual for many years (Nakaya et al., 2016).

Traumatic experiences experienced by individuals can cause acute stress reactions (Taymur et al., 2020). In acute stress reaction, emotional reactions such as anger, mourning, feeling of helplessness, hopelessness, shock, fear, emotional numbness, shame, and guilt may occur. Cognitive reactions include problems in focusing, forgetfulness, self-blame, confusion, dissociation, difficulty with orientation, difficulty in speaking, and recall of disturbing images and memories (Friedman, 2015). Significant changes in sexual desire, sleep and appetite, palpitations, tension, restlessness, nausea and fatigue are seen as physical reactions. Besides, social reactions such as feeling abandoned, lonely and insecure, and intolerance, introversion, and social isolation also occur (Işıklı & Tüzün, 2017).

Traumatic experiences such as earthquakes can cause psychological problems. One of the main causes of psychological problems is psychological rigidity. As individuals' psychological rigidity levels increase, their maneuverability decreases (Harris, 2019). This situation alienates individuals from their values in the long run and causes them to take dysfunctional actions. Dysfunctional actions can also trigger a person to experience problems in areas such as family, psychological and career (Yavuz, 2015). There are many studies showing that low psychological flexibility causes psychological problems (Dawson & Golijani Moghaddam, 2020; Fernández et al., 2020; Landi et al., 2020; McCracken et al., 2021).

According to Acceptance and Commitment Therapy, psychological rigidity is characterized by loss of contact with the moment, experiential avoidance, attachment to the conceptualized self, cognitive fusion, alienation from values, and dysfunctional action (Hayes et al., 2006). Cognitive fusion, one of the dimensions of psychological rigidity, is the individual's evaluation of his thoughts as reality and defining his behavior within the framework of this situation. Cognitive unification, which is not a pathological process on its own, can make behavior rigid, limit the behavioral repertoire, and lead the individual away from his values and into dysfunctional behaviors (Hayes et al., 2012). Experiential avoidance is an effort to change the frequency and intensity of subjective experiences such as dysfunctional thoughts, emotions, memories, and bodily sensations that cause behavioral problems (Hayes et al., 1996). In experiential avoidance, the individual tries to avoid negative feelings, thoughts, and emotions. Experiential avoidance, which seems effective in the short term, limits the individual's behavioral repertoire in the long term (Hayes et al., 2013). In the case of "loss of contact with the moment," the individual is solidly in the past or future (Hayes et al., 2012). However, life is only lived in the present moment. Cognitive fusion and experiential avoidance cut off the individual's contact with the present (Hayes et al., 2013), and the individual lives in his own world and disrupts his contact with the present moment (Hayes et al., 2006).

The individual's views about himself constitute the conceptualized self. The individual's story about himself is approved by other people, and it is functional up to a point (Yavuz, 2015). However, when individuals identify highly with these stories, they will want the story to continue and will tend to reject situations where they move away from the story (Hayes et al., 2012). When an individual thinks that his story is under threat, he may resort to experiential avoidance to maintain the consistency of the story (Mendolia & Baker, 2008).

Lifelong values are dynamic life goals expressed verbally by the individual and may change over time (Yavuz, 2015). Values are included in here and now behaviors and are not a goal to be achieved but serve as a guide (Hayes,

et al., 2013). Ambiguity in values, the individual's adoption of values only for harmony, situations such as avoidance, guilt and shame constitute obstacles to reaching values (Sheldon & Elliot, 1999).

Psychological rigidity limits individuals' behavioral reserves. This situation causes the individual to take actions that are not in line with his values and goals (Hayes et al., 2013). When an individual addicted to games of chance encounters a stimulus that reminds him of games of chance or when these come to his mind, turning to this action will narrow his behavioral repertoire. However, this situation will negatively affect the individual's social relationships, family situation, professional and psychological status (Harris, 2019).

In acceptance and commitment therapy, when individuals experience psychological problems, they are encouraged to live a meaningful life in line with their values by accepting the situation, activating cognitive dissociation, contextual self and awareness (Yavuz, 2015). In this ecocycle, all psychological situations or events experienced are accepted consciously and there is openness to the experienced situations or events. The problem is not the existence of any situation or event, but the context in which it occurs and what its function is. The purpose of acceptance and commitment therapy is to accept every emotion experienced and take action to live a rich and meaningful life (Gök & Karaaziz, 2023).

Increasing psychological rigidity prompts the individual to get rid of internal experiences that he perceives as negative (Hayes & Smith, 2021). Individual may exhibit escape/avoidance behaviors in order to eliminate or reduce these internal experiences, and behaviors such as self-harm and substance use may occur. When psychological rigidity increases, the individual's behavior becomes limited. This situation prevents the individual from living his life in line with his goals (Harris, 2019).

Inflexible individuals are prone to suffering. They try to control, suppress, or avoid their unwanted internal experiences (Hayes & Smith, 2021). They live in past memories or in the future, which prevents the person from being in the present and this situation is due to the person's lack of awareness. People who are psychologically rigid also have problems connecting with their core values and their actions are limited to routine tasks that do not contribute to the direction they are going (Strosahl et al., 2019). High psychological flexibility of individuals can play a positive role in eliminating the negative effects of trauma.

This study aimed to examine the psychological rigidity of individuals exposed to the earthquake that occurred in Kahramanmaraş, southeast of Türkiye in February 2023. Research questions are:

1. What are your feelings, thoughts and behaviors that you avoid after the earthquake?
2. How do your experiences during the earthquake or your thoughts about the future affect your present?
3. What can you say about the reality of what you experienced during the earthquake or the reality of your thoughts about the future?
4. How did the earthquake affect your feelings and thoughts about yourself?
5. What are your feelings and thoughts about yourself after the earthquake?

6. What are the differences in the concepts that are meaningful and valuable to you in the period after the earthquake? Can you talk about it?

7. What kind of behavior did you do after the earthquake that made your life dysfunctional?

Method

Research Design

In the qualitative part of this study, a phenomenology approach was adopted. Phenomenology allows individuals to express their perspectives, perceptions, feelings and thoughts about a certain concept, and is a method used to describe how they experience these phenomena. Phenomenology is used to investigate phenomena that are encountered in daily life but that the individual has difficulty understanding (Yıldırım & Şimşek, 2016). Phenomenology, which emerged from a philosophical movement with the aim of making sense of human behavior, stands out by referring to the entirety of the individual's lived experiences (Giorgi, 1997). The phenomenon examined in this study is the opinions of individuals exposed to earthquakes regarding their psychological rigidity.

Study Group

In the qualitative part of this study, criterion sampling method was adopted. The criterion sampling method provides the opportunity to study all situations that meet certain predetermined criteria (Baltacı, 2018). The criteria of the study can be created by the researcher or the existing criteria list can be used (Marshall & Rossman, 2014). Having experienced an earthquake was adopted as the criterion in this study. 14 adult individuals who were exposed to the earthquake centered in Kahramanmaraş on February 6, 2023 were included in the study. The demographic characteristics of the participants are given in Table 1. Before the interview was conducted, the purpose of the interview was explained to the individuals in the study group, and a voluntary participation certificate and informed consent form were obtained. (Table 1)

Table 1

Demographic characteristics of participants

Coding	Gender	Occupation	City	Age
K1	Female	Teacher	Hatay	39
K2	Female	Teacher	Kahramanmaraş	30
K3	Female	Housewife	Kahramanmaraş	41
K4	Female	Student	Kahramanmaraş	26
K5	Female	Teacher	Kahramanmaraş	33
K6	Female	Teacher	Kahramanmaraş	35
K7	Female	Teacher	Hatay	52
K8	Male	Teacher	Hatay	58
K9	Male	Self-Employed	Hatay	36
K10	Female	Housewife	Hatay	33
K11	Male	Teacher	Hatay	40
K12	Female	Teacher	Kahramanmaraş	39
K13	Female	Teacher	Hatay	39
K14	Female	Student	Kahramanmaraş	21

Data Collection Tools

In qualitative research, data collection is carried out through sources such as observations, open/closed-ended interviews, documents (private-official documents) and audio-visual materials (video recording, e-mail, photographs, etc.). In the phenomenological research method, the data collection process is carried out through multiple in-depth interviews (Creswell, 2021). A semi-structured interview form was used during the data collection process. Initially, literature on the concepts of psychological rigidity and psychological flexibility was reviewed to formulate the questions. Confidentiality is very important in phenomenology research (Creswell, 2021). The researcher should use pseudonyms to protect the confidentiality of the individuals participating in the study (Tekindal & Arsu, 2020). In this study, pseudonyms instead of real names of individuals were used in order to protect confidentiality in reporting the interviews (K1, K2, K3...). In order to increase validity and reliability, the semi-structured interview form was sent to two researchers and their opinions were taken. In terms of reliability, instructors made final changes to the questions they deemed necessary. Then, a pilot study was conducted with two adults exposed to the earthquake. The questions were revised again in line with their feedback.

Data Collection and Analysis

This study was started with ethics committee permission. Informed consent forms and voluntary participation documents were obtained during the interviews, and audio recordings were made with the permission of the participants. The interviews lasted approximately 20 minutes. To get in-depth information, participants were asked questions such as “Can you elaborate a little?”, “Can you explain a little more?”

Content analysis technique was applied to analyze the data in this study. The purpose of content analysis is to bring together similar data in line with certain themes and concepts, and to organize and interpret the findings in an understandable form (Yıldırım & Şimşek, 2016). Accordingly, the audio data was transcribed and read several times. Themes and categories were created by preserving the integrity of the data. Afterwards, the categories were sent to two field experts, they were reviewed together, and the final version was obtained.

Results

Eight questions were asked to the adults who were exposed to the earthquake to learn their thoughts about psychological rigidity. Themes and categories were determined in line with the answers given. The numbers of coding and sample items are shown in the relevant tables.

1. Themes and Categories for Avoided Emotions

Adult individuals who were exposed to an earthquake were asked, “What are the emotions you avoid after the earthquake?” Three themes and six categories were created in line with the answers given. In the theme of positive emotions, the categories of delight/joy, happiness and love were determined. In the theme of negative emotions, the categories of sadness, anger and fear were determined. There were three participants who said that they did not avoid their emotions. (Table 2)

Table 2

Avoided emotions

Themes	Categories	Coding	Sample Answers
Positive Emotions	Delight/Joy	2	“I postponed experiencing feelings of joy and happiness. Basically, I can say that I avoided these feelings.”(K3) “To laugh. Because there are people with pain. Normally, I am a cheerful person. To be cheerful, joyful, happy like this. I mean, acting like nothing happened. When I’m cheerful and happy, it’s like I’m spiteful of those people. It’s like, it’s forbidden.”(K5)
	Happiness	7	“At first, being happy felt like cruelty. At first, there was no feeling like being happy. There was crying, anxiety and fear at first. There was concern due to constant aftershocks and shaking. Where I was, there was a lot of destruction and loss of life, young people passed away. I didn’t want to be happy when I saw people suffering around me. I did not consider myself worthy of being happy.”(K4) “I lost the feeling of trust in my future, in myself, in the place where I live. The feeling of happiness, I don’t know, being at peace for that moment, being happy, being able to laugh... After laughing at an event, I react to myself like, why are you laughing? During this process, I constantly questioned myself when I’m happy. I couldn’t ascribe happiness to myself, I felt guilty.”(K14)
	Love	1	“I didn’t want to be happy so soon after the earthquake. I didn’t want to love anyone either. Because I always thought about the pain of those who lived through that moment, I did not even want to approach my children with love. Because I always thought about what was lost. Either I didn’t want to be happy, I didn’t want to love anyone either. Mine went like this. And this situation still continues.”(K13)
Negative Emotions	Sadness	3	“Let me tell you this, we lost my husband’s family in the earthquake, we were around the rubble for about three weeks. When there was a loss of a first degree relative, I avoided feeling sad about the loss of other relatives. Much later, I started to feel sad when I thought about my other relatives who died. Thank God, I did not lose anyone in my own family. It was as if I tried to prevent my sadness out of fear that something would happen to them if I got too upset or rebelled.”(K2)
	Anger	1	“So it’s like this, first of all, I have one daughter. Since nothing happened to her, and our aim was to survive in the following periods, since this was our priority, I think I could not experience processes such as crying with sadness for the losses of my relatives. I suppressed that a bit. Because my child was alive and our priority was to ensure survival with basic life skills. Being able to find a safe place, feeding ourselves, meeting needs such as cleaning and nutrition. Because of this, I think I avoid feeling sad about the loss of my loved ones. I also avoided my anger.”(K1)
	Fear	1	“...Of course, we had to suppress many things. I tried not to make my family feel that I was afraid, at least.”(K8)
I didn’t avoid my feelings.		3	“I cried and experienced my emotions for two months after the earthquake. I was exposed to them rather than avoiding.”(K6) “We did not avoid any emotions; we experienced emotions such as fear, panic and shock. Seeing the pain of the people, the voices and noises around us... It’s a very difficult, very different feeling...”(K10)

2. Themes and Categories for Avoided Thoughts

Adult individuals who were exposed to an earthquake were asked, “What are the thoughts you avoid after the earthquake?” Two themes and two categories were determined in line with the answers given. In the theme of thoughts related to anxiety, categories of thoughts related to suppression and loss of family members were determined. Three participants stated that they did not have any thoughts that they avoided. (Table 3)

Table 3

Avoided thoughts

Themes	Categories	Coding	Sample Answers
Thought about Anxiety	Suppression	4	“Honestly, since I lost my close friend in the earthquake, I avoided feeling angry towards my friends, seeing their mistakes, and avoiding bad thoughts about them. I ignored their mistakes and faults.”(K14)
	Reflection on the Loss of Family Members	7	“We lost people we loved, I avoid remembering them. I avoid thinking about my memories with them. “The thought of going to Maraş again seemed so scary to me, I avoided it.”(K6)
I Have No Thoughts That I Avoid.			“How can I explain this? For example, I had a lot of feelings regarding loss. I didn’t even want to think about what if something had happened to my children or my husband.”(K13)
			“My family still lives there. There is still the thought that something could happen to them. I have anxious thoughts about them.”(K2)
		3	“I thought life was too short and it was wrong to worry so much. I realized that there is no need to break hearts, overthink about everything and worry.”(K3)

3. Themes and Categories of Avoided Behaviors

Adult individuals who were exposed to the earthquake disaster were asked, “What are the behaviors you avoid after the earthquake disaster?” Based on the answers given, three themes and five categories were determined. In the theme of avoidance, categories of sexual needs, spatial avoidance and differentiation in relationships were determined. In the theme of taking precautions, two categories were determined as precautions for place and needs. One participant stated that there was no behavior he avoided. (Table 4)

Table 4

Avoided behaviors

Themes	Categories	Coding	Sample Answers
Avoidance	Sexual Needs	1	“I avoided sexuality a lot after the earthquake. What if we had caught having sexual intercourse during the earthquake?”(K1)
	Spatial Avoidance	6	“I was so afraid to go to the bathroom, I’m still afraid. I still don’t close the bathroom and toilet doors. For a long time I avoided going inside a building. I’m still too afraid to sleep at night when I go to my parents. I think the same thing will happen when I close my eyes.”(K12) “I avoided crowded environments.”(K9) “Especially the bathroom. A place where we are very vulnerable. God forbid, if there is an earthquake, the fear of escaping like that, or of being caught like that, especially. I began to take a quick bath and leave. Going to the toilet is the same way. I caught in aftershocks a few times in the toilet, so I hurriedly left there.”(K4)
	Differentiation in Relationships	4	“Since I was constantly under tension after the earthquake, I started to walk soft whenever tension arose. I started to be more tolerant towards my friends and family because of the fact that I would be disconnected from them.”(K14) “... We always wanted to have a voice in the house. We tried not to be alone too much. We are constantly on guard. They say there are not many fault lines in Ankara, but we are afraid that there will be an earthquake.”(K10)
Taking Precautions	Precautions for Place	3	“After the earthquake, we do not lock the door even when going to bed at night. So that if something happens, we can leave immediately.”(K11) “Our house is stove-heated, and we didn’t even set it up in case there was an earthquake and it fell on us.”(K5)
	Precautions for Needs	2	“Of course, the process slowly started to return to normal, but at first we could not sleep at night and never turned off the lights. This went on for more than three months. We never wanted to close the doors, and I still don’t lock my apartment door at night. I leave my coat, shoes and bag somewhere I can easily reach. I never close the door to my children’s room. I make sure my daughter’s phone is fully charged.”(K13) “...I don’t come home without refueling my car anymore. Just in case anything happens. I don’t come home without money on me... I feel like I have to take precautions all the time, those thoughts are constantly going around in my head.”(K11)
There was no emotional avoidance.		1	“After the earthquake, we changed the city and we were together with different people. We talked a lot with the families of the earthquake victims; we were a balm for each other’s wounds. The fact that we left the environment we were in, came to my son, and tried to stand firm against him made it easier for us to return to normal, and we did not refrain from any behavior.”(K8)

