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The Mediator Role of Self-Compassion in the Relationship between Self-Concept and Communication Skills in Emerging Adults

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ABSTRACT

This study aimed to examine the mediator role of self-compassion in the relationship between self-concept and communication skills of emerging adults, using a correlational research survey method to survey the impressions of 206 university students from various institutions across Turkey. The respondents were asked to fill out Social Comparison Scale, Self-Compassion Scale, and Communication Skills Scale to reveal that self-compassion partially mediated the relationship between self-concept and communication skills. Bootstrapping also showed that the indirect effect of self-concept on communication skills through self-compassion was significant. Individuals between adulthood and adolescence were found to perform the tasks expected of adolescence and ensure quality and satisfaction in life after graduation. The results revealed the connection between strong communication skills and positive self-concept and the fact that this connection can be addressed through self-compassion. Given that the most common reasons for university students to apply for psychological counseling concern problems around self-concept and communication/socialization, the inclusion of psycho-educational content in the concept of self-compassion in programs related to communication skills, using methods such as self-compassion awareness exercises can make a significant contribution in practice.

Keywords:

University students, social skills, life tasks.

1. Introduction

Over the last century, some changes have been observed in roles regarding the transition period between adolescence and adulthood – i.e. the period of life that meets the demographic age range of 18-25. Until about thirty years ago, many studies and theories considered life tasks such as completing a certain level of education, leaving the parental home, starting a job that allows one to make a living, getting married, and having children as primary indicators of adulthood (Shanahan et al., 2002). The period between the late teens and early twenties was acknowledged as the appropriate period for reaching adulthood by completing these various tasks. Nowadays, these indications as mentioned earlier of adulthood, do not appear to be as effective and essential for a person to be regarded as an adult or to perceive themselves as an adult (Arnett, 2004). In light of changing conditions, the factors that determine adulthood have become defined as being able to take responsibility for oneself, make independent decisions, and become economically self-sufficient (m-Shanahan

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et al., 2002). Furthermore, the age for completing these life tasks has risen toward the end of the twenties on average, and – compared to the prior century – a substantial postponement has thus occurred (Atak et al., 2016). Considering all these, it is evident that what is known and foreseen, concerning the transition to adulthood, has undergone changes over time.

According to Erikson's (1968) Psychosocial Development Theory as an adopted and comprehensive theory that deals with stages of life, late teens struggle with "role confusion versus identity," while those in their mid-twenties struggle with "isolation versus intimacy" conflicts. Although Erikson speaks of such irrefutably significant and easily observable conflicts, it cannot be ignored that the phases of the individual's transition from adolescence to adulthood, associated with longer education and thus separation from the family, the opportunity to make one's own decisions without the influence of the family, and the attainment of economic independence, are shifted to later ages. In light of this, it would not be false to claim that individuals aged 18- and 25 may experience interwoven conflicts of role confusion versus gaining identity and isolation versus intimacy.

Regarded as one of the most influential theories in recent times, the Emerging Adulthood Theory (Arnett, 2000), which focuses on the age range of 18-25 (also known as the "university phase") points out that the stated age range is a developmental stage that connects adolescence with adulthood and comprises traces of both. As each developmental stage has its traits and tasks, the emerging adulthood stage holds some themes. According to Arnett (2004), one of these themes is identity exploration. Although identity explorations arise in the early teens, as stated in Erikson's theory, this continues in the 20s – especially when the individual is still in the role of a student. In the emerging adulthood stage, the individual is still in the process of understanding and seeking emotional and romantic relationships, social position, a career, and a worldview. In this stage of life, individuals are self-focused, making decisions, establishing social interactions, and attempting to learn to survive on their own. From this point of view, it can be stated that the emerging adulthood period is a stage in which it is vital for the person who is in the process of self-understanding and self-concept to establish appropriate and meaningful connections with the outside world.

While individuals' self-concept is shaped according to their interaction and relationship with the people and their self-evaluation, a cyclical self-concept of oneself impacts one's behaviour. Hence, self-concept both affects and is affected by social relations. How people perceive and treat themselves can determine how they position themselves in social contexts and communicate.

Self-concept is related to social-emotional development and social problem solving (Ozkan, 2015; Polat & Aksin, 2015). Furthermore, it is stated that self-esteem, which can be considered as a sub-dimension of self-concept, is positively related to social behaviour (Gizir & Baran, 2003). Both Rosenberg (1979) and Harter (1993) have stated that people who perceive themselves as competent in fields of life and personality have higher self-esteem.

On the other hand, Schroeder (1995) has a more detailed explanation, arguing that those with increased anxiety due to the negative perception of oneself fail to read the cues in social contexts and therefore display poor communication skills. In this regard, it has been found that negative emotions, such as anxiety, which arise due to a negative self-concept, negatively affect information processing processes and tasks that require attention, such as reading social contexts and forming appropriate responses, can lead to failure due to the disruption of this mechanism (Sarason & Sarason, 1986). Aside from how a person perceives themselves, how that person builds a relationship with themselves is also important. This phenomenon is treated as a matter of self-compassion. Self-compassion does not necessarily presuppose that a person perceives himself positively. On the contrary, it expresses being kind to oneself because of qualities that are perceived as negative (Neff, 2003a). Self-compassion is considered a protective factor that enhances the strength of coping (Akin & Akin, 2015). It makes it possible to forgive and accept oneself for mistakes even in negativities such as failure and incompetence (Neff et al., 2007). The period when self-compassion is at the lowest level is adolescence (Neff, 2003a). In this period, while the person seeks an identity as a unique individual, the tendency to compare themselves with others increases. Rising criticism over comparing oneself with others brings social withdrawal (Neff, 2003a). In this sense, it seems meaningful to consider self-compassion as an intermediary role, which is a factor that affects both one's perceptions of oneself and the relationship the person establishes with others.

With this in mind, this study aims to examine how the relationship between perceived communication skills and the self-concept of individuals in emerging adulthood is shaped through self-compassion. As aforementioned, emerging adulthood is a life period that bears traces of adolescence and adulthood and focuses on an individual's perceptions regarding self-concept, self-compassion, and communication skills. Considering the related literature, it is hypothesized that self-compassion has a mediating role in the relationship between self-concept and perceived communication skills. In other words, it is hypothesized that participants who report low scores on self-concept will also have low scores on communication skills, and it is expected that scores indicative of self-concept will influence communication skills via the mediating role of self-compassion. Consistent with these data and conclusions from the literature, the following research questions were formulated:

- Is self-concept positively related to perceived communication skills?
- Is there a positive relationship between self-concept and self-compassion?3. Are perceived communication skills positively related to self-compassion?
- Is the relationship between self-concept and perceived communication skills mediated by self-compassion?

2. Methodology

2.1. Research Model

In this study, the correlational research survey method, which is a sub-model of the general survey method (Mazlum & Atalay, 2017), was used to examine the relationship between university students' communication skills with self-concept and self-compassion. The most common model to analyze the mediation effect is structural equation modeling (SEM; Cheung & Lau, 2008; Kline, 2010). Therefore, SEM was conducted to examine the relationship between self-concept, perceived communication skills, and self-compassion. Chi-square difference test (χ^2) and Akaike Information Criterion (AIC), a measure of model fit adjusted for parsimony (Burnham & Anderson, 2002), were used to determine which model was preferred. The model with smaller values of AIC and ECVI has been suggested to have a better fit for the data.

2.2. Research Sample

The participants in this study were students who have received education from various universities across Turkey. Since the research was planned to be an investigation of factors that play an important role in emerging adulthood, university students were recruited as the research sample. The sampling method in current study is convenience sampling, in which individuals who fit the criteria of a study are identified in any way possible (Emerson, 2015). The scales were delivered to participants via a prepared online form. 206 of 210 participants within the specified age range who accessed online forms, read and accepted the informed consent, and filled out all the scale items were included in the study. A total of 120 females and 86 males, whose ages varied between 18 and 25 ($\bar{x}=21.24$, $sd=1.61$), participated in the study. Of the participants, 41 (19.9%) were freshmen, 40 (19.4%) were sophomores, 61 (29.6%) were juniors, and 64 (31.1%) were seniors.