4. Themes and Categories Related to How Emotions and Thoughts Affect Today

Adult individuals who were exposed to the earthquake disaster were asked, “How do your experiences during the earthquake or your thoughts about the future affect your present?” In line with the answers given, two themes and seven categories were determined. On the theme of negative effects, having nightmares, fear of loss, anxiety,

hopelessness and rumination categories were determined. In the theme of positive effects, the categories of taking precautions and being present in the moment were determined. One participant stated that his feelings and thoughts did not affect his present. (Table 5)

Table 5

How emotions and thoughts affect today

Themes	Categories	Coding	Sample Answers
Negative Effects	Having nightmares	1	“...I suddenly panic and become paralyzed. Therefore, it affects my relationships greatly. It’s gotten to the point where it’s uncontrollable; it’s affecting my dreams and sleep . Sometimes I can’t sleep at night because of thinking. Scenarios constantly arise in my head. Our house was not destroyed, but serious damage was reported...”(K2)
	Fear of loss	3	<p>“When I leave the children every morning and drop them off at school, I still feel like I will never see them again, that I will lose them. Likewise, I cannot go to bed at night without kissing them and telling them I love them. It feels like something will happen at night and we will go back to those days. It is not as intense as the first time, but these feelings continue now. When I leave the house, I think that when I return, I will find the house in ruins. Even when I’m coming to school, I look back to see if I can find it the way I left it.”(K13)</p> <p>“There is a fear of loss because there were losses close to us.”(K3)</p> <p>“... Scenarios are constantly forming in my head. Our house was not destroyed, but it was reported to be seriously damaged. Questions such as ‘Will it collapse again?’, ‘Is there any liquefaction on the ground?’ are constantly on my mind, and there are many negative scenarios such as the house being demolished and my mother and father passing away...”(K2)</p>
	Anxiety	3	<p>“I constantly thought that something would happen to my parents, so I started following the latest earthquake information from Kandilli Rasathanesi the internet. Due to this situation, I started to have problems in my business life, my marriage and my social relationships. I suddenly panic and become paralyzed. Therefore, it affects my relationships greatly. It’s gotten to the point where it’s uncontrollable.”(K2)</p> <p>“I can’t be like myself. I have thoughts of divorce but I can’t take a step. I can’t take a step with the thought, ‘What if something like this happens to us again and her father doesn’t take care of my daughter like he does now and leaves her alone?’ Today, I cannot react as I should in my relationships with anyone. I plan my day like the first day of the earthquake.”(K13)</p>
	Hopelessness	2	<p>“I have no hope for the future. A thought occurred to me, ‘I’ll do this, but let’s start tomorrow.’ It’s like being unsure of your next step. Everything can turn upside down in an instant.”(K14)</p> <p>“I honestly don’t feel like doing anything because I see that everything was over in a minute and a half. I’m already going into the ‘we’re going to die’ mode. Before the earthquake, I was studying for KPSS [Public Personnel Selection Examination]. It was my priority since I couldn’t be appointed. I don’t feel like working at all right now, there are already rumors that there will be another earthquake, I think it will be a period when everything will be left unfinished again and hopes will fade away. That’s why my indifference has increased a lot, especially in the field of education.”(K4)</p>

	Rumination	2	<p>“The conversations have changed. We constantly talk about earthquakes, we talk about destruction. We talk about what we will do in the future in our phone conversations.”(K11)</p> <p>“Sometimes I can’t sleep at night because of thinking. Scenarios constantly arise in my head. Our house was not destroyed, but serious damage was reported. Questions such as ‘I wonder if it will collapse again, whether there is liquefaction on the ground’ are constantly on my mind, and there are many negative scenarios such as the house collapsing and my parents passing away. I am currently receiving psychological support.”(K2)</p>
Positive Effects	Taking Precautions	1	<p>“How should I put it? Questions like, how do I protect my son when we go to bed every day... How do I take the child’s medicines with me because he is diabetic? We didn’t have anything sugary with us on the day of the earthquake. Now, I put the food my child will need in the bag, in the car, everywhere. For example, there is nothing that could fall on us in the room where we sleep. We all have it. We designed it.”(K5)</p>
	Being Present in the Moment	7	<p>“...We, as a family, do not make plans for the future. I always say, let’s live well today; I think we don’t know what will happen tomorrow. We don’t make long term plans. I want to make the most of every moment with my children. Let’s make that moment a pleasant one. If we had a nice meal with my wife and children, I count it as a reward.”(K13)</p> <p>“Lately, I started to think that I should enjoy every moment I live, how precious every moment I spend with my loved ones and family is, that one step ahead is incalculable, and that even though we make long-term plans, sometimes it has no meaning. I know that I shouldn’t worry about the little things, and that I no longer worry about many things that I used to worry about. I also have positive changes in this sense. I used to dislike some things and the house, but I don’t care about them at all anymore compared to before. I used to argue and fight because of these, but I don’t care anymore. Health, unity, togetherness and being alive are very valuable to me.”(K12)</p>

5. Themes and Categories for the Reality of Thoughts

Adult individuals who were exposed to the earthquake disaster were asked, “What can you say about the reality of what you experienced during the earthquake or the reality of your thoughts about the future?” Based on the answers received, two themes and a single category were determined. In the theme of thinking it is not real, the category of failure to find evidence was determined. There are seven participants who did not express an opinion. (Table 6)

Table 6

Evaluation of the reality of thoughts

Themes	Categories	Coding	Sample Answers
Thinking it is not real.	Failure to find evidence	7	<p>““We know it’s not real, but our traumas continue.” (K10)</p> <p>“We came here because Ankara is not an earthquake zone. We know this, but we constantly think about what we would do if there was an earthquake here, and it comes into our dreams.”(K11)</p> <p>“After a certain period of time and thinking about it, it doesn’t make sense, but people still think about such things. Of course, we cannot live today thinking that everything will disappear. I know it’s not real and it’s irrational.”(K14)</p>
		7	<p>“There’s nothing I can say.”(K3)</p>

6. Themes and Categories of the Individual's Feelings and Thoughts about Self

Adult individuals who were exposed to the earthquake were asked, "How did the earthquake affect your feelings and thoughts about yourself?" Based on the answers given, two themes and eleven categories were determined. In the theme of negative self-perception, a total of seven categories were determined as powerlessness/weakness, failure, fear of punishment, burnout, embarrassment, avoidance, fear of loss. On the theme of post-traumatic growth, four categories were determined as realizing the value of life, creating new options, positive change in interpersonal relationships and change in self-perception. (Table 7)

Table 7

Emotions and thoughts regarding self

Theme	Categories	Coding	Sample Answers
Self-Negative Perception	Powerlessness/Weakness	4	<p>"...When all of these disappear, one inevitably feels unsuccessful and powerless. A person who cannot manage her own life. This makes me feel helpless." (K14)</p> <p>"As humans, we are helpless. The earthquake proved to us how helpless we are as humans, and that even knowledge is useless. I am motivated by thinking that there is nothing we cannot overcome with our nuclear family."(K7)</p> <p>"I saw that I was very helpless. I was a completely powerless individual. I was not someone who was not aware of earthquakes, and I could have acted more professionally during the earthquake. I was a very weak person who thought she was very strong."(K1)</p>
	Failure	2	<p>"Honestly, I didn't think my life could turn up this much. I had a school, I had my own routine. When all of these disappear, one inevitably feels unsuccessful and powerless."(K14)</p> <p>"I was a mother trying to protect her child, but I could not be an individual who protected herself. I find myself powerless and unsuccessful."(K1)</p>
	Fear of Punishment	1	"...I thought that if I don't get over it, I won't be grateful for the current situation and I will be punished with something worse."(K1)
	Burnout	2	"I don't remember many things that happened in the early days. I lost my mind, I was shocked. My anxiety and fear increased greatly. Also, I have a feeling of indifference towards the future."(K4)
	Embarrassment	1	"...After the earthquake, I felt awkward for a while. I'm normally not a very embarrassed person. I don't get hung up on things. I felt extremely embarrassed. I was ashamed to call my friends who lost their first degree relatives. I felt embarrassed that I couldn't call. You know, I didn't know what to say to them. I was even afraid to call and say my condolences, I mean, I was ashamed. I don't even know if some of them are alive or not, maybe I did something wrong, but I was afraid to call and find out if they were alive or not. For example, I learned three or four months later that some of my close friends had passed away. That embarrassment, fear, helplessness, not being able to do anything..."(K11)

	Avoidance	2	“...For a while, I avoided everything I enjoyed doing. I loved reading books, but now I can’t focus.”(K6)
	Fear of Loss	2	“... Not losing my nuclear family is above all else; if we had lost one of them or lost a limb, I would have experienced greater pain.”(K8) “On the negative side, my fear of losing has seriously increased. Fear of losing my parents, fear of losing my siblings...”(K12)
Post-traumatic growth	Realizing the Value of Life	6	“In many ways, I was positively affected by the earthquake. I don’t worry about many things as much as I used to. I started not paying much attention to physical features, belongings, time and place, any more. Being together and alive is more valuable than anything.”(K12) “I used to be someone who made very forward plans. I used to worry about everything so much. I don’t do that anymore. It doesn’t matter to me whether my house is clean or dirty. It doesn’t matter to me whether someone else’s behavior is this way or that way. My children’s school success was very important to me. Is it important now? No, it is not. If they are happy and healthy now, that’s enough for me.”(K13) “I realized that I shouldn’t postpone some things.”(K3)
	Creating New Options	1	“As a matter of fact, coming to Ankara was good for me. The job opportunity here made us economically comfortable.”(K9)
	Positive Change in Interpersonal Relationships	2	“... I accept behaviors that I would not accept and react to in the past, more moderately, I walk soft.”(K1)
	Change in Self-Perception	1	“I was very calm at the time of the earthquake. I was impatient before. I’m more patient now. I try to approach people with the thought that we are here today, gone tomorrow. For example, I had clear lines before. I don’t have such sharp lines now.”(K5)

7. Themes and Categories Related to Differences in Meaningful and Valuable Concepts for the Individual

The question “What are the differences in the concepts that are meaningful and valuable to you in the period after the earthquake?” was asked to the adult individuals who were exposed to the earthquake disaster. Three themes and six categories were determined based on the answers given. In the theme of positive change, the categories of family relations, personal development, social relations and leisure time were determined. Social relations and entertainment categories were determined in the theme of negative change. There was one participant who stated that there was no change in the concepts that were meaningful and valuable to him. (Table 8)

Table 8

Changes in valuable concepts

Theme	Categories	Coding	Sample Answers
Positive Changes	Family	9	<p>“In the past, I didn’t think it was so important to call, ask and come together. Now, even with my distant relatives, I have more thoughts like I have to get together, I have to do something, I have to ask after them. I became more appreciative of my surroundings, family and friends.”(K12)</p> <p>“I had a different approach towards my family, my mother, my father and my sister. I have become more attached (...) I try to spend a lot of time with my children.”(K10)</p> <p>“I care more about spending time with my family and sisters. I believe that if we are going to die, let’s die together. I think it’s a good thing I wasn’t appointed. If I were in another city, I might not hear from them. Experiencing that disaster together gave me strength, it made me feel good not to be alone. No matter how great a disaster we experienced, our family ties became stronger.”(K4)</p>
	Relations		
	Personal Development		
Negative Changes	Social Relations	3	<p>“Now, as a family, we have decided to be more social people. We want to do everything we haven’t done. We want to visit all the places we haven’t been able to visit. Death is with us every moment.”(K13)</p> <p>“I am very tolerant towards my friends. Since losing my best friend was like losing a part of my childhood, I inevitably experienced differences such as taking care of my other friends, wanting to spend more time with them, being able to do more activities, and communicating more often with those who are far away.”(K14)</p>
	Leisure Time	3	<p>“...I took to go to the gym and start exercising, I walk.”(K10)</p>
There was no change.	Social Relations	4	<p>“...My social relations have decreased compared to the past.”(K1)</p> <p>“So before the earthquake, our friendship was close-knit. This has disappeared now that we live in another city. Apart from that, the family was in Antakya, my whole family was there and we always used to each other. We would see someone almost every day. Now it is over, I have no relatives here. My wife and I used to take time for ourselves, we used to travel and get together, but we can’t do that here anymore. We are alone and we don’t feel like doing anything.”(K11)</p>
	Entertainment	1	<p>“...For example, I used to watch a lot of movies before the earthquake, but now I stopped doing that, I don’t know why. When I watch a movie, I feel like I’m doing injustice to those around me. I try to make myself happy when I sit on the tablet or TV and watch TV series/movies, but there are people who suffer a lot, my relatives who lost their legs, those who lost their arms, those who lost their husbands and fathers... When I constantly think of them, I feel like I’m being unfair. I don’t feel comfortable with it, I don’t enjoy it.”(K11)</p>
There was no change.		1	<p>“There has been no change in this. I am the same in Ankara after the earthquake as I was before the earthquake in Hatay.”(K9)</p>

8. Themes and Categories for Behaviors That Make Life Dysfunctional

Adult individuals who were exposed to the earthquake disaster were asked, “What behaviors did you do that made your life dysfunctional in the period after the earthquake?” In line with the answers given, two themes and seven categories were determined. In the theme of dysfunctional behaviors, categories such as claustrophobia, crying spells, excessive cleaning, eating problems, sleep problems, increase in alcohol/cigarette use, and social isolation were determined. There are three participants who said they did not have any dysfunctional behavior. (Table 9)

Table 9

Dysfunctional behaviors

Themes	Categories	Coding	Sample Answers
Dysfunctional Behaviors	Claustrophobia	2	<p>“I didn’t want crowds, constantly hearing stories of wreckage shook me a lot, I tried to stay away for a while, and I didn’t want to meet anyone except my family. I was very scared while taking a shower. I started staying in the shower for five minutes if I was going to stay for half an hour. Fear of claustrophobia developed.”(K10)</p> <p>“...I couldn’t go to the bathroom and toilet alone.”(K6)</p>
	Crying Spells	2	<p>“...And I cried a lot, I cried all the time. I had crying fits. My tears flow involuntarily.”(K7)</p> <p>“...I cried all the time for two months.”(K6)</p>
	Excessive Cleaning	1	<p>“...In the following period, a cleaning obsession developed and there was constant cleaning and cleaning of windows.”(K2)</p>
	Eating Problems	2	<p>“...I didn’t eat for a long time.”(K13)</p> <p>“...Our eating behavior has changed. We started eating more in case there was an earthquake and we were left hungry under the rubble.”(K6)</p>
	Sleep Problems	5	<p>“Since the earthquake happened at night, I still cannot sleep in comfortable clothes, in case something happens. When I was sleeping comfortably, my sleep was disturbed because I thought something would happen at night and I would be left like that. I can’t sleep until late hours.”(K14)</p> <p>“Normally I would sleep in the dark. I don’t sleep in the dark right now. There must be light.”(K12)</p> <p>“Mostly sleep... I was in the village when I experienced this disaster. There was nothing around me to give hope. Just destroyed buildings, pitched tents, sad people... I didn’t see them when I slept. I still wake up jumping all the time in my dreams. It’s like I’m actually experiencing the earthquake again.”(K4)</p> <p>“I am a working woman. I also had a constant desire to sleep after the earthquake.”(K2)</p>
	Increase in Alcohol/Cigarette Use	2	<p>“At first, smoking behavior increased slightly...”(K3)</p> <p>“It was alcohol use, very clearly and sharply. I used to drink alcohol too, but now I drink alcohol almost five/six days a week. My smoking has increased a lot. But the most challenging thing is alcohol. While I used to feel happy when I drank two glasses, now this has doubled. It helps me fall asleep easier.”(K1)</p>
	Social Isolation	2	<p>“I locked myself at home. Normally, I would go out and walk around, go to the tea garden. I can say that I never left the house for six months after the earthquake. We were temporarily in Konya. I never left the house, just sat idle</p>

	and watched the news.”(K11)
	“I didn’t want crowds, constantly hearing stories of wreckage shook me a lot, I tried to stay away for a while, I didn’t want to meet anyone except my family.”(K10)
I had no dysfunctional behavior.	3 “Since I was the head of the family, I had to stand strong. There was no dysfunctional behavior in me.”(K8)
	“Although there are moments of bitterness from time to time, it hurts as memories are shared on social media, but I have never had any behavior that made my life dysfunctional.”(K9)
	“I did not have any dysfunctional behavior. Yes, it was a very big earthquake and we experienced it twice. I tried to recover in a short time because I did not lose many close people.”(K5)

Discussion and Conclusion

In this study, it was concluded that individuals exposed to the earthquake avoid the emotions of joy, happiness, love, sadness, anger and fear, and thoughts of loss of family members; suppress their thoughts; and avoid sexual needs and social relations, and are in a state of alertness. However, there are also participants who do not have avoidant thoughts or behaviors. Additionally, individuals exposed to the earthquake reported situations such as fear of loss, having nightmares, anxiety, hopelessness, constant repetition of negative thoughts, powerlessness/weakness, failure, fear of punishment, burnout, embarrassment, claustrophobia, crying spells, eating problems, increase in alcohol/cigarette use, sleep problems, social isolation, and excessive cleaning. There are also participants who state that their activities of entertainment and social relationships have been disrupted.

The fear that aftershocks will continue after an earthquake can affect the way individuals experience and express their emotions, and can also have an impact on their subsequent emotional state (Tural et al., 2004). Individuals who experienced trauma can avoid stimuli that may trigger the memories of the event. Individuals may show symptoms of overstimulation; shy behaviors, irrational beliefs and concentration problems may occur (Cofini et al., 2015).

In a study, it was concluded that individuals who were exposed to an earthquake became anxious with the feeling that an earthquake would occur at any moment, and that they felt unusual anxiety, fear, and alertness after the earthquake. In addition, the participants stated that their priorities regarding life changed after the earthquake, they redefined the meaning of life, their thoughts about life differed and they experienced nightmares. Again in the same study, participants stated that their daily routines changed after the earthquake, there were differences in their social relationships, they experienced sleep problems, and their functionality was disrupted (Şeker & Akman, 2014).

The individual’s trauma experience can be a trigger for psychiatric problems such as mood disorders, alcohol and substance abuse, sexual dysfunctions, sleep disorders, and physical symptom disorders. While these disorders may exist before the trauma history, the trauma caused by the earthquake may trigger these disorders. However, symptoms that existed before the trauma may be aggravated by the trauma experienced (Aker, 2006).

People affected by trauma may experience situations such as hesitating to stay in closed spaces and staying away from crowded environments because these are situations that remind them of the trauma (Sönmez, 2022). In a study conducted with individuals who had traumatic experiences such as earthquakes, tsunamis and some nuclear

accidents, it was stated that a significant portion of the exposed population was mentally affected (Matsubara et al., 2014; Niitsu et al., 2014). Additionally, it was determined that anxiety, depressive complaints, post-traumatic stress disorder, eating and sleep disorders were observed in individuals (Harada et al., 2015). Individuals who lose family members experience serious psychological distress compared to individuals who do not experience loss (Montazeri et al., 2005).

The change in individuals' environments after the earthquake also causes individuals to have to adapt to new conditions (Chou et al., 2007; Brewin et al., 2000; Karanci & Rüstemli, 1995). In this study, after the trauma experienced, individuals also stated that there had awareness of the value of life, awareness of new options, positive change in social relations, and change in the self-perception. Some of the participants also expressed the need to be in the present moment and take precautions. Positive changes as a result of coping with difficult life events are considered post-traumatic growth. The development and growth observed in the individual who survives a traumatic experience can occur in many different areas. These positive changes can be characterized by situations such as increasing the value of life, increasing individual power, interpersonal relationships becoming more meaningful, enriching existential life, and changing the values that are prioritized for the individual (Duman, 2019). It is emphasized that there is a strong relationship between psychological resilience and post-traumatic growth (Özçetin & Hiçdurmaz, 2017).

Psychological flexibility, which is the opposite of psychological rigidity, consists of the components of openness, awareness and participation. *Openness* is the individual's willingness to experience internal experiences that he considers unpleasant; *awareness* is the individual's ability to perform actions by consciously paying attention, without being on autopilot; *participation* is the individual's awareness of actions that are important and valuable to him, and his steps towards carrying them out (Francis et al., 2016; Strosahl et al., 2012). A study stated that psychological flexibility acts as a buffer in the relationship between the number of critical life events and their negative interpretation and depressive symptoms. Against depressive symptoms that may occur after an important life event, "being in the present moment, accepting internal experiences as they are, and taking action in line with values" can play a protective role for the individual (Fonseca et al., 2020).

In a study it is concluded that there is a strong, negative, and significant relationship between psychological flexibility and depression. Psychological flexibility reduces the perceived negative effects of depression symptoms (Fonseca et al., 2020). It was determined that, after returning from duty, military personnel with high psychological flexibility experience lower levels of post-traumatic stress and depression than other personnel (Bryan et al., 2015). Even when it comes to negative internal experiences, the individual's ability to be in the present moment and take action in line with his values is related to many aspects of the individual's psychological health (Kashdan & Rottenberg, 2010). High psychological flexibility functions as a protective factor in crisis situations. It is thought that practices aimed at increasing individuals' psychological flexibility will reduce psychopathological effects.

Recommendations

In this study, the concept of psychological rigidity was examined based on the theory of acceptance and commitment. The study was conducted with adult individuals exposed to earthquakes. This study can be conducted

using a different psychological scale and with different socio-demographic groups. A study on psychological rigidity can be carried out with individuals who experienced a different trauma.

Ethics Committee Permission

This study was ethically approved by the decision of the Necmettin Erbakan University Scientific Research Ethics Committee dated 08/12/2023 and numbers 2023–566.

Author Contributions

First author: Literature review, process of creating scale items, results and conclusions, data collection process.

Second author: Methodology, data analysis and results.

Conflict of Interest

The authors declare that they have no conflict of interest.

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The Mediator Role of Resilience and Rumination in the Relationship between Forgiveness and Marital Adjustment

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Abstract

In the current study, the mediator role of resilience and rumination in the relationship between forgiveness and marital adjustment was examined. The participants of the study are 494 married individuals and 357 (72.3%) of them are female and 137 (27.7%) are male. Their ages are between 18 and 65 ($M = 40.49 \pm 7.96$). The Revised Dyadic Adjustment Scale, The Resilience Scale-Short Form, the Ruminative Response Scale-Short Form and the Heartland Forgiveness Scale were used as the data collection tools in the study. In the analysis of the collected data, Pearson correlation analysis and structural equation model were used. As a result of the study, it was seen that resilience and rumination had a full mediator role in the relationship between forgiveness and marital adjustment. The obtained findings were discussed in reference to the literature.

Key Words

Marital adjustment • Forgiveness • Resilience • Rumination

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Introduction

Marriage is expressed as a life event in which social approval is received, many psychological, physiological and social needs are met and which involves the deepest interaction between couples (Demircan-Çaşka, 2023). Marriage is a system in which two people who require mutual responsibility and are willing to spend time together support each other in any problem they encounter (Cutlar & Radford, 1999). Marriage, which is considered a system that contributes to people's happiness and personality development, plays an important role in shaping the social and moral standards of societies (Cott, 2002; Glenn, 1991). Marriage, a social institution in which interpersonal interaction is very intense, forms the basis of the family. It is thought that couples who communicate with each other on issues related to marriage and can solve their problems positively in agreement have high marital adjustment (Özgen, Koç, & Bir, 2022). Marital adjustment has a very decisive role in whether the relationship is healthy or not (Demircan-Çaşka, 2023).

The marital adjustment refers to the tendency to avoid or resolve conflicts, the feeling of satisfaction with the marriage, the sharing of common interests and activities, and the satisfaction of the spouses' mutual marital expectations (Locke & Williamson, 1958). Marital adjustment forms the basis of feelings of satisfaction or dissatisfaction in the relationship (Johnson, White, Edwards, & Booth, 1986). Robles, Slatcher, Trombello, and McGinn (2014) explained marital adjustment as spouses' high satisfaction with their relationship, their having positive attitudes towards each other, and negative behaviours being almost non-existent. According to Sinha and Mukerjee (1990), marital adjustment is the state of spouses being happy and satisfied with both each other and their marriage. As a result, marital adjustment can be expressed as spouses getting used to each other in order to continue their marriage (Bar-On & Parker, 2006).

Marital adjustment is characterized as a quality of the relationship dynamic between spouses and a feature of the interaction between two people. Therefore, it can be said that marital adjustment reflects the nature of the relationship between spouses (Ünal & Akgün, 2022). The existence of mutual love between spouses, their caring for each other and mutual satisfaction of needs positively affect marital adjustment (Halford, Lizzio, Wilson, & Occhipinti, 2007). According to Halford, Kelly, and Markman (1997), spouses' being able to communicate well, participating in activities where they can have fun together and developing positive feelings and thoughts about each other indicate a harmonious marriage. In addition, marital adjustment is related to communication skills (Dilmaç and Bakırcioğlu, 2019) as well as life satisfaction (Dilmaç & Sakarya, 2020; Zhumgalbekov & Efilti, 2023).

Problems experienced in the relationship can prevent the enjoyment of marriage and cause mutual dissatisfaction between spouses. Problems in marital adjustment lead to the dissolution of the marriage (Naemi, 2018). According to Ahmad and Jahangir (2020), marriage is built on adjustment. Problems arise when there is a lack of adjustment between spouses, and if these problems are not handled effectively, the relationship may end. The increase in divorces, especially in today's world, suggests that it is necessary to investigate the factors affecting marital adjustment. Spainer (1976) stated that marital adjustment should be focused on in order for the marriage to progress happily, peacefully and healthily. Similarly, Fincham and Beach (2010) consider marital adjustment as one of the most important determinants of a happy marriage. According to Denli (2016), marital adjustment comes to the fore

for the continuity of marriage. In light of all this information, it was thought that it was necessary to address the factors affecting marital adjustment. Therefore, in the current study, the predictive effects of forgiveness, resilience and rumination on marital adjustment were examined.

In the study, forgiveness was considered as the first variable that could have an impact on marital adjustment. Forgiveness is defined as the desire to end negative judgment, behaviour and resentment towards anyone who has hurt you (Enright & Coyle, 1998). McCullough, Worthington, and Rachal (1997) defined forgiveness as a decrease in the desire to take revenge and stay away from the person who made a mistake and an increase in the tendency to show goodwill towards and make peace with the person despite his/her harmful behaviour. Similarly, Kachadourian, Fincham, and Davila (2005) defined forgiveness as a motivational transformation in which negative emotions decrease and positive emotions towards the person who made a mistake increase. Thompson et al. (2005) addressed forgiveness in three dimensions: self-forgiveness, others-forgiveness and situational-forgiveness. Self-forgiveness refers to adopting a tolerant approach towards oneself after one's own wrong behaviour. Others-forgiveness is the ability of a person to voluntarily give up the negative feelings that he/she develops against the offending person after this person's negative attitude or behaviour, and as a result, to reshape behaviours with positive and constructive feelings. Finally, situational-forgiveness refers to making peace with situations such as a natural or life event that is beyond one's control and accepting the situation with neutral emotions instead of negative emotions.

According to Hargrave and Sells (1997), forgiveness contributes to restoring trust in the relationship and improving the relationship, despite the hurtful behaviour being subjected to. In every relationship, it is inevitable to experience conflicts and disagreements from time to time. In this case, forgiving hurtful behaviours is considered a necessity in order to maintain the relationship (Şamatacı, 2013). Baumeister, Exline, and Sommer (1998) considered forgiveness as a source of healing. This healing refers to a recovery that includes the person himself/herself and the relationship in which the offence occurred. McDonald, Olson, Lanning, Goddard, and Marshall (2017) stated that forgiveness has a positive effect on marital adjustment. Forgiveness makes it easier to remove the obstacles that arise between spouses, especially due to hurt that occurs in conflicts (Fincham, 2000). According to Hodgson and Wertheim (2007), the person who hurt can accelerate the forgiveness process by listening to the person he/she hurt and looking at the situation from his/her partner's perspective, empathizing, apologizing, improving the situation, or repairing the damage he/she has done to his/her partner.

Another variable whose relationship with marital adjustment has been examined is resilience, which is defined as a process that facilitates successful coping with and adaptation to the difficulties encountered in life (Rutter, 1987). According to Luthans, Avolio, Avey and Norman (2007), resilience is the ability to successfully cope with many negative situations such as frustration, strain and uncertainty. Joseph (1994) defined resilience as the ability to recover after a challenging situation, adapt to change and manage difficulties. Masten, Best, and Garmezy (1990) explained that the concept of resilience is used to describe the positive results observed in individuals living in risky environments, maintaining adaptation despite long-term stressful conditions and quick recovery after negative experiences. Masten (1994) stated that resilience plays an important role in staying strong and recovering or recovering quickly in the face of any crisis, negative event or stressful life event. According to Henderson and

Milstein (1996), highly resilient individuals have developed skills such as establishing and maintaining positive relationships, problem solving, sense of humour and looking positively towards the future. Married life is a process full of ups and downs. In other words, spouses experience multifaceted problems in their marriage. Resilience, which plays a vital role in coping with stressful situations, also positively affects marital adjustment (Ahmad & Jahangir, 2020). According to Koçak (2021), highly resilient individuals have higher marital adjustment. Similarly, Khalaf and AL-Hadrawi (2022) stated that there is a significant relationship between resilience and marital adjustment. When resilience is high, individuals are more likely to have better marital adjustment.

The last variable whose relationship with marital adjustment was examined in the current study is rumination. Rumination is defined as the person's engaging in behaviours and thoughts that passively focus his/her attention on distressing symptoms and all possible causes and consequences of these symptoms (Nolen-Hoeksema, 1991). Martin and Tesser (1996) considered rumination as a form of thought that occurs repeatedly and can be triggered by internal or external sources. Rumination leads to repetitive thoughts about the situation such as "Why did I experience this?", "Why do I feel sad?" (Nolen-Hoeksama & Morrow, 1991). According to Nolen-Hoeksema and Jackson (2001), people who believe that emotions are generally uncontrollable and that the appropriate response to these emotions is to focus on themselves are likely to develop a ruminative response. Ruminative responses to stressful life events make it difficult to cope with stress and lead to many psychological disorders, especially depressive mood (Treyner, Gonzalez, & Nolen-Hoeksema, 2003). Although rumination, which is considered an ineffective coping method (Nolen-Hoeksama & Morrow, 1991), is perceived as a problem-solving attempt, it usually ends in failure and perpetuates negative emotions and cognition (Jostmann, Karremans, & Finkenauer, 2011; Mattheews & Wells, 2004).

The tendency to rumination makes communication and interaction between spouses and with other family members difficult (Papageorgiou & Wells, 2004). In addition, a high tendency to rumination threatens the continuity of positive emotions towards the relationship or partner (Jostmann et al., 2011). Similarly, Schweers (2012) suggested that spouses' deep thoughts about their negative experiences in marriage lead to anger towards the person who is the source of these experiences and a decrease in motivation to forgive. Moreover, according to Elphinston, Feeney, Noller, Connor, and Fitzgerald (2013), relationship satisfaction is negatively affected by rumination. As a result, it can be thought that dissatisfaction between spouses may make marital adjustment difficult.