2.3. Data Collection Tools and Procedure

Personal information form. A personal information form was designed by the researchers and was included in data collection tools to examine the age, gender, and education level of the participants.

Social comparison scale. This scale was developed by Allan and Gilbert (1991) to measure how an individual perceives oneself when compared to the others. Sahin, Durak, and Sahin (1993) performed the Turkish adaptation and validity-reliability study of the scale. The Turkish version of 18 items was brought in with the items added by Sahin and Sahin (1992) and Sahin and Durak (1994) during the adaptation and development phase of the original scale with 11 items. Participants rank the scale items from positive to negative on a 6-point Likert scale between two edges. High digits indicate positive self-concepts, while low digits indicate negative self-concepts. Aside from the total score, the scale consists of three factors: social class, attractiveness, and social skills. Cronbach alpha value was reported as .87. As a self-assessment scale, it is expressed that its validity and reliability are at high levels. The Cronbach alpha value calculated for the current study was .90. The purpose of using this scale in the study is to evaluate self-concept, which is the way a person perceives him or herself.

Self-compassion scale. The original Self-Compassion Scale developed by Neff (2003b) consists of 26 items and three main components that define self-compassion. These three main components of self-compassion are defined as self-kindness versus self-judgment, common humanity versus isolation, and mindfulness versus over-identification. The scale is scored in a five-point Likert type. Turkish adaptation, validity, and reliability studies were carried out first by Akin and Akin, later on by Deniz, Kesici, and Sumer (2008). First, two items with a factor load of less than .30 were excluded from the scale, and the Turkish form was reduced to 24 items. In addition, while the six-factor structure was confirmed in the first study, the second study supported the one-factor structure. Repeated validity and reliability study made by Kantas (2013) also pointed to a single factor structure. The Cronbach alpha value was reported as .94. For the current study, the Cronbach alpha value was calculated as .88.

Communication skills scale. This was developed by Tuncer (2008) based on the model of Canary and Cody (1994). The communication skills scale consists of six factors: adaptability/flexibility, the relevance of speech, speech management, empathy, efficiency, and appropriateness, and includes 36 questions in total, 18 of which are negative and the rest are positive. Kaiser-Mayer-Olkin value reported as .74 and Barlett test was significant, allowing running factor analysis. Cronbach alpha coefficient was reported as .81 in previous studies, and it was calculated as .80 for the current study.

2.4. Data Analysis

The battery of online measurement tools, which was created on Google Forms, has been made accessible for university students with an informed consent form. Participants were contacted for a convenience sampling method (Kurtulmus, 2010).

A correlation analysis was performed with the SPSS 23 program to examine the relationships and Structural Equation Modeling was conducted with the AMOS program to test the mediation model.

In this study, a two-stage SEM was used according to the recommendations of Kline (2011). In the first phase, the measurement model was tested, which deals with the formation of latent variables by the indicator variables and the relationships among these latent variables. After the measurement model was verified, the hypothetical structural model was tested. Aside from the χ^2 difference test, AIC and ECVI values were examined to qualify and select one of the multiple models as the best model in SEM. The smaller AIC and ECVI values model is acknowledged as the best model (Akaike, 1987; Browne & Cudeck, 1993).

In addition, bootstrapping, which provides additional evidence of the significance of mediation (Preacher & Hayes, 2008), was also applied. For this purpose, bootstrapping was used to increase the sample to 10,000 and to test the significance of mediation in the large sample.

2.5. Ethical

Ethical approval was received from Istanbul Medipol University Social Sciences Institute Ethics Committee (43037191-604.01.01-E.53199, 6/10/2020). The study was based on voluntary participation, and online forms collected the data. Before answering the survey, all participants were informed about the study by the informed consent form.

3. Findings

3.1. Preliminary Analysis

The descriptive statistics results regarding the variables are presented in Table 1. Average scores came to $\bar{x}=77.54$ ($sd=12.65$) for the social comparison scale, $\bar{x}=77.26$ ($sd=15.09$) for the self-compassion scale, $\bar{x}=17.60$ ($sd=2.61$) for the adaptation ability, which is the sub-dimension of the communication skills scale, $\bar{x}=20.25$ ($sd=3.18$) for the speech relevance, $\bar{x}=21.04$ ($sd=2.69$) for being able to manage the speech, $\bar{x}=19.76$ ($sd=2.66$) for empathy, $\bar{x}=21.24$ ($sd=4.04$) for efficiency, $\bar{x}=20.68$ ($sd=3.43$) for appropriateness and $\bar{x}=120.57$ ($sd=12.79$) for the total of the communication skills. Skewness=-0.62 in the social comparison scale, kurtosis=0.38, skewness=-0.04 in the self-compassion scale, kurtosis=-0.26, skewness=-0.23 for adaptability, which is the sub-dimensions of the communication skills scale, kurtosis=-0.21, speech relevance skewness=-0.03, kurtosis=-0.26, ability to manage speech skewness=-0.20, kurtosis=0.74, empathy skewness=-0.22, kurtosis =0.50, efficiency skewness=-0.34, kurtosis=0.35, appropriateness skewness=-0.47, kurtosis=0.66, and skewness=-0.04, kurtosis=-0.09 in the total scores of communication skills.

Table1. Descriptive Statistics Results Regarding the Variables

	\bar{x}	<i>sd</i>	Skewness	Kurtosis
SCStotal	77.54	12.65	-.61	.37
Self-Compassion	77.26	15.09	-.03	-.26
CSStotal	120.56	12.78	-.04	-.08
Adaptability (CSS1)	17.60	2.61	-.23	-.20
Relevance of speech (CSS2)	20.25	3.18	-.03	-.25
Speech management (CSS3)	21.04	2.69	-.19	.74
Empathy (CSS4)	19.76	2.66	-.22	.50
Efficiency (CSS5)	21.24	4.04	-.33	.35
Appropriateness (CSS6)	20.68	3.43	-.47	.65

*1-SCStotal: Total scores in Social Comparison Scale, 2-, 3-CSStotal: Total scores in Communication Scale

To assess the relationship between the variables, Pearson correlation coefficients and significance were evaluated with a 95% confidence interval. The results are shown in Table 2. The scores for the social comparison scale positively correlated with the total scores of both self-compassion ($r=.53$, %95 CI=.41, .62) and communication skills ($r=.55$, %95 CI=.45, .64), as well as with all sub-dimensions of the communication skills scale, except speech management. Self-compassion scores were positively correlated with the total scores of social comparison, communication skills, and all sub-dimensions of communication skills.

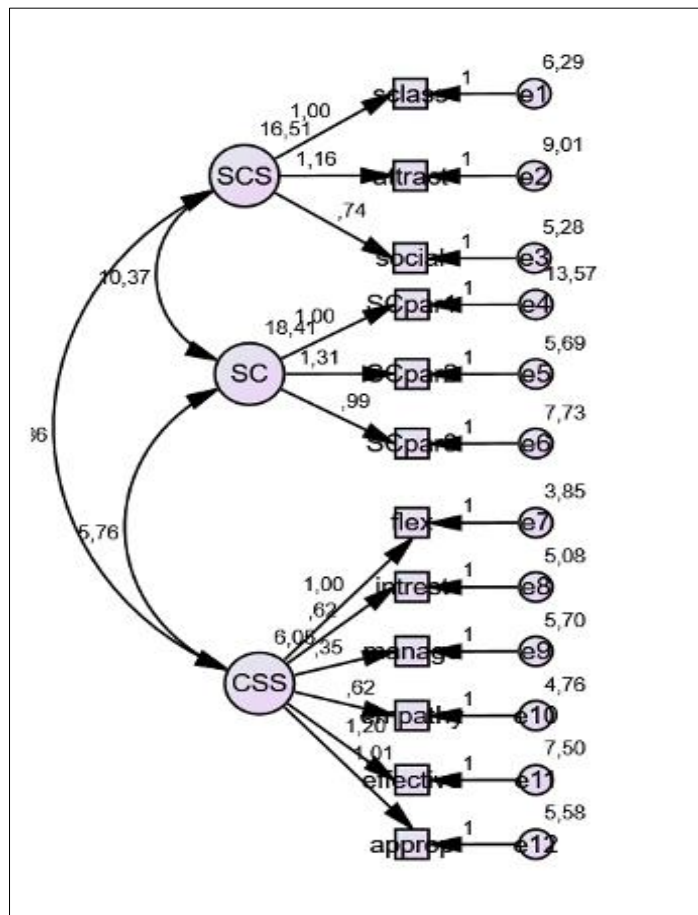
Table 2. Correlation Coefficients and Significance With 95% Confidence Interval

	1	2	3	4	5	6	7	8	9
1.SCSt	-								
2.SelfC	.53**								
3.CSSt	.55**	.47**							
4.CSS1	.37**	.32**	.74**						
5.CSS2	.41**	.31**	.69**	.40**					
6.CSS3	.08	.15*	.45**	.33**	.15*				
7.CSS4	.26**	.30**	.71**	.49**	.40**	.35**			
8.CSS5	.57**	.37**	.73**	.41**	.46**	.01	.38**		
9.CSS6	.46**	.42**	.76**	.51**	.36**	.23**	.41**	.51**	-

* $p < 0.05$, ** $p < 0.001$, 1-SCSt: Total scores in Social Comparison Scale, 2-SelfC: Self-compassion scale, 3-CSSt: Total scores in Communication Scale.

3.2. Measurement Model

The measurement model consists of three latent factors (self-concept, self-compassion, and communication skills) and 12 observable variables. In addition to the six sub-dimensions of the communication skills scale and three dimensions of the social comparison scale, self-compassion in a single factor structure, was divided into three equivalent factors using the parcel method. Parceling was used due to higher reliability, greater communality, lower likelihood of distributional violations, and higher ratio of common to unique factor variances, as suggested by Little et al. (2013). Several indices were used to evaluate the overall fit of the model to the data: $\chi^2/DF < 5$, SRMR $< .08$, RMSEA $< .08$, CFI, RFI, GFI and TLI $> .90$ were used as cut-off levels as suggested in Hu and Bentler (1999) and Kline (2016). When the measurement model was tested, it was seen that the values of fit indices fell within the acceptable range: $\chi^2(51, N=206)=78.845$, $p < .01$; CFI=0.098; SRMR=0.043; RMSEA=0.052 CI (0.027, 0.073). Standardized factor loads were between 0.34 and 0.92 and seemed significant.



Note: SCS, Self-Comparison Scale; SC, Self-Compassion; CSS, Communication Skills Scale; SCpar1-3 parcels of Self-compassion scale.

Figure 1. Standardized Parameter Estimates for the Measurement Model

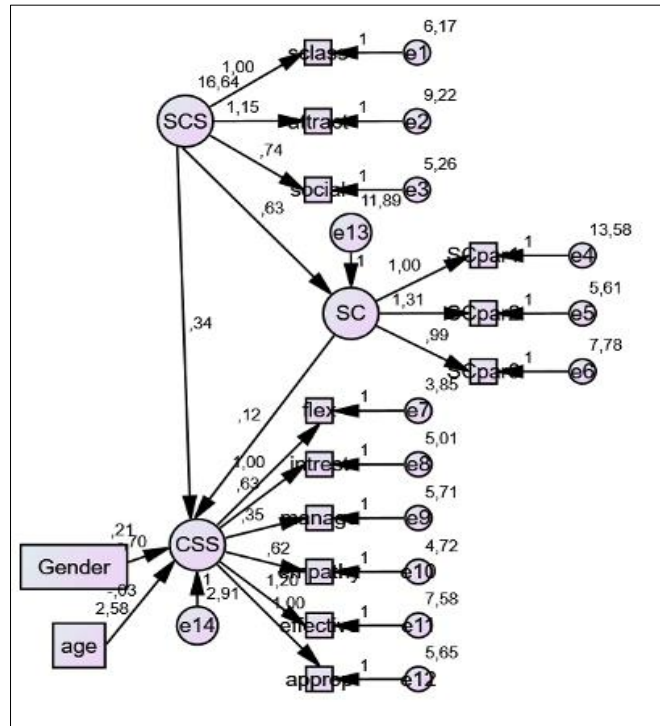
3.3. Structural Model

The direct path coefficient from self-concept to communication skills without a mediation effect was also significant ($\beta=0.34, p<.001$). This indicated a partial mediation model in which self-compassion mediated the relationship between self-concept and communication skills. Age and gender were included in the model as a covariant to communication skills, which was the exogenous variable. The goodness of fit indices for the model are given in Table 3.

Table 3. Fit Indices Among Competing Models

	χ^2	df	CFI	SRMR	RMSEA	AIC	ECVI
Model1	134.445	74	.948	.0553	.063	196.445	.958
Model2	173.861	75	.915	.080	.080	233.861	1.141

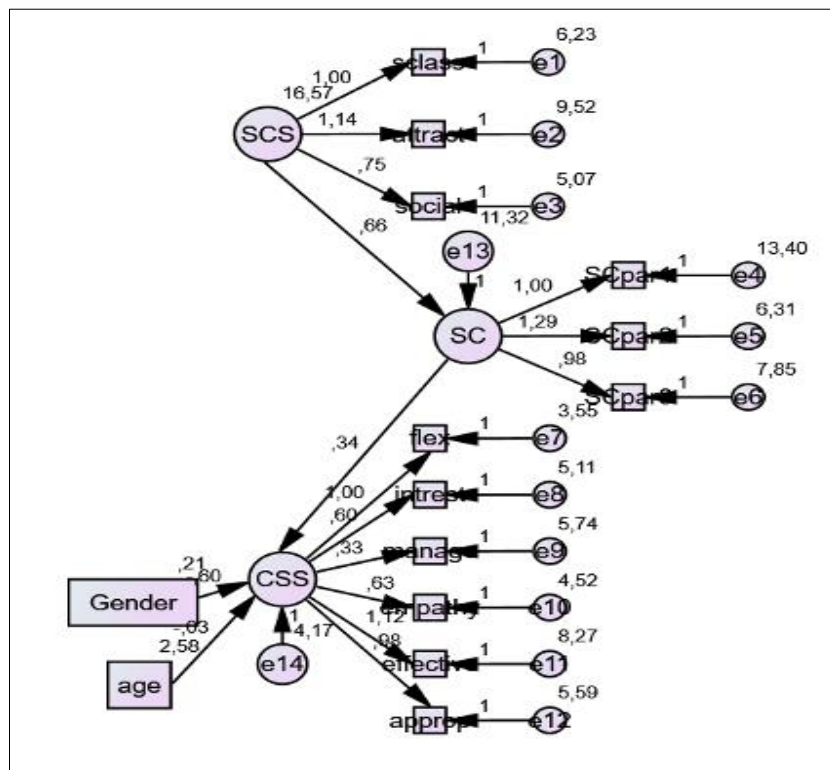
Note: Model1: partially mediated structured model, Model2 fully mediated structured model



Note: SCS, Self-Comparison Scale; SC, Self-Compassion; CSS, Communication Skills Scale; SCpar1-3 parcels of Self-compassion scale.

Figure 2. Standardized Parameter Estimates for the Partially Mediated Structural Model.

To test the full mediation model, the direct path from self-concept to communication skills was extracted and reanalyzed, but the goodness-of-fit indices did not yield results in an acceptable range that corresponded to the full mediation model. Smaller AIC and ECVI values also indicated the accuracy of Model 1. Fully mediated model pathways and standardized parameter estimates are given in Figure 2.



Note: SCS, Self-Comparison Scale; SC, Self-Compassion; CSS, Communication Skills Scale; SCpar1-3 parcels of Self-compassion scale.

Figure 3. Standardized Parameter Estimates for the Fully Mediated Structural Model.