In line with the explanations above, it appears that the variables of forgiveness, resilience and rumination are effective on marital adjustment. In addition, according to the relevant literature, forgiveness increases resilience and reduces rumination (Çapan & Arıcıoğlu, 2014; Çolak & Güngör, 2020; Fatfouta, 2015; Kravchuk, 2021; Ostendorf, 2000). Kravchuk (2021) stated that there is a positive relationship between the tendency to forgive and resilience and that the tendency to forgive predicts resilience. According to Gupta and Kumar (2015), forgiveness is an important factor for resilience. Çolak and Güngör (2020) stated that ruminative thoughts can be reduced by increasing forgiveness levels in individuals. Toussaint, Lee, Hyun, Shields, and Slavich (2023) also revealed that forgiveness reduces ruminative thoughts, leading to beneficial effects on depression. In the light of all this information, a

structural model was designed in the current study that aimed to examine the mediator role of resilience and rumination in the relationship between forgiveness and marital adjustment (Figure 1).

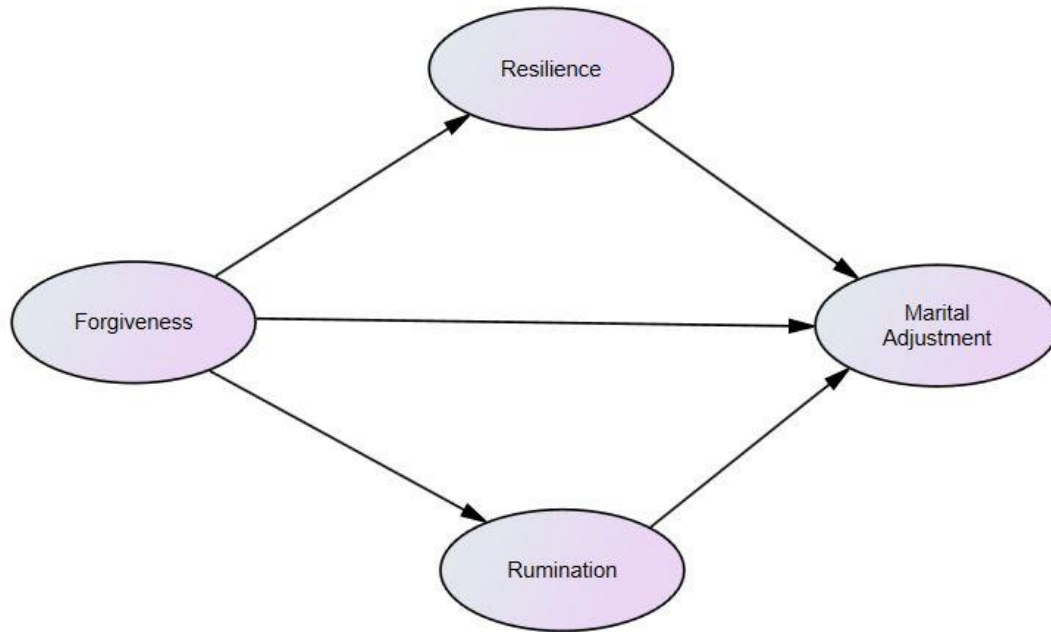


Figure 1. Proposed model

As a result, marital adjustment can be considered as one of the basic features sought for the healthy continuity of marriages. Therefore, it is thought that investigating the variables that may affect and contribute to marital adjustment will be very valuable in terms of literature. It is also thought that the findings from this study may contribute to the practices of mental health professionals (e.g. family and marriage therapists, family counsellors) working in this field.

Method

Research Design

In the current study, the relational survey model, one of the quantitative methods, was used to determine the predictive role of the resilience, rumination and forgiveness variables on marital adjustment. The main purpose of the relational survey model, which is a research design used to determine the level of change that occurs simultaneously in two or more variables, is to explain events, situations or objects as they were in the past or they are today, without any intervention (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz, & Demirel, 2020; Karasar, 2012).

Study Group

The sample of this study consisted of 494 married participants, 357 (72.3%) female and 137 (27.7%) male, aged between 18 and 65 ($M = 40.49 \pm 7.96$). Of the participants, 319 (64.6%) stated that they got married out of love/flirtation. The majority of the participants (51.2%, $n = 253$) have been married for 11-20 years. While 39 (7.9%)

stated that they did not have children, the highest proportion was made up of participants with two children (53.8%, $n = 266$). The demographic characteristics of the participants are presented in Table 1.

Table 1

Demographic characteristics of the participants

Variables		n	%
Gender	Female	357	72.3
	Male	137	27.7
Type of Marriage	By loving/flirting	319	64.6
	Arranged marriage	175	35.4
Marriage Duration	Less than 10 years	96	19.4
	11-20 years	253	51.2
	21 years and more	145	29.4
Number of Children	None	39	7.9
	One child	76	15.4
	2 children	266	53.8
	3+ children	123	22.9
Total		494	100.0

In the selection of the participants, the convenience sampling method, which is a non-random sampling method, was preferred. In this method, researchers form study groups starting from the most easily accessible participants until they reach the sample size they need (Büyükoztürk et al., 2020).

Data Collection Tools*Revised Dyadic Adjustment Scale (RDAS)***Research Instruments and Processes**

The original scale is the Dyadic Adjustment Scale, which consists of 32 items and four subscales, developed by Spanier (1976). Busby et al. (1995) reorganized the scale and developed the Revised Dyadic Adjustment Scale, which consists of 14 items and 3 sub-dimensions. Bayraktaroğlu and Çakıcı (2017) adapted the scale to Turkish culture. Cronbach's alpha coefficient for the whole scale and the sub-dimensions of satisfaction, consensus and cohesion was calculated to be .87, .80, .80, .74, respectively. In the study by Bayraktaroğlu and Çakıcı (2017), the Cronbach alpha coefficient of the scale was calculated to be .88. The highest score to be taken from this 5-point Likert scale is 70. A high score from the scale indicates high marital adjustment.

Resilience Scale Short Form (RSSF)

The scale was developed by Smith et al. (2008) to determine individuals' resilience levels. RSSF is a 5-point Likert type, 6-item, self-report measurement tool. An exploratory factor analysis was conducted to determine the construct validity of the scale. As a result of the analysis, a single-factor structure emerged, explaining 61%, 61%, 57% and 67% of the total variance for 4 different sample groups, respectively. The reliability of the scale was calculated using Cronbach's Alpha internal consistency and test-retest methods. The Cronbach's Alpha internal

consistency reliability coefficient was found to vary between .80 and .91. The test-retest reliability coefficient was found to be between .62 and .69. The Turkish validity and reliability study of the scale was conducted by Doğan (2015). As a result of the exploratory and confirmatory factor analyses, it was determined that the scale had a single-factor structure like the original one. The Cronbach Alpha internal consistency coefficient of the Turkish form was calculated to be .83. The highest score to be taken from the scale is 30, and a high score indicates high resilience.

Ruminative Response Scale-Short Form (RRS-SF)

The Ruminative Response Scale-Short Form, developed by Treynor et al. (2003), consists of 2 subscales: brooding and reflection, and 10 items. The scale is a 4-point Likert scale. It was determined that the original version of the scale developed by Nolen-Hoeksema and Morrow (1991) showed a high correlation ($r = 0.90$). Internal consistency coefficients for the whole scale, brooding and reflection subscales were calculated to be .85, .72 and .77, respectively. The Turkish adaptation study of the scale was carried out by Erdur-Baker and Bugay (2012). It was determined that the Turkish form of the scale had a factor structure similar to the original scale. The internal consistency coefficients for the whole score and sub-scales were found to be .85, .77, .75, respectively.

Heartland Forgiveness Scale (HFS)

The scale developed by Thompson et al. (2005) was adapted into Turkish by Bugay and Demir (2010). The scale, which consists of eighteen 7-point Likert-type items, has three subscales: self-forgiveness, others-forgiveness and situational forgiveness. The score to be taken from the scale varies between 18 and 126 and the score to be taken from each sub-dimension varies between 6 and 42. A high score from the scale indicates a high level of forgiveness. The Cronbach's alpha internal consistency coefficient of the Turkish form of the scale was calculated to be .64 for the self-forgiveness sub-dimension, .79 for the others-forgiveness sub-dimension, .76 for the situational forgiveness sub-dimension and .81 for the whole scale. In addition, as a result of the confirmatory factor analysis, it was determined that the 3-factor structure of the scale showed a good fit.

Data Collection

The data of the current study were collected through a form presented online to married individuals after the ethics committee approval had been received from Necmettin Erbakan University Social and Humanities Scientific Research Ethics Committee (Date: 15/ 03/2024; Decision No: 2024/263). The participants were given information about the study at the beginning of the form. It was clearly stated that participation was completely on a volunteer basis and that they could withdraw from the study at any time. The completion of the form lasted 20 minutes on average.

Data Analysis

The collected data were analysed by using the IBM SPSS 25.0 and IBM SPSS AMOS 25 software programs and the level of significance was taken as $p < .05$. First, the data collected during the research process were checked for accuracy and it was seen that all the items were within the normal range and that there were no incorrect or missing responses. Moreover, univariate and multivariate normality analyses were conducted on the data set. Skewness and kurtosis values, histograms and Q-Q plot values were examined to test whether the data met the assumption of

univariate normality. It was seen that the kurtosis and skewness values of each variable were within the reference range of -1.00 to +1.00, and histograms and Q-Q plots met the assumption of normal distribution (Çokluk, Şekercioğlu, & Büyüköztürk, 2014). Then, Mahalanobis distance coefficients were calculated for multivariate outlier analysis, and no data indicating multivariate outliers with values less than .001 were found in the data set (Tabachnick & Fidell, 2013). In addition, as a result of the correlation analysis, it was seen that there was no multicollinearity problem (Çokluk et al., 2014). In summary, it can be seen that the data met all the assumptions for conducting parametric analyses. Write down the data analysis of your research without changing the format. Write down the data analysis of your research without changing the format.

Results

Table 2 presents the smallest and largest values, mean and standard deviations, kurtosis and skewness values and Cronbach Alpha values of the research variables. As stated before, all the values are within the required range. The mean score for forgiveness was calculated to be $4.48 \pm .84$, the mean score for resilience was calculated to be $3.23 \pm .75$, the mean for rumination was calculated to be $2.06 \pm .55$ and the mean score for marital adjustment was calculated to be $3.73 \pm .68$. These findings are presented in Table 2.

Table 2

Descriptive statistics of forgiveness, resilience, rumination and marital adjustment (n= 494)

Variables	Minimum	Maximum	Mean	S	Skewness	Kurtosis	Cronbach Alpha
Forgiveness	1.33	7.00	4.48	.84	.221	.325	.75
Resilience	1.00	5.00	3.23	.75	-.017	.139	.79
Rumination	1.00	4.00	2.06	.55	.572	.360	.86
Marital Adjustment	1.00	4.86	3.73	.68	-.846	.569	.90

When the correlations between forgiveness, resilience, rumination and marital adjustment were examined, it was found that there were positive and medium to high level significant correlations between all the variables ($p < .001$). The correlations between the variables were found to vary between .438 and .679. These findings are presented in Table 3.

Table 3

Correlations between forgiveness, resilience, rumination and marital adjustment

Variables	Forgiveness	Resilience	Rumination
Forgiveness	1		
Resilience	.446**	1	
Rumination	-.325**	-.380**	1
Marital Adjustment	.201**	.293**	-.301**

*** $p < .001$

The main purpose of this study is to test the mediator role of resilience and rumination in the relationship between forgiveness and marital adjustment. The independent variable of the study is forgiveness, the dependent variable is marital adjustment, and the mediator variables are resilience and rumination. Each of the four variables was represented by three indicator variables. While the dimensions of forgiveness and marital adjustment were represented by their sub-dimensions, three indicator variables were created for resilience and rumination each using the item parcelling method. The analyses were conducted through the AMOS 25 program and using the maximum likelihood estimation method.

Before testing the proposed theoretical model, the measurement model was conducted to determine the extent to which the indicator variables represent the latent variables and to determine the structural correlations between the latent variables. The results showed that the data fit the model well, $\chi^2(47, N = 494) = 103.137, p > .05, (\chi^2/df = 2.19, GFI = .97, AGFI = .95, NFI = .96, TLI = .97, CFI = .98, SRMR = .03$ and $RMSEA = .05$. When the results are examined, it can be seen that the factor loadings of the indicator variables vary between .55 and .88. In addition, all the structural correlations between the latent variables are low to medium level and significant ($p < .001$).

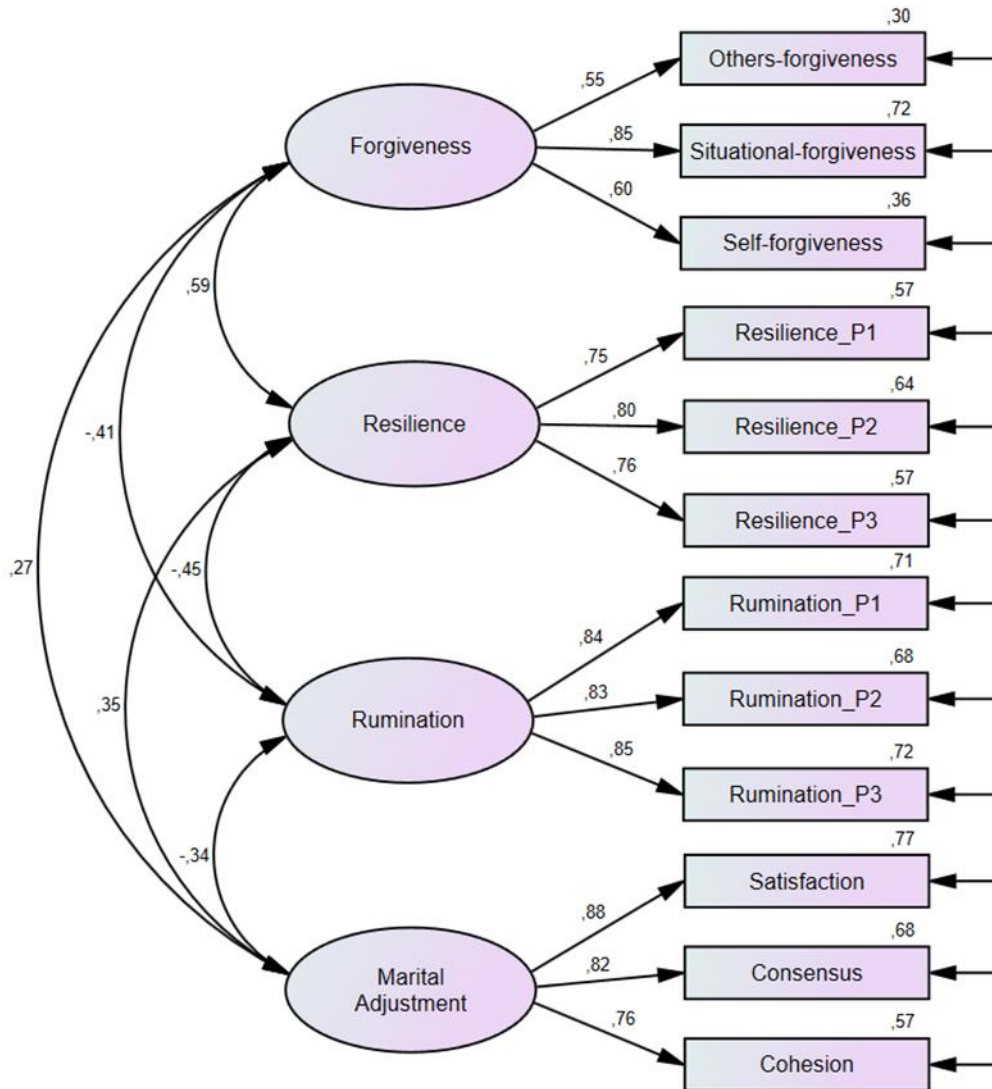


Figure 2. Measurement model

After it was seen that the measurement model had a good fit with the data, the structural model was tested. SEM results also showed that the data fit the model very well, $\chi^2(48, N = 494) = 103.502, p > .05, (\chi^2/df = 2.16, GFI = .97, AGFI = .95, NFI = .96, TLI = .97, CFI = .98, SRMR = .03$ and $RMSEA = .05$.

The results showed that forgiveness predicted resilience positively and significantly ($\beta = .59, p < .001$), and rumination negatively and significantly ($\beta = -.41, p < .001$). At the same time, while resilience predicted marital adjustment positively and significantly ($\beta = .25, p < .001$), rumination predicted marital adjustment negatively and significantly ($\beta = -.22, p < .001$).

Forgiveness explained 35% of the variance in resilience and 17% of the variance in rumination. At the same time, resilience and rumination explained 17% of the variance in marital adjustment.