3.4. Bootstrapping

A bootstrapping procedure was conducted to test the indirect path between self-concept and communication skills (MacKinnon, 2008). Bootstrap applied confidence intervals are given in Table 4.

Table 4. Parameters and 95 % CIs for the Paths of the Partially - Mediated Models

Model pathways	Effect	95 % C.I.	
		Lower	Upper
Direct effect			
Self-Concept → Communication skills	.34	.23	.49
Self-Compassion → Communication skills	.12	.01	.24
Self-Concept → Self-Compassion	.63	.48	.80
Indirect effect			
Self-Concept → Self-Compassion → Communication skills	.07	.01	.16

As seen in Table 4, the direct path coefficients were significant. Aside from this, the indirect path coefficient also seemed significant (bootstrap coefficient=.07, 95% CI=.01, .16). The fact that values in the 95% confidence interval do not include zero showed that self-concept significantly affected communication skills through self-compassion. All these results revealed that the indirect effect of self-concept on communication skills, mediated by self-compassion, is significant.

4. Conclusion and Discussion

Three crucial factors concerning emerging adults' life tasks were put under the scope in this study. Although numerous researchers have already pointed out the relationship between self-concept and social skills, the role of self-compassion in this relationship has not been examined. The concepts the study deals with, such as self-concept, self-compassion, and communication skills, were interrelated. Accordingly, it can be stated that how a person perceives oneself directly affects their competence to communicate with others. This finding is consistent with other studies in the relevant literature on self-concept and communication skills (Gizir & Baran, 2003; Ozkan, 2015; Polat & Aksin, 2015; Sarason & Sarason, 1986; Schroeder, 1995). The main purpose of this study was to examine how self-compassion is positioned in the relation between these two variables. The obtained results revealed that self-compassion has a partial mediating role in the relationship between self-concept and communication skills. In other words, even though self-concept per se has an influence on communication ability, this influence is reinforced by self-compassion. People often make self-critical, self-blaming, and unpleasant comparative internal monologues (Rosenberg, 2003). The findings of Sarason and Sarason (1986) and Schroeder (1995) indicate that negative self-concept disrupts cognitive processes by "causing negative emotions" and leads to poor communication skills. At this point, the following self-compassion definition of Terry and Leary (2011) comes to the mind, in which: "Self-compassion is treating oneself with kindness, care, and concern even in the face of negative life events." Those who are higher in self-compassion regard strong negative feelings, which emerge as a result of self-demanding and destructive or when presented with negative situations, as a part of humanness and can bring positive emotions to the forefront by comforting and encouraging themselves through inner dialogue (Terry & Leary, 2011). Neff (2011) also defined self-compassion as an acceptance of one's weaknesses and the ability to embrace all of these qualities rather than being harshly critical or judgmental of oneself. From this point of view, it is evident that most people have traits that they find incomplete or incompetent and that coming face-to-face these traits can lead to negative feelings. At this point, potential negative feelings and harsh judgmental attitudes towards oneself can be replaced by understanding and self-acceptance for those who are high in self-compassion.

The university students in the study are individuals undergoing a period between adulthood and adolescence. It is inevitable that they thus seek faults by focusing on themselves with particularly adolescent egocentrism and judge themselves in comparison with others in terms of identity formation. However, in addition to this, given this period is simultaneously also one in which adulthood themes crop up, it is crucial to proceed with the due communication tasks as smoothly as possible. Developmental theorists often point out that the significance of completing previous stages with the least disruption possible for a pleasing adulthood. At this point, it becomes clear that it is crucial for an emerging adult to fulfil the tasks of adolescence and those of adulthood as ideally as possible in order to ensure quality and satisfaction in life after graduation. As a period that demands various complicated and heavy life tasks, emerging adulthood is a stage in which university

students, in particular, seek help by applying to psychological counseling services. While studies conducted both in Turkey and abroad indicate that the reasons for applying for psychological counseling of students in the earlier stages of education (middle school-high school) mostly aim to improve academic competence (Kaya & Kaya, 2018), the university period presents multiple other challenges, such as relationships with the opposite sex, friendship, family problems, professional development, and career issues on top of – and sometimes in lieu of – academic issues (Erkan et al., 2011; Nicholas, 2002; Norris, 2008; Schweitzer, 1996).

Norris (2008) states that university students' most common reasons for applying psychological counseling services include questions of self-confidence, anxiety and stress, coping with public speaking anxiety, and coping with the fear of failure. Meanwhile, in another study, university students' first three fundamental personal needs were found to include self-confidence, public speaking, and controlling anxiety and stress (Nicholas, 2002). These findings show that it is an important need as a trait of the life period for emerging adults to get better at coping with problems concerning self-concept and communication/socialization and that psychological counseling services consulted in line with this demand must develop efficient intervention approaches accordingly.

The results of this study reveal the connection between strong communication skills and positive self-concept and the fact that this connection can be addressed through self-compassion. While self-concept is a relatively stable phenomenon that can be affected by many variables that are difficult to control (family, upbringing, values, culture, etc.), self-compassion is a concept that can be learned and improved. Hence, the most clinically intervenable point in the relationship between self-concept, self-compassion and communication skills seems to be self-compassion. In the literature, self-compassion is considered as a variable that shows a high level of correlation with positive psychological health by associating it with a lower propensity to depression, less anxiety on self-evaluation, and higher life satisfaction (Leary et al., 2007; Neff, 2003a). Based on these results, Shapira and Mongrain (2010), recognizing self-compassion as a tool to improve well-being, find that symptoms of self-criticism and pessimism significantly decrease after the program, which includes self-compassion and hope exercises with individuals prone to depression, and that this condition persists in follow-up measures. In light of the conducted study data, the inclusion of psycho-educational content on the concept of self-compassion in intervention programs related to communication skills, which is significantly influenced by self-concept and enrichment with methods such as self-compassion awareness exercises, can make a significant contribution to practice.

In addition, the study highlights the need for self-compassion-based practises to be more widely incorporated into interventions for university students to deal with emotional problems (Erkan et al, 2011) and the resulting negative states of mind, ranging from single symptoms such as depression, pessimism, listlessness, anhedonia, unhappiness, and sadness (Yesilyaprak, 1986) to psychopathologies such as depression and obsessive-compulsive disorder (Deniz et al., 2004; Ozbay, 1997) range to improve well-being and mental health. Self-Compassion is a relatively new and popular phenomenon. Knowing that achieving goals is a main theme for emerging adulthood phase, being pleased, gentle and tolerant with oneself would soften the social pressure of becoming an adult and sweep out depressive and anxious symptoms. Nevertheless, just knowing being harsh to oneself cannot be a key to have a satisfactory life and having self-compassion can play an important role to ease the life challenges and be a path to one's fulfillment.

Germer and Neff (2013) stated that self-compassion may have been an important key to changing habitual thought patterns so that depressive episodes were not re-triggered. Researchers developed a program to teach self-compassion skills to the general population, called Mindful Self-Compassion (MSC; Neff & Germer, 2013). The treatment contains sessions such as "Practicing mindfulness", "Finding one's compassionate voice", "Managing difficult emotions by soothing oneself", and "Transforming relationships". Neff and Germer (2013) highlighted that the MSC program raised participants' self-compassion levels by 43%. It's reported that MSC participants demonstrated a significant increase in self-compassion, compassion for others, mindfulness, and life satisfaction and also a decrease in anxiety, stress, depression, and emotional avoidance. All gains in outcomes were maintained at six months and one-year follow-ups. In addition to our advice about providing psycho-educational content of self-compassion in communication skills programs, structured programs such as MSC would be a comprehensive intervention to life challenges for emerging adults.

5. Recommendations

It is recommended that future studies opt for a more balanced gender distribution and wider range of participants. On the other hand, planning studies that can shed more light on the mediating role of self-compassion and its effect, in theory, with communication skills programs could contribute more to the literature in terms of supporting the results in practice. It is also recommended that conducting studies involving structured programmes to teach and promote self-compassion in young adults and comparing participants to a control group may provide further subtle information about the current study.

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Mindfulness in Teaching and Job Burnout: The Mediating Role of Self-Efficacy*

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ABSTRACT

Job burnout is a problem characterized by physical and mental problems caused by intense working conditions. In recent years, many teachers on a global scale have stated that they have experienced job burnout. It is known that many teachers who experience job burnout report sleep, fatigue, desire to quit work, low level of professional satisfaction and wellbeing. Although it is known that there are negative relationships between mindfulness, self-efficacy in classroom management, and job burnout, no research has been encountered to examine these concepts in the context of education. This study examined the mediating role of classroom management self-efficacy in the relationship between classroom mindfulness and teacher burnout. The research sample consists of 288 teachers, 185 women (64.2%) and 103 men (35.8%). In the preliminary analysis, for detecting multicollinearity Harmon's Single Factor Test and for normality Skewness and Kurtosis were tested. The goodness of fit values of the tested model was found as $\chi^2 / df=1.17$, CFI=.99, TLI=.99, GFI=.99 and RMSEA=.03. Since the path between mindfulness and job burnout in teaching is significant in the model, it is understood that self-efficacy in classroom management is a partial mediator in the relationship between mindfulness in teaching and job burnout. Mindfulness in the teaching profession is believed to play a key role in both self-efficacy in classroom management and burnout in the profession. For this reason, mindfulness in the classroom should be included in both in-service teacher training and professional development

Keywords: *Mindfulness in teaching, self-efficacy, job burnout, teachers.*

1. Introduction

Job burnout is characterized by an exhausting emotion, attitude, and behavior resulting from the experience of long-term stress. Burnout occurs primarily in professions that require face-to-face relationships, such as nursing and teaching (Capri & Kan, 2006; Chiron et al., 2010;). Such psychological pressures create various negative reactions among teachers, while dissatisfaction results in sleep problems and turnover (Lian et al., 2014; Roeser et al., 2013). The characteristics of teacher burnout have been associated with the welfare of teachers and poor quality teaching practices (Butler & Shibaz, 2015). Thus, teacher burnout may not only affect teachers; it also affects students. Given the impact of teacher burnout on teacher and student wellbeing, it is critical to have a better understanding of teacher burnout. Recently, various studies on mindfulness as a potential treatment for job burnout have been performed (Cohen-Katz et al., 2005; Krasner et al., 2009). Mindfulness is characterized as giving all attention to the present time knowingly and non-judgmentally (Kabat-Zinn, 1994). Mindfulness requires the purpose to participate thoroughly in the current experience without judgment (Kabat-Zinn, 1990). The idea of mindfulness is rooted in Buddhist values by focusing on changing thinking habits from distracted to aware (Reid, 2009). It has been related to attention and positive affective states like empathy and other prosocial emotions (Lutz et al., 2004). Also, research shows that

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mindfulness has the potential to buffer job burnout, but to date few studies have documented this relationship specifically among educators (Roeser et al., 2013). In his study, Rickert (2016) measured teacher mindfulness using self-reports, student reports, and third-party reports of calmness, clarity, and kindness and suggested that teacher mindfulness focuses on three basic behaviors: (a) mindful teachers should be calm and stable, and their emotional precautions should be high in the face of classroom difficulties, (b) mindful teaching should involve perspective taking and empathy in teacher-student interactions, and (c) mindful teachers should focus on the class, be in the moment, and be clear about their expectations for students. Frank, Jennings and Greenberg (2016) study addresses teacher mindfulness at the intrapersonal and interpersonal level. During teaching, the teacher's intrapersonal mindfulness refers to the teacher's attention and awareness, while interpersonal mindfulness indicates an open and accepting attitude towards student behavior. Researchers found a negative relationship between teacher mindfulness and teacher burnout (2016). Various researchers also emphasize that the protective effect of the teaching environment, including mindfulness, may be especially important in mitigating teacher burnout (Hultell et al., 2013; Jennings & Greenberg, 2009; Soenens et al., 2012; Steinhardt et al., 2010). The first hypothesis of the research was created based on the aforementioned research findings.

Hypothesis 1: Mindfulness in teaching is directly related to teacher burnout.

Studies on dispositional mindfulness of teachers have shown that teachers with higher mindfulness are emotionally supportive, gentle and proactive in their interactions with students (Floman, 2018; Jennings, 2014). Various studies reveal that mindfulness-based programs conducted with teachers have a positive effect on teachers' classroom management skills and self-efficacy feelings (Frank et al., 2016; Jennings et al. 2013; Jennings, 2015). Self-efficacy is based on the theoretical framework of social cognitive theory that emphasizes the development and use of the human institution, where people have some influence on what they do (Bandura, 2006). According to Bandura, whether certain behaviors are initiated, how much effort is made, and how long efforts last in the face of obstacles and preventive experiences is determined more by one's expectations of personal ability rather than skill level (Bandura, 1977). Teacher self-efficacy is defined as a teacher's judgment of their ability to demonstrate or motivate the student's participation and learning outcomes, even among students with difficulties (Tschannen-Moran & Woolfolk-Hoy 2001). Since mindfulness is related to awareness of the present moment and the ability to maintain attention, it is important to understand how teachers can adapt these psychological functions to their daily work in the school context with non-judgmental attitudes towards themselves and others. Teachers who can effectively transfer these abilities to the teaching environment are expected to have a high self-efficacy in classroom management. Based on this information, the second hypothesis of the research was created.

H2: Mindfulness in teaching is directly related to self-efficacy in classroom management.

Leiter (1993) defined burnout as a "self-efficacy crisis". It is suggested that teachers' self-efficacy has an important role in teacher burnout (Parker et al., 2012). In particular, positive beliefs represent the central resource that guides teachers' perceptions of stressors and their strategies to manage them. High self-efficacy has a buffering effect on burnout (Schwarzer & Hallum, 2008). Self-efficacy should be evaluated via a field-specific approach instead of a general criterion (Bandura, 1997). Self-efficacy in classroom management is defined as "teachers' beliefs about their ability to organize and carry out courses of action necessary to maintain order in the classroom" (Brouwers & Tomic, 2000) and represents another part of teachers' self-efficacy (O'Neill & Stephenson, 2011). This area plays an important role in the development of teacher stress and burnout (Friedman & Farber, 1992; Schwarzer & Greenglass, 1999; Schwarzer & Hallum, 2008). The third hypothesis of the research was created in the light of the literature regarding teacher self-efficacy and burnout.

H3: Self-efficacy in classroom management is directly related to job burnout.

Skaalvik and Skaalvik (2016) argue that the most effective source of teacher self-efficacy is previous mastery experiences that have been successful or failed in activities similar to the current activity. Considering the effects of teacher self-efficacy both at the teacher and student level, it is very important to identify and understand the sources of the "mastery experiences" mentioned. As explained by Frank et al. (2016), self-regulating abilities (being in the moment, focus, acceptance) for mindfulness are self-regulating behaviors that allow teachers to be more aware of events going on throughout the classroom and pay attention to students' needs and behavior without distracting others. Therefore, mindfulness in teaching could be related to previous

experiences that constitute a resource for self-efficacy in classroom management. This idea led to the final hypothesis of this research.

H₄: Mindfulness in teaching indirectly relates to burnout through self-efficacy in classroom management.

In addition, when examining the literature on teacher burnout, it was found that the variable of gender could be effective. While some studies revealed that female teachers reported more job burnout (Purvanova & Muros, 2010; Yorulmaz & Altinkurt, 2018), some studies did not find a significant difference between genders (Akin, 2018; Salami, 2011). Therefore, in this study examining the roles of mindfulness in teaching and self-efficacy in teacher burnout, gender was assigned as the control variable.

2. Methodology

2.1. Research Model

Structural equation modeling has been used for testing the proposed model, which is testing the mediating role of self-efficacy in classroom management in the relationship between mindfulness in teaching and job burnout. Structural equation modeling is a statistical approach used to test the relationships in the causal theoretical bases (Sümer, 2000). In this study, the proposed model was tested using observed variables.