There are both direct and mediating effects in the model. Forgiveness directly predicted resilience and rumination. Moreover, resilience and rumination directly predicted marital adjustment. Finally, forgiveness predicted marital adjustment through resilience and rumination.

Holmbeck (1997) mentions two types of intervening effects: mediating effect and indirect effect. A mediating effect exists when an initially statistically significant relationship between the independent variable and the dependent variable is significantly reduced or eliminated by the inclusion of the mediator variable in the analysis. In the model where the direct path is added to the analysis, the statistically insignificant correlation between the dependent and independent variables indicates full mediation. On the other hand, a significant correlation but a slight decrease in the level of the standardized value of this path indicates partial mediation. The correlation analysis results presented before moving on to the main analysis showed that the correlation between forgiveness and marital adjustment was significant ($r = .201, p < .001$). In the structural equation model, it was observed that this significant correlation disappeared. Thus, it is possible to say that resilience and rumination played a mediator role in the relationship between forgiveness and marital adjustment. These findings are presented in Figure 3.

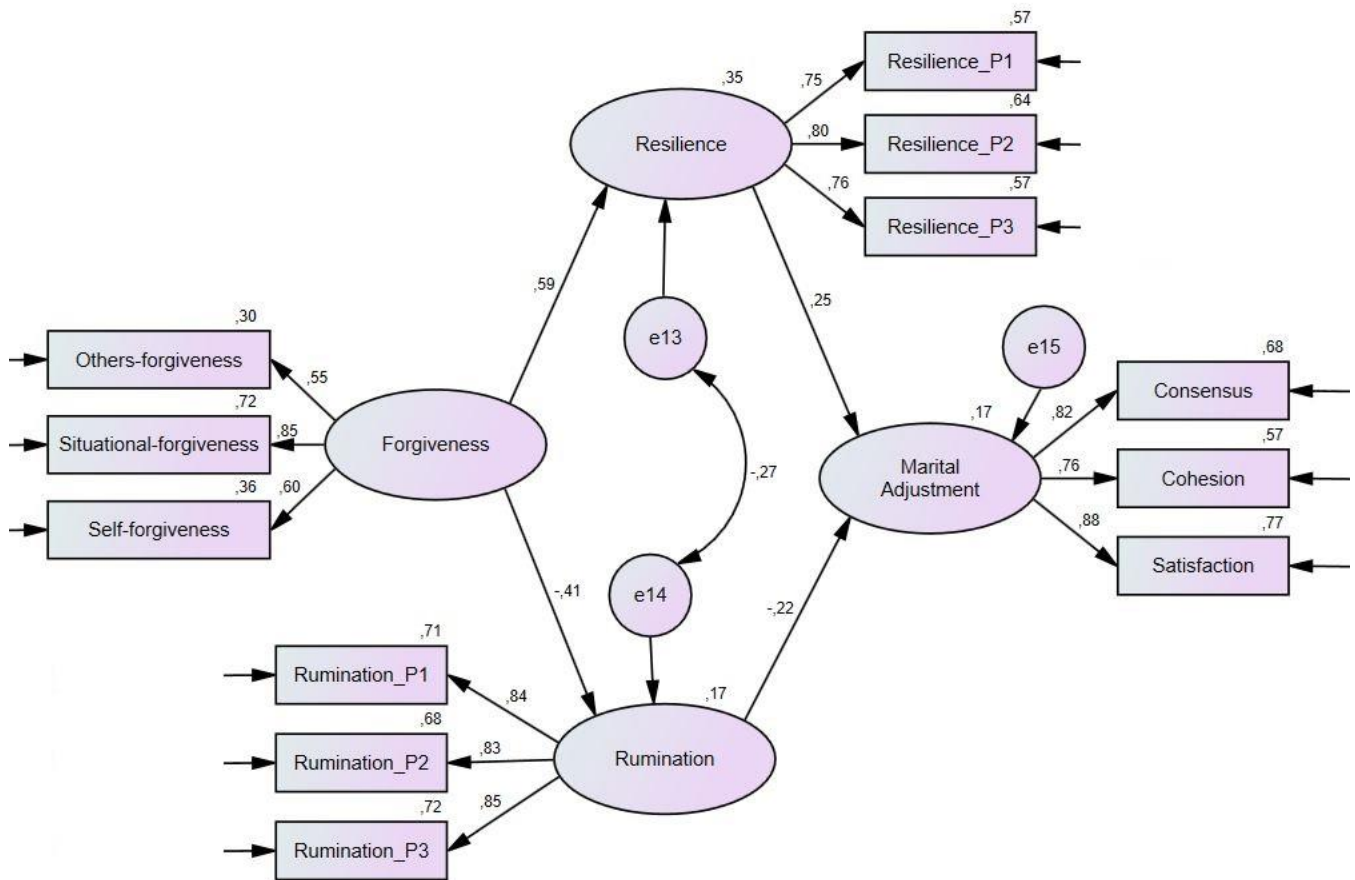


Figure 3. Structural equation model

Discussion, Conclusion & Suggestions

As a result of the study, it was first found that forgiveness has a significant predictive effect on marital adjustment. According to this finding, a high tendency to forgive in individuals contributes positively to marital adjustment. Similarly, [McDonald et al. \(2017\)](#) stated that forgiveness directly and positively affects marital adjustment. In another study, [Solomon, Dekel, and Zerach \(2009\)](#) found that as the level of forgiveness increases, marital adjustment increases as well. According to [Sabatelli \(1988\)](#), marital adjustment refers to marriages in which spouses actively use communication processes, conflicts occur rarely and conflicts can be resolved with mutual understanding and satisfaction. In this regard, [Gordon and Baucom \(1998\)](#) emphasize that forgiveness is a critical factor for healing in marriages. The ability of spouses to forgive each other can be considered an integral component of maintaining a close relationship ([Fincham, 2009](#)) because forgiveness is related to basic structures of marriage such as forgiveness, conflict resolution, healthy relationship and commitment ([Fincham & Beach, 2007](#)). As a result, forgiveness strengthens marital adjustment by playing an effective role in resolving problems that may occur between spouses.

The second finding of the study is that forgiveness has a significant effect on resilience, which is one of the mediator variables. Accordingly, increasing the tendency to forgive in individuals plays an important role in increasing resilience. Similarly, [Kumar and Dixit \(2014\)](#) revealed that there is a significant correlation between resilience and forgiveness and that resilience is predicted by forgiveness. In another study, [Faison \(2007\)](#) concluded that as the level of forgiveness increases, resilience also increases. In fact, people with a high tendency to forgive can adapt more easily to stressful situations or moments of crisis and exhibit more competent behaviour in challenging life situations ([Kravchuk, 2021](#)). In this regard, it becomes clear that increasing the tendency to forgive is important in order to improve resilience in individuals.

The third finding of the study is that forgiveness negatively affects the other mediator variable, rumination. This finding shows that the tendency to forgive is an important factor in reducing ruminative thoughts in individuals. Previous research on the subject also supports this finding. For example, [Suchday, Friedberg, and Almeida \(2006\)](#) stated that forgiveness is negatively correlated with rumination and that low levels of forgiveness predict increased rumination. In another study, it was found that the level of rumination decreases as the level of forgiveness increases ([McCullough, Bellah, Kilpatrick, & Johnson, 2001](#)). In addition, [Mróz, Kaleta, and Sołtys \(2020\)](#) stated that individuals with a high tendency to forgive exhibit a low rumination tendency. Therefore, forgiveness can be considered an important factor in reducing ruminative thoughts.

The fourth finding of the study is that resilience has a significant effect on marital adjustment. This finding is consistent with previous research findings ([Goli, 2021](#); [İlmen & Driver, 2022](#); [Qurit'e & al-Gazo, 2018](#); [Karimi & Esmaeili, 2020](#); [Serpen & Mackan, 2017](#)). Resilience has an important function in overcoming the problems and changes encountered in daily life and being able to return to the old state ([Ramirez, 2007](#)). The relationships of spouses who can reach a consensus on issues related to marriage and family and solve the problems experienced in the relationship positively are considered harmonious marriages ([Erbek, Beştepe, Akar, Eradamlar, & Alpkan, 2005](#)).

Therefore, it can be said that resilience increases marital adjustment by contributing to the ability of spouses to cope with problems.

The fifth finding of the study is that rumination negatively affects marital adjustment. In other words, rumination decreases marital adjustment. Similarly, Göztepe-Gümüş and Tutarel-Kışlak (2019) stated that there is a negative correlation between rumination and marital adjustment. Repetitively thinking about negative experiences between spouses causes negative emotions, makes it difficult to forget these experiences, and therefore can negatively affect marital adjustment. Papageorgiou and Wells (2004) pointed out that rumination can often cause problems to be perceived as unsolvable as a result of a more pessimistic attitude.

Finally, the current study showed that resilience and rumination play a mediating role in the relationship between forgiveness and marital adjustment. According to this result, increasing spouses' tendency to forgive strengthens their resilience and reduces ruminative thoughts. Therefore, strong resilience and less rumination tend to contribute to increased marital adjustment. In other words, what increases the marital satisfaction of spouses who are inclined to forgive is their increased resilience and reduced ruminative thoughts resulting from their tendency to forgive. Therefore, since spouses' tendency to forgive actually contributes to a more harmonious and satisfying relationship in the long run, it can be considered as a favour to the other spouse as well as to the relationship and even especially to the person himself/herself.

Although this study makes important contributions to the relevant literature, it has some limitations. First, the collection of the research data through self-report measurement tools can be stated as a limitation. It is thought that using only self-report scales in this study and the completion of the scales for all the variables of the study only by the participants increased the shared method variance. For this reason, it is thought that obtaining information from both spouses, instead of getting information from only one of them, will reduce the shared method variance in future studies. Additionally, since the study was conducted using a cross-sectional method, it is not appropriate to make a causal inference about the direction of the relationships. For example, as an alternative model to this model in which forgiveness increases marital satisfaction, a model in which marital satisfaction increases forgiveness can be presented. Therefore, longitudinal studies are needed to understand the direction of the relationships more accurately. Finally, it is recommended that qualitative data be collected in addition to quantitative data in future studies. Thus, in-depth information about the variables can be obtained. Despite the limitations listed, this study contributed to our understanding of the potential effects of forgiveness on marital satisfaction and the evaluation of the role of resilience and rumination in this relationship. For this reason, it can be said that it contains results that may be valuable for the literature.

Ethic

The ethics committee approval had been received from Necmettin Erbakan University Social and Humanities Scientific Research Ethics Committee (Date: 15/ 03/2024; Decision No: 2024/263).

Author Contributions

First author: Literature review, data collection process, results and conclusions.

Second author: Methodology, data collection process, data analysis and results.

Conflict of Interest

The authors declare no conflict of interest in the research.

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How Adaptive and Maladaptive Perfectionism Affect Psychological Well-Being among University Students: The Mediating Role of Procrastination*

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Abstract

The principal purpose of the present study is to investigate the mediating role of general and academic procrastination in the relationship between adaptive/maladaptive perfectionism and psychological well-being among university students. The sample comprises 335 undergraduate students, selected through a convenient sampling method. The instruments utilized to gather data included the Almost Perfect Scale-Revised, General Procrastination Inventory, Aitken Academic Procrastination Inventory, and Psychological Well-Being Scale. In order to test the hypotheses put forward in the research, two separate parallel mediation analyses were performed. The results revealed that general procrastination fully mediated the relationship between adaptive perfectionism and psychological well-being. Furthermore, general procrastination has a partial mediating effect in the relationship between maladaptive perfectionism and psychological well-being. The mediating role of academic procrastination was not statistically significant in the mediation model for both dimensions of perfectionism. The results also provide robust evidence to confirm the assumption that adaptive and maladaptive perfectionism are distinct constructs and that these constructs affect psychological outcomes differently. The implications for counselors and mental health professionals, as well as future research directions, are discussed in light of the existing literature and the limitations of the study. Recommendations are then made.

Key Words

Adaptive perfectionism • Maladaptive perfectionism • General procrastination • Academic procrastination • Psychological well-being • University students

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Introduction

The concept of perfectionism, as a personality trait, and its consequences have been and continue to be the subject of numerous studies (e.g., Ashby, Rice, & Martin, 2006; Flett & Hewitt, 2014; Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991; Mirzairad, Haydari, Pasha, Ehteshamzadeh, & Makvandi, 2017; Stöber & Joormann, 2001). In the literature, perfectionism is typically conceptualized as a multidimensional construct, rather than as a unidimensional one (Dunkley, Sanislow, Grilo, & McGlashan, 2006; Frost, Lahart, & Rosenblate, 1990; Hamackek, 1978; Hewitt & Flett, 2002; Hewitt & Flett, 1991; Slaney, Ashby, & Trippi, 1995; Stoeber & Otto, 2006). Hewitt and Flett (1991), and Frost and colleagues (1990) are among the researchers who emphasize that perfectionism should be considered multidimensional. Hewitt and Flett (1991) suggested three dimensions of perfectionism: *self-oriented*, *other-oriented*, and *socially prescribed perfectionism*. Self-oriented perfectionists have extremely high standards and strive to meet them, and this process is adaptive. In contrast, the high standards and expectations of other-oriented perfectionists are directed at others. Finally, socially prescribed perfectionism involves the constant need to meet the demands of others to sustain one's own self-worth. On the other hand, Frost and colleagues (1990, p.449) developed a multidimensional perfectionism scale, which identified the following dimensions of perfectionism: “*excessive concern about making mistakes, high personal standards, perception of high parental expectations, perception of high parental criticism, doubt about the quality of one's actions, and order and organization*”. Upon examination of the existing literature, it becomes evident that some researchers have grouped perfectionism into two or three dimensions in a more inclusive and general manner. For instance, Hamackek (1978) described two types of perfectionists: *normal* and *neurotic*. Normal perfectionists are able to apply their standards flexibly. Conversely, neurotic perfectionists are driven by an unrelenting pursuit of perfection, which is never deemed enough. Even when a task is successfully completed, neurotic perfectionists remain unsatisfied and feel emptied. Similarly, Slaney and colleagues (1995) categorize perfectionism as “*adaptive*” and “*maladaptive*”. This categorization has been supported by numerous empirical studies in the literature (e.g., Hill, McIntire, & Bacharach, 1997; Rice & Mirzadeh, 2000; Stoeber & Otto, 2006). Adaptive perfectionism is identified as a positive effort for success (Dunkley, Sanislow, Grilo, & McGlashan, 2006; Frost, Marten, Lahart, & Rosenblate, 1990; Stoeber & Otto, 2006). By contrast, individuals who exhibit maladaptive perfectionism tend to be overly critical in their self-evaluations. Some researchers have also proposed a three-group classification of perfectionism. They are: “*healthy perfectionists*” (also referred to as “*adaptive perfectionists*”), “*unhealthy perfectionists*” (also referred to as “*maladaptive perfectionists*”) and “*non-perfectionists*”. Consequently, healthy perfectionists align with the definition of normal perfectionists as proposed by Hamackek (1978), whereas unhealthy perfectionists are classified as neurotic perfectionists. Finally, low levels of perfectionistic striving and ambiguous levels of perfectionistic concerns are observed in the non-perfectionist group (Park & Jeong, 2015; Stoeber & Otto, 2006).