2.2. Participants

The study sample consisted of 288 participants, of which 185 were women (64.2%) and 103 (35.8%) were men. Examining the distribution based on the education level studied showed that the sample consisted of 47 kindergarten (%16.3), 66 primary school (%22.9), 97 secondary school (%33.7) and 78 high school (%27.1) teachers. The average age was 41.02, the lowest age was 22 and the highest age was 56. The average length of professional experience was 16.45 years, the minimum 1 year and the maximum 36 years.

2.3. Measures

The Maslach burnout inventory-educator form (MBI-EF): This inventory developed by Maslach and Jackson (1981) was adapted by Maslach, Jackson and Leiter (2010). Ince and Sahin (2015) performed Turkish form of the inventory. The original form of the inventory consisted of 22 items and 3 dimensions in a 7-point Likert type. As a result of a study conducted with 760 classroom teachers, the validity and reliability studies of the inventory showed that the Turkish form of the inventory preserved the original structure. The Cronbach Alpha coefficient was 0.88 for Emotional Exhaustion, 0.78 for Depersonalization, and 0.74 for the Personal Accomplishment dimension. It is understood from the item-total correlations that the items in the inventory have a good discrimination. The confirmatory factor analysis applied for construct validity was found to be $CMIN/df = 4.3$, $CFI = .94$, $NFI = .93$ and $RMSEA = .07$. The current study's Cronbach Alpha was .90 for the inventory.

The teacher interpersonal self-efficacy scale (TISE): This scale was developed by Brouwers and Tomic (2002). The scale is based on teachers' interpersonal self-efficacy activity in three areas and consists of three sub-dimensions. These sub-dimensions include beliefs in "perceived self-efficacy regarding classroom management" (fourteen items), "perceived self-efficacy regarding support from colleagues" (five items) and "perceived self-efficacy regarding support from administrators" (five items). Capri and Kan (2006) conducted the Turkish adaptation study of the scale. The Cronbach Alpha was .93 for the total scale and .91, .91, .89 for the sub-scales, respectively. The test-retest reliability coefficient for the entire scale was found to be .80. The reliability coefficient of the scale in this study is .89.

Mindfulness in teaching scale (MTS): The scale was developed in order to measure teachers' mindfulness during the teaching processes (Frank et al., 2016). The Cronbach's Alpha internal consistency coefficient was found to be .64 for the Interpersonal Mindfulness Subscale, .80 for the Intrapersonal Subscale and .78 for the entire scale (Aslan-Gordesli et al., 2018) This study found the internal consistency coefficient of the scale to be .77. The goodness of fit values of the Turkish form acceptable level.

2.4. Procedure

To determine the suitability of the study to the research ethics, an application was made to the Istanbul Medipol University Institute of Social Sciences Ethics Committee. After obtaining ethical approval for the study, a total of 322 surveys were collected voluntarily. The analysis excluded 34 data sets that were outside

of the normal distribution. The data obtained from the remaining 288 teachers were analyzed in accordance with the purpose and hypotheses of the research using the AMOS 22 program. Harmon’s Single Factor Test was used for testing multicollinearity. According to this tests result, items of the scales which are used in this study, were explaining result, items of the scales used in this study explained the 25.5% of the total variance. So, there was no multicollienarity detected.

2.5. Ethical

In this study, all rules stated to be followed within the scope of “Higher Education Institutions Scientific Research and Publication Ethics Directive” were followed. Ethical Review Board Name: İstanbul Medipol University Ethics Committee. Date of Ethics Evaluation Decision: 14.12.2020 Ethics Assessment Document Issue Number: 61

3. Results

This section will examine the Pearson correlation coefficient between variables (Table 1) to understand whether the job burnout, which is the dependent variable of the research, differs by gender and the tested structural models.

Table 1. Correlation Coefficients and Descriptive Statistics of Variables

Variable	Pearson Correlation				Descriptive Statistics			
	1	2	3	4	Mean	SD	Skewness	Kurtosis
Job Burn Out	1	.38**	.50**	.35**	45.03	1.53	.34	-.19
Self-efficacy		1	.32**	.29**	77.97	8.11	-.58	.02
Intrapersonal Mindfulness			1	.28**	39.10	4.81	-1.20	1.62
Interpersonal Mindfulness				1	17.19	1.91	-.45	.01

Note. ** p < .001, N = 288.

In Table 1, the skewness coefficients of the variables were between -1.20 and .34; the Kurtosis Coefficients ranged from -.19 to 1.62. Stevens (2002) states that the normal distribution of skewness and Kurtosis Coefficients is between ± 2. This result indicates that the variables in the study were normally distributed.. A Pearson Correlation Analysis conducted to examine the relationships between variables showed that the level of relationship between Job Burnout and Self-efficacy (r = -.38), Teacher Interpersonal Mindfulness (r = -.50), and Teacher Intrapersonal Mindfulness (r = -.35) were statistically significant, at p <.001 level. In addition, it was found that job burnout scores vary by gender. Accordingly, the job burnout levels of female teachers were significantly higher than the job burnout levels of male teachers (t = 2.52, df = 286, p <.05).

Goodness of fit values of the proposed model were found as $\chi^2/df = 1.17$, CFI= .99, TLI= .99, GFI= .99 and RMSEA= .03. According to the criterion ranges of Bentler (1990) and Kline (2011), the tested model is acceptable. The tested model and standardized estimates between variables is shown in Figure 1.

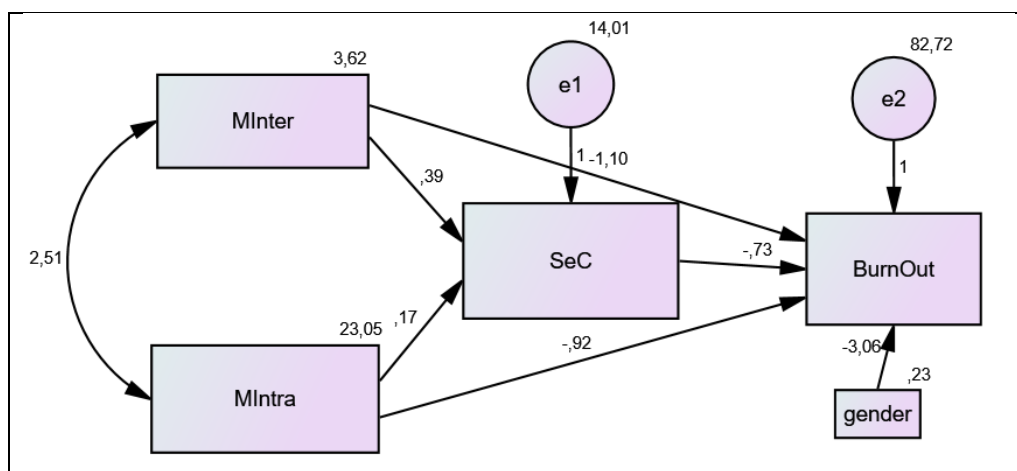


Figure 1. The Tested Model and Standardized Estimates Between Variables.

After observing that the tested model fit well, bootstrapping was carried out. When the bootstrapping findings were examined, it was seen that self-efficacy partial mediating role in the relationship between mindfulness

in teaching and teacher burnout. And also direct effects between the variables were significant. The effects of teacher interpersonal and intrapersonal mindfulness on self-efficacy were found to be significant, as well as how teacher intrapersonal mindfulness and teacher interpersonal mindfulness indirectly affected burnout (bootstrap coefficient = .02, 95% C.I. = -.10, -.02).

4. Discussion, Conclusion, and Recommendations

This study examined the mediating role of teaching mindfulness in the relationship between self-efficacy and job burnout. In the model, burnout was found to vary by gender when used as a control variable. This indicates that women report more burnout than men. In the literature, gender differences are generally explained by the gender role theory (Eagly & Wood, 2013). According to this theory, women and men develop gender roles within the framework of social characteristics and values (such as women developing feminine roles and men developing masculine roles). Consequently, male-dominated professions will emphasize activity, aggression and rationality, whereas female-dominated professions will be perceived as passive, emotional and nurturing (Gutek et al., 1991). In this context, gender also differentiates individuals' reactions to challenging processes such as stress (Gonzales-Morales et al., 2010).

Regarding burnout literature, it is possible to see gender differences in the dimensions of burnout. For example, while women experienced more emotional burnout, men reported higher personal accomplishment scores than females (Leon-Rubio et al., 2013; Purvanova & Muros, 2010). In some studies, it was observed that women scored higher than men in all dimensions of burnout (Nimehchisalem & Mousavy, 2014). Therefore, this finding of the study appears to be partially supported in the literature.

Another finding of the research is that the teacher's intrapersonal and interpersonal mindfulness is directly related to self-efficacy in classroom management. Mindfulness is known to influence teachers' self-efficacy, wellbeing, emotion regulation, and relationships with students (Jennings & DeMauro, 2017; Roeser et al., 2013). Frank et al. (2016) reported that teachers' interpersonal mindfulness was related to teachers' socioemotional self-efficacy and behavior management self-efficacy, whereas the same relationships were not found for teachers' intrapersonal mindfulness. Intrapersonal mindfulness may have a more important role in the success of teaching tasks requiring a high degree of attention and frequent switching (eg monitoring group behavior, managing concurrent teaching groups). Thus, it was stated that teachers' interpersonal and intrapersonal mindfulness could play an important role in self-efficacy perception. Still, this hypothesis could not be supported by the study of Frank et al. (2016).

Regarding the role of mindfulness in teacher self-efficacy, the difference between Frank's and her colleagues' study (2016) and this study in this report may stem from measurement tools. The heuristic differences between studies may also be related to the sample studied. Therefore, to discuss the connection between mindfulness in teaching and self-efficacy in classroom management more clearly, it is thought that it would be more appropriate to start by examining the items measuring mindfulness in teaching.

Teachers' intrapersonal mindfulness focuses on present moment awareness with statements such as "When I am teaching, it seems like I am walking 'automatically' without being aware of what I am doing" and "When I am in the classroom, I have difficulty focusing on what is happening in the present." On the other hand, teacher interpersonal mindfulness indicates acceptance of teacher-student interactions, such as "Even when I am uncomfortable, I allow my students to express their feelings" and "I listen carefully to my students' ideas even when I disagree with them" (Frank et al. 2016). Self-efficacy in classroom management is defined as "teachers' beliefs in their ability to organize and carry out the actions necessary to maintain classroom order" (Brouwers & Tomic, 2000, p. 242). According to Bandura, belief in self-efficacy is fed by past performances (Bandura, 1997, 1986). In other words, if the teacher realizes a problem occurred in the classroom in the past and successfully solves it, their perception of self-efficacy in classroom management will increase. Teachers who focus their attention on 'here and now' during their teaching activities and continue interactions with students in an acceptable manner are likely to recognize the problems and resources that arise in the classroom and succeed as a result. Those teachers continue to strive for solutions until the problem is resolved. Teachers with high levels of mindfulness in teaching will be able to solve problems in the classroom, and their sense of self-efficacy will increase. From this point of view, it can be assumed that mindfulness in teaching can predict self-efficacy in classroom management. Another finding of the study is that self-efficacy predicts job burnout in classroom management. The result of the study is consistent with other findings in the literature (Aloe et al.,

2014; Brown, 2012; Parker et al. 2012). Leiter (1993) defined burnout as a "self-efficacy crisis." For Bandura (1977), expectations of one's activity (self-efficacy perceptions) rather than one's abilities can determine whether certain behaviors are initiated, how much effort is expended, and how long efforts can be sustained in the face of obstacles and preventive experiences. If a decrease in self-efficacy occurs, people with high self-efficacy will recover faster than those with low self-efficacy (Schwarzer & Hallum, 2008). Therefore, teachers with high self-efficacy in classroom management will make more efforts towards maintaining this effort and experience less job burnout in the face of problems that may be encountered in the classroom compared to teachers with low self-efficacy.

The study found that teachers' self-efficacy perceptions showed a partial mediating role in the relationship between mindfulness in teaching and teacher burnout. This finding reveals that mindfulness in teaching is directly related to burnout and indirectly related to self-efficacy in classroom management. When the direct effects of mindfulness on job burnout in education were examined, it was seen that the standardized path coefficients (β) of teacher intrapersonal and interpersonal mindfulness were $-.38$ and $-.18$, respectively. In reviewing previous studies of mindfulness in teachers and job burnout, mindfulness was also found to be associated with job burnout (Jennings et al., 2013; Roeser et al., 2013). Marzano and Marzano (2015) reported that mindfulness is "quite obviously associated with control of the inner world" (p. 51). Therefore, teachers with high levels of intrapersonal mindfulness are more likely to engage in effective classroom management, and the level of job burnout of the teacher who engages in classroom management decreases. The role of teacher interpersonal mindfulness should also be mentioned alongside the role of teacher intrapersonal mindfulness in teacher self-efficacy and job burnout. As mentioned earlier, teacher interpersonal mindfulness is a construct related to an accepting approach to teacher-student interactions. A teacher who shows an effort to understand and accept students' behaviors and the underlying reasons for such behaviors will positively affect their interactions with students. Thus, it is thought that the students will not be indifferent to the teachers' acceptance-based attitude. Teachers who define teacher-student interaction as close and conflict-free are known to report higher job commitment and lower burnout (Klassen et al., 2012; Milatz et al., 2015). It has been found that the relationship between student misbehavior and teacher wellbeing is mediated by the teacher-student relationship (Aldrup et al., 2018). Therefore, considering that teacher interpersonal mindfulness will bring about an acceptance-based teacher-student interaction, it will be easier for the teacher to manage the classroom and report less burnout.

This study investigated the mediating role of self-efficacy in classroom management in the relationship between mindfulness in teaching and teacher burnout. Mindfulness has attracted interest in the scientific world in recent years, and numerous studies have been conducted on the positive effects of dispositional mindfulness on mental health (Allan et al., 2015; Bajaj & Pande, 2016; Bränström et al., 2011) and its protective role in psychological difficulties (Ando et al., 2011; Chiesa & Serretti, A, 2011). However, there are few studies on the extent of mindfulness and how mindfulness skills are reflected in the teaching environment. It is hoped that the study will be useful for future research. The study also has several limitations. The study sample was limited to teachers working in kindergarten, primary school, secondary school, and high school. It is thought that it would be beneficial to include various educator groups such as university instructors and special education teachers in future studies. Another limitation of the study is that the research results are limited to the qualities measured by the measurement tools used. For this reason, it is possible that similar studies using different measurement tools will make a valuable contribution to the field.

In the study, the fact that mindfulness in teaching is related to teacher burnout both directly and indirectly through self-efficacy in classroom management offers a new perspective for teacher education and teacher training. Mindfulness in teaching plays a key role in reducing teacher burnout, which is a major global problem. Therefore, it is thought that it is important to prepare mindfulness training in teaching, include these training in teacher training programs, and include existing teachers in in-service training. This study revealed that mindfulness in teaching has a negative relationship with teacher burnout and has a positive relationship with classroom management self-efficacy. The study sheds light on studies aimed at preventing burnout and increasing self-efficacy. It is hoped that it will contribute to the literature on the function of mindfulness in the context of education.