In reviewing the existing literature, it is noticeable that a considerable number of studies have centered on the two-factor model of perfectionism, defined as 'adaptive' and 'maladaptive'. Specifically, research has highlighted the role of maladaptive perfectionism in the development and maintenance of a broad range of psychological symptoms and disorders, including depression, anxiety, and eating disorders (Bieling, Israeli, & Antony, 2004; Flett & Hewitt, 2006; Shafran & Mansell, 2001; Stöber & Jormann, 2001). In contrast, adaptive perfectionism is associated with

positive health indicators and psychological traits, such as psychological well-being, self-efficacy, perceived social support, coping, less vulnerability and fewer self-defeating behaviors (e.g., Bieling, Israeli, & Antony, 2004; Dunkley, Sanislow, Grilo, & McGlashan, 2006; Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000; Enns, Cox, & Clara, 2002; Frost, Marten, Lahart, & Rosenblate, 1990; Stoeber & Otto, 2006). Therefore, perfectionism is considered to be a determinant not only of negative but also of positive psychological functioning. In addition, the explanations of Kahler (1975), who introduced the concept of "drivers" as a basic concept of Transactional Analysis — an approach to counseling and psychotherapy — provide substantial evidence that these constructs are distinct. Kahler (1975) defined the concept of "drivers" as an intrinsic motivational force and proposed that when this motivational force is present in excessive amounts, it can lead to dysfunctional behavior. In other words, Kahler emphasizes that drivers have positive aspects as long as they are not overused. One such driver is "Be Perfect!". Researchers other than Kahler have also drawn attention to the positive aspects of drivers (Hazell, 1989; Klein, 1987; Tudor, 2008). For example, Hazell (1989) defines drivers as habits we use to cope with challenges and emphasizes that they are useful and positive when well managed and used to achieve. To emphasize this positive aspect, he renamed the driver "Be Perfect!" to "Be Right!". Furthermore, Klein (1987, p.156) asserted that *"a person with the 'Be Perfect!' driver has a better idea of how to live well than the majority of people, that he/she is not concerned with the actions of others while maintaining high standards for himself/herself, and that a perfectionist individual may be the wisest, most stable, warmest, and nicest person we can observe, with the exception of intolerance and autocratic self-righteousness"*. Consequently, the aforementioned feature of the "Be Perfect!" driver can be considered to correspond to both adaptive and maladaptive aspects of perfectionism. For this reason, the present study also focused on both the adaptive and maladaptive dimensions of perfectionism.

One of the principal variables under investigation in this study is psychological well-being, which is introduced by positive psychology and is also a multidimensional construct that includes happiness, life satisfaction, mental and emotional health (Diener et al., 2010). Seligman and Csikszentmihalyi (2000) posit that individuals who frequently experience positive affect and actively participate in meaningful activities will exhibit high levels of psychological well-being. It has been emphasised by researchers that merely avoiding mental disorders is not sufficient to talk about the existence of psychological well-being. In addition, it is necessary to possess positive psychological resources, including positive affect, happiness, and life satisfaction (Bartram & Boniwell, 2007; Sin & Lyubomirsky, 2009). The concept of psychological well-being has been extensively researched by researchers through the development of theoretical models and frameworks. Among the various models that have been proposed, the most widely accepted is Ryff's six-factor psychological well-being model. Ryff (1989) defines psychological well-being as an umbrella concept encompassing six components: *"self-acceptance, positive relationships with others, autonomy, mastery of the environment, a sense of purpose and meaning in life, and personal growth and development"*. A review of the literature indicates that perfectionism has a negative effect on psychological well-being. Despite this, studies have revealed that there may be differences in the effects of adaptive and maladaptive perfectionism on psychological well-being. In other words, while there is a negative relationship between maladaptive perfectionism and psychological well-being, the relationship between adaptive perfectionism and psychological well-being is positive (Bulina, 2014; Fallahchai, Fallahi, & Moazen Jami, 2019; Flett & Hewitt, 2006; Kruger, Jellie, Jarkowski,

Keglevich, & On, 2023; Stoeber & Otto, 2006). The results of these studies suggest that future investigations should consider examining the concepts of adaptive and maladaptive perfectionism as distinct constructs. Given the potential differences in the effects of each, this approach could provide a more deeply understanding of the relationship between perfectionism and psychological well-being.

Another variable in the study is procrastination behaviour, which is considered to be prevalent and affects numerous aspects of life. Procrastination is identified as “*the voluntary postponement of an intended action despite the expectation that the delay will be detrimental*” (Steel, 2007, p.66) and is defined as a self-sabotage behaviour (Ferrari & Tice, 2000). It is estimated that approximately 20% of adults are chronic procrastinators (Ferrari & Tice, 2000), while more than 70% of university students are academic procrastinators who regularly delay completing homework or studying for exams (Schouwenburg, Lay, Pychyl, & Ferrari, 2004). In other words, academic procrastination, a special type of procrastination, is a common behaviour among students (Ferrari, 2001; Rozental & Carlbring, 2014; Schraw, Wadkins, & Olafson, 2007), and is a universal experience (Subotnik, Steiner, & Chakraborty, 1999). Steel and Klingsieck (2016, p.37) define academic procrastination as “*the voluntary postponement of an intended action related to study, despite the expectation of being worse off because of the delay*”. Students who engage in academic procrastination unnecessarily postpone priority activities and spend their time on non-priority, unrelated tasks (Ferrari & Tice, 2000). This situation has been found to negatively affect students' academic achievement (Goroshit, 2018; Kim, Fernandez, & Terrier, 2017; Kim & Seo, 2015; Yurtseven & Akpur, 2018). Researchers have suggested that fear of failure and self-regulation are the main causes of academic procrastination (Rozental & Carlbring, 2014; Zarrin, Gracia, & Paixão, 2020). Some researchers posit that procrastinators determine their own values according to their successes and failures (Balkis & Duru, 2012), and that they activate the fear of failure in order to avoid feelings of worthlessness. Additionally, studies indicate that students with a high tendency towards academic procrastination exhibit low self-regulation skills (Park & Sperling, 2012; Uzun Özer, Demir, & Ferrari, 2009; Zarrin, Gracia, & Paixão, 2020). Consequently, in this study, given that academic procrastination is a common issue among university students, the general procrastination tendency was considered together with the academic procrastination tendency.

A review of the literature reveals that procrastination is associated with low self-esteem and low self-regulation, self-discipline, ineffective learning skills, anxiety, depression, fear of failure and irrational thinking (e.g., Ferrari, 1992; Ferrari & Beck, 1998; Lay, 1986; Stöber & Joormann, 2001; Zarrin, Gracia, & Paixão, 2020). The results of these studies permit the reasonable assumption that procrastination is associated with decreased psychological well-being. Indeed, several studies have indicated that general procrastination is associated with poor well-being and high psychological distress (Jayaraja, Tan, & Ramasamy, 2017; Rice, Richardson, & Clark, 2012; Siriois, 2007; Siriois & Tosti, 2012). In studies on academic procrastination, students who tend to procrastinate are found to be dissatisfied with their academic performance, experience high levels of stress and anxiety (Kim & Seo, 2015; Steel, 2007), furthermore, their psychological well-being levels are low (Ahmad & Munir, 2022; Balkis & Duru, 2016; Krause & Freund, 2014, 2016; Vlachopanou & Karagiannopoulou, 2022). Moreover, a comprehensive review of the existing literature suggests that there is a significant relationship between perfectionism and procrastination behaviour. Considering the two-factor structure of perfectionism, which was previously outlined, there are studies that provide

evidence of a positive relationship between procrastination behavior and maladaptive perfectionism rather than adaptive perfectionism. However, research findings have indicated that procrastination behavior is negatively related to adaptive perfectionism (Ahmad & Munir, 2022; Blackler, 2011; Kurtovic, Vrdoljak, & Idzanovic, 2019; Rice, Richardson, & Clark, 2012; Yurtseven & Akpur, 2018). As previously stated, there are research results indicating that adaptive perfectionism also positively affects psychological well-being.

The aforementioned research findings collectively indicate that perfectionism is not an entirely unhealthy structure. However, Stoeber and Otto (2006) highlight that although numerous studies have investigated the relationship between maladaptive perfectionism and negative psychological functioning, it remains unclear whether adaptive perfectionism is related to positive psychological functioning, such as psychological well-being. Furthermore, the specific variables through which this relationship may emerge remain undetermined. In other words, the mechanisms by which adaptive perfectionism supports psychological well-being have not yet been fully elucidated. Upon examination of the literature, it becomes evident that there is a paucity of studies investigating this issue (Ahmad & Munir, 2022; Bieling, Israeli, & Antony, 2004; Bulina, 2014; Chang, Watkins, & Banks, 2004; Kamushadze, Martskvishvili, Mestvirishvili, & Odilavadze, 2021; Kruger, Jellie, Jarkowski, Keglevich, & On, 2023; Rice, Richardson, & Clark, 2012). Therefore, this study attempts to reinforce the evidence that adaptive and maladaptive perfectionism affect psychological well-being in different ways and to examine how these two constructs affect psychological well-being through the mediating effect of general and academic procrastination among university students.

Current Study

This study set out with the intention of conducting further research to clarify the relationship between adaptive and maladaptive perfectionism, general and academic procrastination, and psychological well-being among university students in young adulthood, where procrastination behaviour is commonly observed. The main purpose of this study is to examine the mediating role of general and academic procrastination behaviour in the relationship between adaptive/maladaptive perfectionism and psychological well-being among university students. In other words, the research rationale is to determine the relationship patterns between these variables. It is therefore also expected that evidence will be provided that adaptive and maladaptive perfectionism are distinct constructs, and that they affect psychological well-being in different ways through the mediation of general and academic procrastination. Based on these rationales, the following hypotheses have been put forward.

H1: General procrastination and academic procrastination act as a mediating variable in the relationship between adaptive perfectionism and psychological well-being among university students, controlling for gender.

H2: General procrastination and academic procrastination act as a mediating variable in the relationship between maladaptive perfectionism and psychological well-being among university students, controlling for gender.

Method

Research Design

The study was carried out using the correlational survey model as a quantitative research design to examine the patterns of relationships among adaptive/maladaptive perfectionism, academic and general procrastination, and psychological well-being among university students. The parallel mediation model was used to analyze the relationships among these variables. The model used psychological well-being as the dependent variable, adaptive/maladaptive perfectionism as the independent variable, and general and academic procrastination as mediators. A mediation model suggests that the independent variable influences the mediator variable, which in turn affects the dependent variable, rather than there being direct causal relationship between the dependent and independent variables (Cohen, Cohen, West, & Aiken, 2003; MacKinnon, 2008). In other words, the mediator variable may clarify the relationship between the independent and dependent variables. Thus, the direct and indirect effects of adaptive and maladaptive perfectionism on psychological well-being were examined in this study.

Participants

The study recruited 340 undergraduate students from different departments of a public university in Istanbul using the convenience sampling method. After excluding the data of five participants with outliers, the remaining 335 students constituted the sample of the study. The age of the participants ranged from 18 to 27 years ($M = 21.23$ and $SD = 1.80$). Of the total participants, 199 (52.4%) were female and 136 (40.6%) were male.

Research Instruments

Participants completed the following four different measures in order. They are: Almost Perfect Scale-Revised, Aitken Academic Procrastination Inventory, General Procrastination Inventory, and Psychological Well-Being Scale.

Almost Perfect Scale-Revised (APS-R): The APS-R is a multi-dimensional scale developed by Slaney and colleagues (2001) to distinguish between adaptive and maladaptive aspects of perfectionism. The scale consists of 23 items, each rated on a 7-point Likert scale ranging from 'strongly disagree' (1) to 'strongly agree' (7). It includes three subscales: *High standards*, *order*, and *discrepancy*. The original form's subscales demonstrated internal consistencies ranging from .85 to .91. Based on theoretical and empirical research, Slaney and colleagues (2001) suggested that the subscales of the APS-R could be grouped into *adaptive* and *maladaptive*, with the high standards and order subscales representing adaptive perfectionists and the discrepancy subscale representing maladaptive perfectionists. Furthermore, studies using the APS-R have also demonstrated that the scale is able to distinguish between adaptive and maladaptive perfectionism (e.g., Ashby, Dickinson, Gnilka, & Noble, 2011; Bulina, 2014; Fallahchai, Fallahi, & Moazen Jami, 2019; Rice & Mirzadeh, 2000; Slaney, Rice, Mobley, Trippi, & Ashby, 2001), and that the discrepancy subscale, in particular, is a good measure of maladaptive perfectionism (Ashby, Rice, & Martin, 2006; Ashby & Rice, 2002). Sapmaz (2006) conducted an adaptation study of the APS-R for Turkish culture, which revealed an additional dimension of the scale called '*dissatisfaction*.' The four subscales of the Turkish version demonstrated internal consistencies ranging from .72 to .83. The Turkish version assesses adaptive perfectionism by summing high standards and order subscales, whereas it assesses maladaptive perfectionism by summing

dissatisfaction and discrepancy subscales. Higher scores on all subscales indicate a higher level of perfectionism. In this sample, the Cronbach alpha (α) and McDonald's omega (ω) reliability coefficients for adaptive and maladaptive perfectionism were found to be 0.77 and 0.84, respectively, indicating acceptable levels of reliability.

Aitken Academic Procrastination Inventory (AAPI): The AAPI is a scale consisting of 16 items, developed by [Aitken \(1982\)](#) and adapted to Turkish culture by [Balkis \(2006\)](#). The items are rated on a 5-point Likert scale ranging from 'absolutely wrong for me' (1) to 'absolutely right for me' (5). A high score on this scale indicates a high level of academic procrastination. The Cronbach alpha (α) coefficient was found to be .82 in the original form, and 0.89 in the Turkish version. ([Balkis, 2006](#)). In this study sample, the Cronbach alpha (α) and McDonald's omega (ω) reliability coefficients were .88.

General Procrastination Inventory (GPI): The GPI is a scale consisting of 15 items developed by [Lay \(1986\)](#) and adapted to the Turkish culture by [Balkis \(2006\)](#). Respondents answer all items on a 5-point Likert scale ranging from 'strongly disagree' (1) to 'strongly agree' (5). High scores on this scale indicate a tendency to procrastinate in daily routines. The Cronbach alpha (α) reliability values for the original form and Turkish version were .82 and .84, respectively ([Balkis, 2006](#)). In the current sample, both Cronbach alpha (α) and McDonald's omega (ω) reliability coefficient were determined to be .87.

Psychological Well-Being Scale (PWB): The Psychological Well-Being Scale (PWB) was developed by Ryff (1989) based on a multidimensional model of psychological well-being. Ryff's scales of psychological well-being measure six constructs: *autonomy, environmental mastery, personal growth, positive relationships with others, purpose in life, and self-acceptance*. The scale consists of 84 items. The items are rated on a 6-point Likert scale ranging from 'strongly disagree' (1) to 'strongly agree' (6). The PWB was adapted to Turkish culture by Cenkseven (2004). The internal consistency of the Turkish version for the subscales ranged from .74 to .83, with a Cronbach alpha (α) of .93 for the total score. A high score on the PWB indicates a high level of psychological well-being. The Cronbach alpha (α) coefficient for the total score in the current study was also .93. Besides, McDonald's omega (ω) reliability coefficient was found to be .94.

Process

Before starting the data collection process, official approval was obtained from the rectorate of the university where the study was conducted. The researcher administered the measurement tools to the students in a face-to-face setting within the classroom environment. The participants were provided with all the necessary verbal and written information about the measures. They also signed an informed consent form confirming that they had received the necessary information about the research and that their participation was voluntary. The measures were administered and completed within 25-30 minutes.

Data Analysis

Prior to data analysis, it was confirmed that the dataset met the requirements of parametric statistical methods. The skewness and kurtosis coefficients of each variable were calculated to determine whether the data were normally distributed. According to [Tabachnick and Fidell \(2013\)](#), a normal distribution has skewness and kurtosis values

ranging from -1.5 to +1.5. The analysis revealed that the skewness and kurtosis values of all study variables were within the specified limits (-1 to +1) (see Table 1). Next, the standard z-values of the scores obtained from the scales were calculated and the data of the three participants with z-values higher than ± 3.29 were excluded (Çokluk, Şekercioğlu, & Büyüköztürk, 2012), as they were considered potential outliers. Based on the calculated Mahalanobis distance value ($p < .001$) for multivariate normality of the dataset, the data of two participants with outlier values were also excluded from the analysis. Finally, the tolerance and VIF values were calculated as a prerequisite for conducting regression-based statistical analyses to determine whether multicollinearity problems existed among independent variables. The tolerance values ranged from .29 to .91 and VIF values ranged from 1.14 to 3.44. A tolerance value lower than 0.10 and a VIF value higher than 10 indicate the presence of multicollinearity among independent variables (Çokluk, Şekercioğlu, & Büyüköztürk, 2012; Hair, Babin, Anderson, & Black, 2019). It can therefore be concluded that there is no multicollinearity problem in this study. Consequently, the research data meets the normality criteria, and there are no multicollinearity problems. Therefore, the use of parametric techniques was deemed appropriate.

Table 1

Means, standard deviations, normality values for the scores of the main study variables (N= 335)

Variables	M	SD	Kurtosis	SD _{kurtosis}	Skewness	SD _{skewness}
1. APER	5.37	.72	-.04	.27	-.57	.13
2. MAPER	3.66	.98	-.45	.27	.39	.13
3. GPRO	2.52	.73	-.36	.27	.38	.13
4. APRO	2.59	.63	.06	.27	.32	.13
5. PWB	4.47	.52	.76	.27	-.43	.13

Note. APER: Adaptive Perfectionism, MAPER: Maladaptive Perfectionism, GPRO: General Procrastination, APRO: Academic Procrastination, PWB: Psychological Well-Being.

Relationships between variables were examined using Pearson's correlation coefficients before mediation analysis was conducted. The Statistical Package of Social Sciences (SPSS), version 24 for Windows, was used for data analysis. Due to the presence of multiple mediating variables in the study, a parallel mediation model (Model 4) was run using the PROCESS macro, developed by Hayes (2018), for IBM SPSS, using 5.000 bootstrapped sampling. In a parallel mediation model, two or more mediators exist between the independent and dependent variables. In this model, there must be no causal relationship between the mediator variables, and they are entered into the model simultaneously rather than serially, one at a time. The 95% confidence interval was used to evaluate the estimates.

Results

Initial analyses tested the bivariate correlations between all study variables. Then, two parallel mediation analyses were conducted to determine the direct and indirect effects of adaptive and maladaptive perfectionism on psychological well-being. The results are presented below.

Bivariate correlations

Preliminary analyses showing the relationships among adaptive/maladaptive perfectionism, general procrastination, academic procrastination, and psychological well-being are seen in Table 2.

Table 2

Bivariate correlations among study variables (N= 335)

Variables	1	2	3	4	5
1. APER	–				
2. MAPER	.26***	–			
3. GPRO	-.22***	.31***	–		
4. APRO	-.31***	.24***	.83***	–	
5. PWB	.12*	-.43***	-.33***	-.27***	–

Note. APER: Adaptive Perfectionism, MAPER: Maladaptive Perfectionism, GPRO: General Procrastination, APRO: Academic Procrastination, PWB: Psychological Well-Being, * $p < .05$, ** $p < .01$ *** $p < .001$

As seen Table 2, the results revealed that psychological well-being negatively correlated with maladaptive perfectionism ($r = -.43$, $p < .001$), general procrastination ($r = -.33$, $p < .001$), and academic procrastination ($r = -.27$, $p < .001$), but positively correlated with adaptive perfectionism ($r = .12$, $p < .05$). Moreover, maladaptive perfectionism was significantly and positively associated with general procrastination ($r = .31$, $p < .001$), and academic procrastination ($r = .24$, $p < .001$). Finally, adaptive perfectionism was negatively and significantly related to general ($r = -.22$, $p < .001$) and academic procrastination ($r = -.31$, $p < .001$).

Control (Covariate) Variables

The potential effects of demographic variables on the dependent variable of the study, psychological well-being, was tested. No significant relationship was found between age and psychological well-being ($p > .05$). Regarding the gender variable, the results of the independent samples t-test showed that there was a significant difference in psychological well-being scores in terms of gender ($t = 4.64$; $p < .001$). This finding yielded that psychological well-being levels of women ($M = 4.57$, $SD = .51$) were higher than those of men ($M = 4.31$, $SD = .49$). The effect size of this difference between genders was tested through Cohen's d technique, and Cohen's d was found to be .51. A Cohen's d value of $\geq .50$ indicates a moderate effect size (Cohen, 1988). Therefore, gender was included as a covariate variable in the mediation model. Adding a covariate variable to the model allows us to control for its effect on the dependent

variable (Can, 2014). This way, we can see the actual (partial) effects of the independent and mediating variables on the dependent variable.

Parallel Mediation Analyses

Two independent parallel mediation analyses were conducted to test research hypotheses via the regression-based bootstrapping analysis technique, using 5.000 bootstrapped samples. The first parallel mediation analysis was performed to test Hypothesis 1 (H1), which postulates that general procrastination and academic procrastination act as mediators in the relationship between adaptive perfectionism and psychological well-being among university students. Gender was included in the mediation model as a covariate.

Figure 1 illustrates the direct and indirect effects of the proposed mediation model. Upon examination of the direct effects, it is evident that adaptive perfectionism predicts psychological well-being in a positive manner ($B_c = .60$; $p < .001$). Additionally, adaptive perfectionism has a significant negative effect on general procrastination ($B_{a1} = -.30$; $p < .001$) and academic procrastination behavior ($B_{a2} = -.39$; $p < .001$). Moreover, the findings revealed that general procrastination has a negative and significant impact on the psychological well-being of university students ($B_{b1} = -1.34$; $p < .001$). Conversely, academic procrastination has no predictive power on psychological well-being ($B_{b2} = .29$; $p > .05$).

Upon examination of the indirect effect of adaptive perfectionism on psychological well-being through both general and academic procrastination, controlling for gender, the effect of adaptive perfectionism on psychological well-being becomes statistically insignificant with the inclusion of mediating variables in the model ($B_c = .32$; $p > .05$). This result indicates the presence of a full mediation effect in the model, as the total indirect effect of adaptive perfectionism on psychological well-being is significant (BootEffect=.28, 95% CI [.040, .562]). In addition, the overall model is found to be significant ($R^2 = .15$, $F_{(4,330)} = 14.30$, $p < .001$) and explaining 15% of the total variance in psychological well-being (see Figure 1).

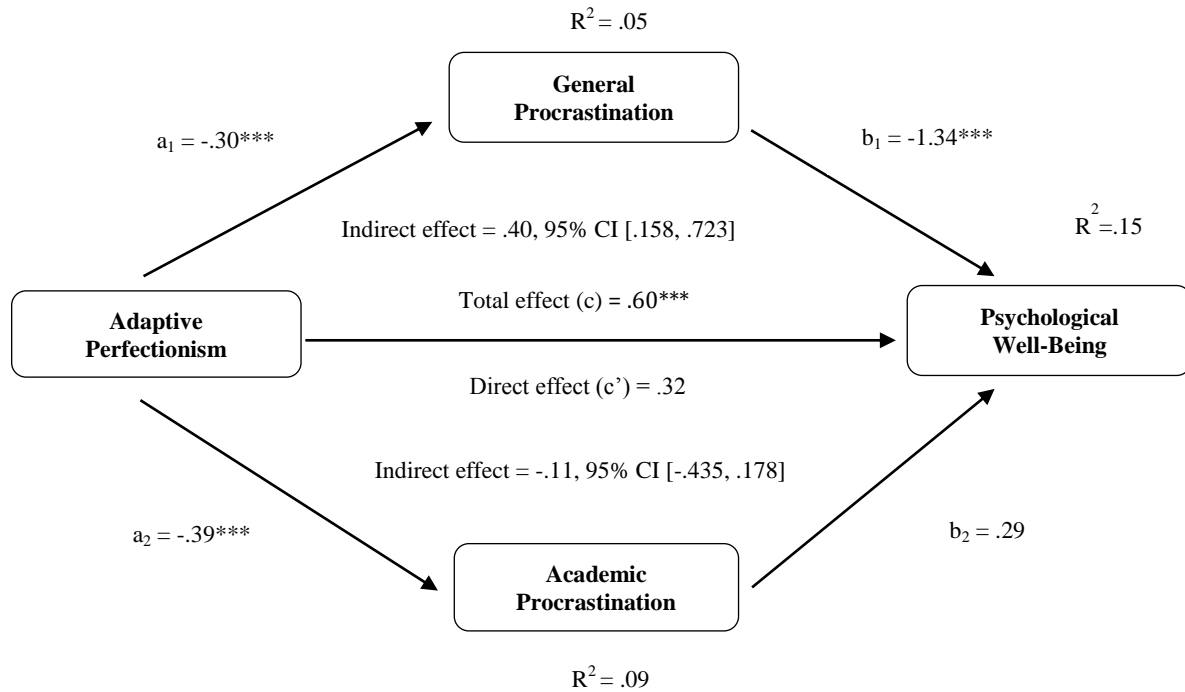


Figure 1. Parallel mediation model for adaptive perfectionism (Unstandardized beta coefficients are reported; * $p < .05$, ** $p < .01$, *** $p < .001$)

Table 3

Bootstrapping results regarding the mediating effect of general procrastination and academic procrastination in the relationship between adaptive perfectionism and psychological well-being

	Boot Effect	SE	t	LLCI	ULCI
Total Effect (c: APER→PWB)	.600	.289	2.07*	.030	1.167
Direct Effect (c': APER→PWB)	.316	.293	1.08	-.261	.893
Indirect Effect Total	.283	.134	.	.040	.562
Indirect effect (APER→ GPRO→ PWB)	.396	.142		.158	.723
Indirect effect (APER→ APRO→ PWB)	-.114	.155		-.435	.178

Notes: APER (X: Independent variable); GPRO (M: Mediating variable); PWB (Y: Dependent variable); Covariate variable: Gender (converted to a dummy variable and coded as follows: female=0, male=1); Confidence Level: 95%; Bootstrap sample size: 5000 for percentile bootstrap confidence intervals

A bootstrapping analysis was conducted to test the significance of the full mediation effect of the mediating variables at a 95% confidence interval with a sample size of 5.000. The results indicate that only general procrastination behavior fully mediates the relationship between adaptive perfectionism and psychological well-being (BootEffect= .40, 95% CI [.158, .723]). However, the mediation effect of academic procrastination is not significant (BootEffect= -.11, 95% CI [-.435, .178]). As Hayes (2018) emphasizes that the upper (LLCI) and lower (ULCI) confidence intervals included zero value (0), indicating the insignificance of the mediation effect (see Table 3). Additionally, the completely standardized effect size of the mediation effect is .07, indicating a moderate effect

size. In mediation analysis, an effect size of approximately .01 is considered small, approximately .09 is considered medium, and approximately .25 is considered large (Preacher & Kelley, 2011). These findings yield that adaptive perfectionism has both a direct and indirect effect on psychological well-being through only general procrastination. Therefore, hypothesis H1 was partially confirmed.

To test Hypothesis 2 (H2), proposing that general procrastination and academic procrastination are the significant mediators in the relationship between maladaptive perfectionism and psychological well-being among university students, a second parallel mediation analysis was carried out, controlling for gender.

Upon examination of the direct effects depicted in Figure 2, it becomes evident that maladaptive perfectionism exerts a negative and significant impact on psychological well-being ($B_c = -1.47$; $p < .001$). Furthermore, maladaptive perfectionism is a positive and significant predictor of both general procrastination ($B_{a1} = .26$; $p < .001$) and academic procrastination behavior ($B_{a2} = .18$; $p < .001$). As in Model 1, general procrastination has a negative and significant effect on psychological well-being ($B_{b1} = -.83$; $p < .001$). Nevertheless, academic procrastination does not have a significant predictive power on psychological well-being ($B_{b2} = .06$; $p > .05$).

The mediation model tested also the indirect effect of maladaptive perfectionism on psychological well-being through general and academic procrastination, controlling for gender. The results revealed that the effect of maladaptive perfectionism on psychological well-being was reduced but remained statistically significant ($B_c = -1.26$, $p < .001$), when mediators were included in the model. These results indicate the presence of a partial mediation effect in the model. The total indirect effect of maladaptive perfectionism on psychological well-being was found to be significant (BootEffect = $-.21$, 95% CI $[-.364, -.084]$). The overall model is statistically significant ($R^2 = .25$, $F_{(4,330)} = 27.23$, $p < .001$), explaining 25% of the total variance in psychological well-being (see Figure 2).

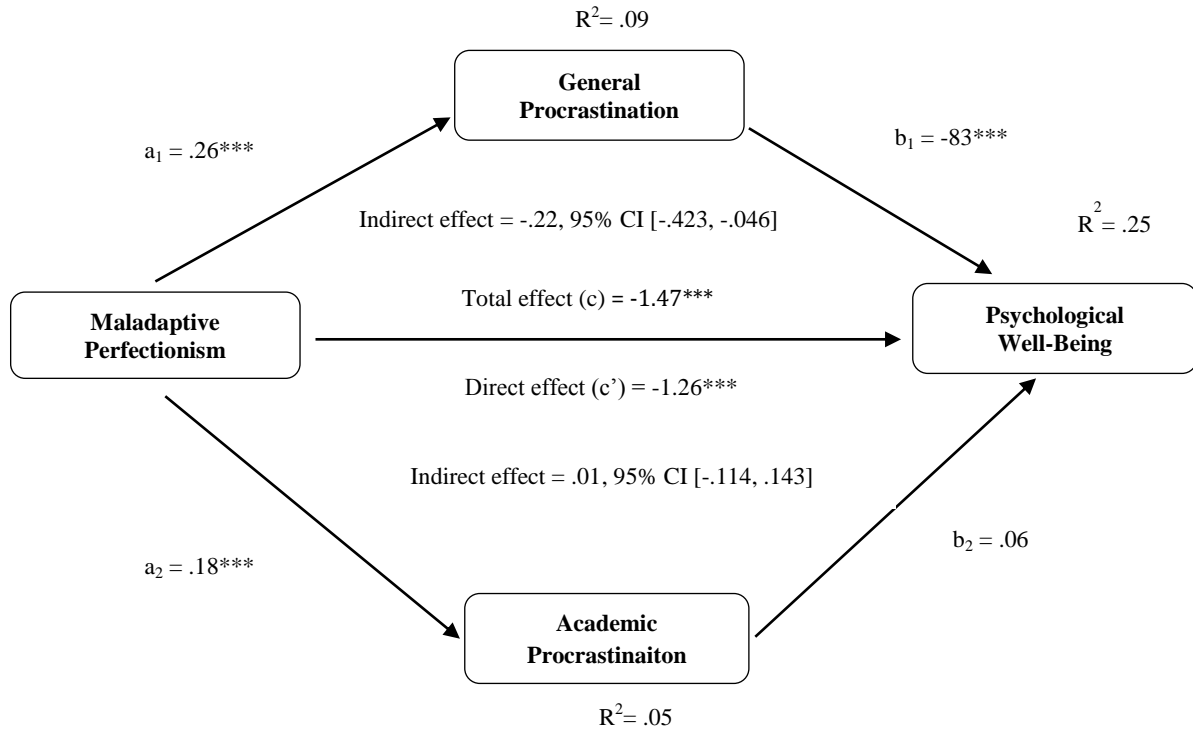


Figure 2. Parallel mediation model for maladaptive perfectionism (Unstandardized beta coefficients are reported; * $p < .05$, ** $p < .01$, *** $p < .001$)

Table 4

Bootstrapping results regarding the mediating effect of general procrastination and academic procrastination in the relationship between maladaptive perfectionism and psychological well-being (N= 335)

	Boot Effect	SE	t	LLCI	ULCI
Total Effect (c: MAPER→PWB)	-1.470	.183	-8.02***	-1.830	-1.110
Direct Effect (c': MAPER→PWB)	-1.263	.188	-6.74***	-1.632	-.894
Indirect Effect Total	-.207	.072		-.364	-.084
Indirect effect (MAPER→ GPRO→ PWB)	-.218	.097		-.423	-.046
Indirect effect (MAPER→ APRO→ PWB)	.010	.065		-.114	.143

Notes: MAPER (X: Independent variable); GPRO (M: Mediating variable); PWB (Y: Dependent variable); Covariate variable: Gender (converted to a dummy variable and coded as follows: female=0, male=1); Confidence Level: 95%; Bootstrap sample size: 5000 for percentile bootstrap confidence intervals

A bootstrapping analysis was performed to ascertain the significance of the partial mediator effect within the model, at the 95% confidence interval, utilising a 5.000 bootstrap sample. The findings indicate that only general procrastination behaviour (BootEffect= -.22, 95% CI [-.423, -.046]) plays a partial mediator role in the relationship between maladaptive perfectionism and psychological well-being. This is evidenced by the fact that the lower (LLCI) and upper (ULCI) confidence intervals did not cover zero (see Table 3). Furthermore, the completely

standardized effect size of the mediation effect was found to be .06, indicating a moderate effect size. This implies that maladaptive perfectionism affects psychological well-being only through general procrastination among university students. Therefore, hypothesis H2 was also partially confirmed.

Discussion and Conclusion

The main purpose of this study is to investigate the mediating effect of general and academic procrastination on the relationship between adaptive/maladaptive perfectionism and psychological well-being among university students. The study tested two parallel mediation models to examine the mediating role of general and academic procrastination in relation to the hypotheses. The results of the direct and indirect effects are discussed below.

Direct Effects

The research initially examined the direct effects of adaptive and maladaptive perfectionism on psychological well-being. The results demonstrated that adaptive perfectionism positively and significantly predicted psychological well-being, whereas maladaptive perfectionism exhibited a negative and significant effect on psychological well-being. That is, as adaptive perfectionism increased, the psychological well-being of university students also increased. In contrast, an increase in maladaptive perfectionism has been associated with a decrease in psychological well-being. These findings are consistent with those of prior studies (Ahmad & Munir, 2022; Bulina, 2014; Chang, Watkins, & Banks, 2004; Fallahchai, Fallahi, & Moazen Jami, 2019; Jarayaja, Tan, & Ramasamy, 2017; Kamushadze, Martskvishvili, Mestvirishvili, & Odilavadze, 2021; Kruger, Jellie, Jarkowski, Keglevich, & On, 2023; Mirzairad, Haydari, Pasha, Ehteshamzadeh, & Makvandi, 2017; Sapmaz, 2006; Stöber & Joormann, 2001; Stoeber & Otto, 2006). Maladaptive perfectionism is defined as an individual setting high standards for themselves and feeling that they are not "good" or "successful" enough through excessive self-criticism while attempting to meet these standards. Maladaptive perfectionists are characterised by a tendency to worry about making mistakes and being negatively judged, as well as a lack of satisfaction even when a task is successfully completed (Hamachek, 1978; Stoeber & Otto, 2006). All these characteristics are associated with low self-efficacy perceptions (Bulina, 2014; Kruger, Jellie, Jarkowski, Keglevich, & On, 2023) and cause negative affect and anxiety (Dunkley, Sanislow, Grilo, & McGlashan, 2006; Flett, Hewitt, & De Rosa, 1996), which is likely to reduce psychological well-being. Indeed, there are many studies in the literature showing that maladaptive perfectionism is associated with negative psychological functioning such as psychological distress, negative affect, depression and anxiety (e.g., Ashby, Rice, & Martin, 2006; Bieling, Israeli, & Antony, 2004; Chang, Watkins, & Banks, 2004; Dunkley, Sanislow, Grilo, & McGlashan, 2006; Gnilka, Ashby, & Noble, 2013; Stoeber & Otto, 2006). On the other hand, the standards of adaptive perfectionists are high but realistic. When they encounter an obstacle or failure to achieve them, they can continue their efforts steadily and willingly without being affected by the situation and without destructive self-criticism, and they can feel satisfied when they reach the end point (Hamachek, 1978; Stoeber & Otto, 2006). This indicates that their self-efficacy perceptions are high (Bulina, 2014; Stoeber, Hutchfield, & Wood, 2008). Additionally, it has been demonstrated that adaptive perfectionists have higher academic achievement (Enns, Cox, Sareen, & Freeman, 2001; Kruger, Jellie, Jarkowski, Keglevich, & On, 2023). It can be posited that academic success may reinforce self-efficacy beliefs, which in turn may lead to higher levels of psychological well-being. The

results indicated that adaptive and maladaptive perfectionism represent distinct constructs that influence psychological well-being in disparate ways. Furthermore, the results reinforce the assumption that perfectionism has a positive aspect.

In addition, while adaptive perfectionism has a negative and significant effect on general and academic procrastination, maladaptive perfectionism has a positive and significant predictive power on these variables. This implies that as adaptive perfectionism increases, the tendency to general and academic procrastination decreases. Conversely, as maladaptive perfectionism increases, the tendency for general and academic procrastination also increases. These findings are also consistent with previous research findings (Ahmad & Munir, 2022; Blackler, 2011; Kurtovic, Vrdoljak, & Idzanovic, 2019; Rice, Richardson, & Clark, 2012; Yurtseven & Akpur, 2018). Researchers posit that the observed increase in procrastination tendency among maladaptive perfectionists is a consequence of a lack of self-regulation skills and an excessive fear of failure (Ferrari, 1994; Steel, 2007). Maladaptive perfectionists may be more prone to procrastinate in order to avoid unpleasant and disturbing situations and thoughts when they are unable to regulate their emotions, thoughts and behaviours (Rice, Richardson, & Clark, 2012). Conversely, even if adaptive perfectionists have high expectations of themselves, the fact that these expectations are realistic, that they have cognitive flexibility instead of destructive self-criticism, that they have self-regulation skills (i.e., organisation, goal setting and time management), that they enjoy the effort they make in achieving their goals (Park & Jeong, 2015), and that they are willing and determined no matter what, may lead them to procrastinate less. This finding, which demonstrates the divergent effects of adaptive and maladaptive perfectionism on general and academic procrastination, serves to reinforce the assumption that perfectionism is a multidimensional construct.

The data from the study demonstrated that general procrastination had a negative and significant impact on psychological well-being. This finding implies that students who are more prone to general procrastination tend to have poorer psychological well-being. Similar research findings can be found in the literature (Balkis & Duru, 2016; Krause & Freund, 2014, 2016; Sirois & Tosti, 2012; Vlachopanou & Karagiannopoulou, 2022). As previously stated, one of the primary reasons for procrastination is a lack of self-regulation skills (Steel, 2007; Yang, 2021). The weakness of these skills can lead to stress and anxiety (Sirois, 2007), which may in turn weaken the psychological well-being of the students. In addition, another reason for procrastination is the fear of failure (Danne, Gers, & Altgassen, 2023; Steel, 2007; Zarrin, Gracia, & Paixão, 2020). Those who perceive any failure experience or the possibility of facing such an experience, even if it is not concrete and real, as an attack on their self-worth tend to postpone and stop making positive and active efforts to achieve their goals (Balkis & Duru, 2012). This probably results in the feeling that they will not be able to reach their standards. It is possible that this self-created impasse may have an adverse effect on their psychological well-being, potentially leading to feelings of anxiety. However, surprisingly, academic procrastination did not demonstrate a significant predictive power on psychological well-being. This finding is not consistent with previous research findings in the literature (e.g., Ahmad & Munir, 2022; Grunschel, Schwinger, Steinmayr, & Fries, 2016; Assur, 2002; Balkis, 2013; Balkis & Duru, 2016). It can be explained by the fact that academic procrastination behaviour is situational, and limited to academic tasks and does not concern activities of daily routine. In some studies, a relationship was identified between the two variables, although the effect size was quite small. However, the effect varied according to the level of the moderator variable

added to the model. For instance, the findings of Yang's (2023) study indicate that individuals with low self-regulation abilities tend to procrastinate more frequently and experience a decrease in their psychological well-being. Moreover, in the aforementioned study, which compared two distinct cultural contexts, it was emphasized that the effects of procrastination may diverge across cultures and may be influenced by other variables, such as self-regulation and academic achievement. Consequently, examining the effect of academic procrastination on psychological well-being together with mediator and moderator variables can assist in elucidating the ambiguities in previously observed results.

On the other hand, some research findings indicated that students with low academic procrastination exhibited higher academic achievement (Basith, Rahman, & Moseki, 2021; Goroshit, 2018; Grunschel, Schwinger, Steinmayr, & Fries, 2016; Kim & Seo, 2015). This may have enhanced their sense of efficacy and confidence, which may have resulted in heightened motivation. The sense of having a purpose and determination to achieve it is one of the key components of psychological well-being (Ryff, 1989). Furthermore, since academic procrastination represents a specific form of procrastination, it may be beneficial to examine it in conjunction with academic achievement in order to elucidate its relationship with psychological well-being. It is also worth noting that the literature classifies procrastination behaviour as a multidimensional structure, such as perfectionism. Recent research has focused on the phenomena of active and passive procrastination. Active procrastinators are more likely to be motivated to work when faced with a deadline. Even if they deliberately postpone the tasks, they can meet the deadline because they focus on working (Choi & Moran, 2009). In contrast, passive procrastinators do not procrastinate deliberately; rather, they procrastinate because they are unable to make prompt and effective decisions or because they are under time pressure (Chu & Choi, 2005). The findings of the studies indicate that active procrastination is positively correlated with psychological well-being, whereas passive procrastination, as traditionally defined, is negatively correlated with it (Habelrih & Hicks, 2015; İsmail, 2023). Consequently, an investigation of academic procrastination from a multidimensional viewpoint could provide further clarification on the contradictory findings in the existing literature.

Indirect Effects

The results of the mediation analysis indicated that general procrastination fully mediates the relationship between adaptive perfectionism and psychological well-being. Unexpectedly, the mediating role of academic procrastination was found to be insignificant, thereby partially confirming the H1 hypothesis. Furthermore, the results of another mediation analysis provided evidence supporting the partial mediational effect of general procrastination on the relationship between maladaptive perfectionism and psychological well-being. The results yielded that academic procrastination does not act as a mediator in the relationship between maladaptive perfectionism and psychological well-being; thus the hypothesis (H2) was also partially met.

The findings indicate that only general procrastination plays a mediating role in the relationship between adaptive/maladaptive perfectionism and psychological well-being. This finding is consistent with expectations. Although not directly, the results of similar and limited number of studies also support the findings (Ahmad & Munir, 2022; Rice, Richardson, & Clark, 2012). According to the results, as the level of adaptive perfectionism of university students increases, their general procrastination tendency decreases, which leads to an increase in their

psychological well-being levels. Conversely, as the level of maladaptive perfectionism among students increases, their general procrastination tendency also increases, which in turn leads to a decrease in their psychological well-being levels. Both perfectionism and procrastination behaviour are related to self-regulation and fear of failure (Pychyl & Sirois, 2016; Rozental & Carlbring, 2014; Steel, 2007; Uzun Özer, O'Callaghan, Bokszczanin, Ederer, & Essau, 2014; Zarrin, Gracia, & Paixão, 2020). As previously stated, individuals with maladaptive perfectionism exhibit low self-regulation skills and a high fear of failure. These individuals engage in self-criticism and experience a rapid decrease in motivation when faced with negative experiences, which may result in procrastination as a means of avoiding the perceived threat to their self-worth. When individuals procrastinate, the perception that they will never fully achieve the high but unrealistic goals they set for themselves may lead to negative affect and a decrease in life satisfaction, which in turn may negatively impact their psychological well-being. In contrast, adaptive perfectionists, despite having high standards, are able to regulate their negative emotions in the face of obstacles, have high self-efficacy beliefs, and are realistic about their standards. This enables them to continue striving to achieve the standards they set for themselves without losing their perseverance and motivation. Consequently, they are less inclined to procrastinate. In contrast to maladaptive perfectionists, adaptive perfectionists experience a sense of satisfaction when they finalise a task. Therefore, achieving this sense of satisfaction may foster their psychological well-being.

However, as previously stated, academic procrastination does not have a significant direct effect on psychological well-being. Therefore, it does not serve as a mediating factor. Although general procrastination is a personality trait, academic procrastination is situational. Given that academic procrastination emerges in a specific context, it is possible that other variables may also be effective in its emergence. Indeed, in some studies, the effect of academic procrastination on psychological well-being has been examined together with variables that play a mediating or moderating role (Grunschel, Schwinger, Steinmayr, & Fries, 2016; Sirois & Tosti, 2012; Yang, 2023). Consequently, the study can be replicated by establishing more complex models, such as moderated mediation, which would include other variables (e.g. academic achievement, self-regulation, motivational regulation strategies, mindfulness, etc.) that would regulate the relationship between academic procrastination and psychological well-being in the mediation model. This would enable clearer observation of the role of academic procrastination in the effect of maladaptive and adaptive perfectionism on well-being. Furthermore, in this study, procrastination behaviour was examined within a traditional context. As previously stated, recent studies have examined procrastination behaviour as both active and passive (Chu & Choi, 2005; Choi & Moran, 2009; Habelrih & Hicks, 2015; İsmail, 2023). Examining procrastination behaviour with these dimensions may clarify the contradiction between the existing research findings on the relationship in question.

To sum up, students with high levels of adaptive perfectionism tend to engage in general procrastination behaviour to a lesser extent, which may contribute to their higher levels of psychological well-being than students with high levels of maladaptive perfectionism. In other words, it can be stated that the fact that maladaptive perfectionists exhibit more general procrastination behaviour reduces their psychological well-being levels. It can be posited that perfectionism is not merely an unhealthy psychological construct as previously thought, but also contributes to the emergence and strengthening of positive psychological characteristics by motivating individuals,

provided that it is not excessive. "Be Perfect!" driver, which is one of the fundamental concepts of Transactional Analysis, counseling approach, proposed by [Taibi Kahler \(1975\)](#), encompasses both functional and non-functional aspects. This theoretical framework also provides support for the existence of two different dimensions of perfectionism and clarifies the findings on how adaptive perfectionism can affect psychological well-being, both directly and through procrastination behaviour.

In conclusion, the results of the study highlight that maladaptive perfectionism and adaptive perfectionism are two distinct concepts. Furthermore, the results provide strong evidence that adaptive perfectionism increases psychological well-being via a reduction in general procrastination.

Limitations of the Study and Recommendations

It is important to consider the limitations of this study when interpreting the empirical results. Firstly, the study only included university students in young adulthood, which means that the findings can only be generalized to this specific group. Future studies could include individuals in different developmental stages. Secondly, procrastination behaviour is addressed in a general and academic dimension, which means that the results may not be applicable to other contexts. Procrastination can be analysed in various domains of life (e.g., the postponement of job search or taking responsibility in a relationship), in specific situations or in the context of active and passive procrastination. Active and passive forms of the procrastination have been the subject of extensive research in recent years ([Habelrih and Hicks, 2015](#); [İsmail, 2016](#); [Kim, Fernandez, & Terrier, 2017](#); [Kooren, Van Nooijen, & Paas, 2024](#)). A further limitation of the study is that the concept of psychological well-being was considered as a whole. Given that psychological well-being is a multidimensional construct, future studies should address these dimensions in order to provide a more comprehensive understanding of the relationship between the variables of the present study.

Another result of the study showed that academic procrastination did not significantly affect psychological well-being. In order to elucidate the conditions under which the relationship between these variables emerges, future studies should consider the potential influence of mediating or moderating variables, such as students' academic achievement and intrinsic motivation. This could be achieved using complex research models such as moderated mediation or sequential mediation models. Qualitative research based on individual or focus group interviews could be conducted to further examine how individuals experience adaptive perfectionism, maladaptive perfectionism, and procrastination and how these are related to psychological well-being.

In addition, suggestions can be made for practitioners. Those working as psychological counselors or other mental health professionals in university counseling centers can prepare and implement psychoeducation or individual/group counseling intervention programs that raise awareness about the adaptive and maladaptive aspects of perfectionism within the framework of primary and secondary preventive and protective counseling services. Thus, students' psychological well-being can be improved. Interventions to reduce procrastination can also be integrated into these programs. Furthermore, these programmes should include activities designed to enhance skills such as time management, organisation, self-regulation, setting priorities, goal-setting, and determination, with the aim of assisting young adults in reducing their procrastination behaviour. In fact, researchers have suggested that interventions based on cognitive-behavioral ([Dionne, 2016](#); [Toker & Avci, 2015](#); [Uzun Özer, Demir, & Ferrari,](#)

2013; Wang et al., 2017), acceptance and commitment-based therapy approaches (Dionne, 2016; Wang et al., 2017), and coherence therapy (Rice, Neimeyer, & Taylor, 2011) may be particularly effective in overcoming perfectionism and procrastination. Furthermore, both relational and experimental studies have demonstrated that mindfulness reduces procrastination and thus increases psychological well-being (Dionne, 2016; Sirois & Tosti, 2012). At this point, it is recommended that mindfulness-based studies that encourage focusing on the moment and the process be employed in order to reduce procrastination and the negative emotions (anxiety, stress, etc.) that arise as a result of procrastination.

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. The study approved by Social and Humanities Research and Publication Ethics Committee of Necmettin Erbakan University.

Author Contributions

The manuscript is single-authored and every step (Introduction, Method, Results, Conclusion, Limitations and Recommendations) has been carried out by the researcher herself.

Conflict of Interest

The author declare that they have no conflict of interest.

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