5. References

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The Predictiveness of Mothers' Emotion Socialization Behaviours on the Attachment Levels of 6 Year-Old Children

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ABSTRACT

This study aims to analyse the predictiveness of the emotion socialization behaviours of the mothers of 6-year-old children on the children's attachment levels. The study group of this descriptive research designed with the screening model, one of the quantitative research methods, included 143 pairs of mothers and 60- to 72-month-old normally-developing children attending two kindergartens affiliated with the İstanbul Başakşehir Directorate of National Education during the 2019-2020 academic term. The data collection instruments used in the study were the parent form designed by the authors to collect sociodemographic data from the children and families who participated in the study, the Incomplete Doll Family Story Scale (IDFSS), which was used to determine the children's levels of attachment, and the Coping With Children's Negative Emotions Scale (CCNES). Calculation of descriptive statistics of scores for the Incomplete Doll Family History scale and the Dealing with Children's Negative Emotions scale. The model formed at the end of the multiple linear regression analysis shows that mothers' emotion socialization behaviours accounted for 57% of the variance related to the children's attachment level. The t-test results of the multiple linear regression coefficients revealed that the mothers' emotion socialization behaviours predict children's attachment levels significantly, the problem-focused reactions and minimization reactions sub-scales of emotion socialization behaviours predict children's attachment levels significantly, while the emotion-focused reactions, punitive reactions, distress reactions and expressive reactions sub-scales do not predict children's attachment levels significantly.

Keywords:

Attachment, mother, emotion socialization

1. Introduction

Parent emotion socialization has recently become one of the most popular issues in child development and psychology. Parent emotion socialization is defined as parents' responses to their children's emotions such as sorrow, fear and anxiety resulting from negative situations and parents' methods of communication with their children in such cases (Eisenberg et al., 1999). The most widely known model in parental emotion socialization is Heuristic Model. Eisenberg, Cumberland, and Spinrad (1998) proposed the "Heuristic Model" for parents' socialization of their children's emotions. This model describes three processes related to emotion socialization. These processes could be parents' ways of expressing their emotions, parents' responses to their children's emotions and their discourse on their emotions. In cases where children experience negative

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emotions, it is considered a positive parental emotion socialization strategy to direct their attention to an activity they like, suggest solutions to the problem, talk about their negative emotions, and act as a positive model by showing appropriate responses to negative situations (Fabes et al., 2002). On the other hand, giving anxious reactions to children's negative emotions, belittling these emotions and punishing children are considered as negative parent emotion socialization strategies (Eisenberg & Fabes, 1994).

Parents' emotion socialization behaviours are one of the building blocks for the healthy development of children. Children develop in a family system and healthy child development occurs due to healthy parent behaviours (Saarni, 2001; Whiteman, Mchale, & Crouter, 2007). Parents' positive strategies for the socialization of children's emotions are advantageous, particularly in social and emotional terms (Saarni et al., 2006). It has been reported that children whose parents use positive emotion socialisation strategies are able to appropriately regulate and express their emotions and achieve higher academic success (Fantuzzo, et al., 2005; Cole, Teti, & Zahn-Waxler, 2003), have stronger attention skills and memory (Ferrier, Basett, & Denham, 2014), are less likely to engage in maladaptive behaviours, can easily catch up with social changes, maintain better peer relationships (Denham et al., 1990), have stronger self-confidence, and are competent in communication skills (Albrecht, Burlison, & Goldsmith, 1994). Children whose parents use negative emotion socialization strategies are also reported to have several developmental disadvantages, including difficulty expressing their emotions (Denham, 2007), low socioemotional skills (Huston et al., 1994), and emotion regulation disorders such as temper tantrums (Newland & Crnic, 2011).

The emotional socialization behavior of parents has a significant impact on child development and is influenced by several factors. The emotional atmosphere in the family is one of the most important factors. A warm emotional atmosphere helps parents to show positive emotion socialization strategies (Cheung et al., 2018). It is reported that parents' temperament and characteristics and their physical and spiritual well-being (Giuseppone, 2018; Pérez-Padilla, Menéndez, & Lozano, 2015) are effective on their emotion socialization behaviours. Studies on parent emotion socialization behaviours have also yielded significant findings. For example, Bjork et al. (2020) initiated a positive relationship between parents' distressed responses and externalized behavioral problems. Cui et al. (2020) found that negative emotional socialization behaviors of mothers were associated with internalized behavioral problems. İlhan-Ildız and Seven (2018) found that mothers' higher educational status was positively related to problem-oriented responses and negatively related to punitive behaviours, while fathers' higher educational status was negatively related to punitive and belittling behaviours and positively related to problem-oriented reactions, adding that emotion-oriented reactions of parents to their sons were significantly higher than those of their daughters. İlhan-Ildız, Ahmetoğlu, and Acar (2017) suggested that mothers' unfavourable reactions influence children's emotion regulation strategies and children whose mothers display more unfavourable reactions are likely to have a more reactive temperament and display poor emotion regulation skills. Güven and Erden (2017) reported that children whose mothers adopt negative emotion socialization strategies display behavioural problems.

1.1. Relationship Between Emotion Socialization and Attachment

Another factor related to parents' emotion socialization behaviours is attachment. Attachment is defined as the emotional tie established in the early years of life and is shaped by the relationship quality between infant and caregiver (Bowlby, 1969; Bowlby, 1982). The innate attachment behaviours of infants mediate the establishment of attachment. Bowlby (1982) defined infant behaviours like crying, smiling and yelling as attachment behaviours and suggested that they enhance mother-infant intimacy and mediate attachment. Attachment behaviours often occur as a result of a need. Consistency of the caregiver in satisfying these needs, as well as the love and affection they display determine the quality of attachment. Infants are expected to develop secure attachment in the presence of a sensitive, consistent, available and loving caregiver. Insecure attachment is expected to develop when caregivers are insensitive to infants' expectations, inconsistent in satisfying their needs or lack love and warmth (Bowlby, 1969; Bowlby, 1972; Bowlby, 1982). Another achievement of infants with the mediation of attachment is that they know that their negative emotions are understood, cared for and shared (Cassidy, 1994; Sroufe, 1996).

2. Methodology

2.1. Design

This study, aimed at evaluating the predictiveness of the emotion socialization behaviours of the mothers of 6-year-old children's on their children's attachment levels, is a descriptive study with a survey model, one of the quantitative research methods. Descriptive survey models are suitable for studies that describe a past or current case as it exists (Karasar, 2018).

2.2. Participants

The study population involved students from two kindergartens in İstanbul-Başakşehir provinces attended by children from families of low socio-economic status. The study population comprised 143 pairs of mothers and 60 to 72-month-old normally developing children live with both parents, with no chronic disease and or diagnosis of a psychiatric disorder. They volunteered and were permitted by their families to participate in the study. The demographic distributions of children and families involved in the study are presented in Table 1.

Table 1. Demographic Distributions of Children and Families Involved in the Study

Socio-Demographic Features	Groups	f	%	
Children's features	Age	60-72 months	143	100
	Gender	Girl	65	45.5
		Boy	78	54.5
Parents' features				
Mothers' Educational Status	Literate and Primary school	125	87.4	
	Secondary school	18	12.6	
Fathers' Educational Status	Literate and Primary School	21	14.7	
	Secondary School	119	83.2	
	High School	3	2.1	

According to the demographic distributions of the children and families presented in Table 1, 100% of the children (f=143) were 60 to 72-months-old, girls comprised 45.5% (f=65), and boys comprised 54.5% (f=78) of the study group, 87.4% of the mothers (f=125) were graduates of primary school and 12.6% (f=18) secondary school. In comparison, 14.7% of the fathers (f=21) were graduates of primary school, 83.2% (f=119) had graduated from secondary school and 2.1 % (f=3) were high school graduates.

2.3. Data Collection Tools

Data collection instruments for the study included a parent form designed by the authors to collect sociodemographic data from the children and families who participated in the study, the Incomplete Doll Family Story Scale (IDFSS), which was used to determine children's levels of attachment, and the Coping With Children's Negative Emotions Scale (CCNES).

Parent Data Form. The parent data form includes questions regarding the age and gender of the child as well as the educational status of both parents.

Incomplete Doll Family Story Scale (IDFSS). IDFSS is a projective story-based measurement tool developed by Cassidy (1988) to identify children's attachment styles, which was adapted to Turkish and tested in terms of validity and reliability by Seven (2006). The scale requires children to complete six stories with a doll family, each taking approximately 3 minutes. The goal of the study is to reflect the mental self-representation of individuals concerning attachment and it helps to evaluate whether the children see themselves in a secure relationship with their mothers, the extent to which the children are valued, whether the relationship is considered meaningful and important, if the children feel safe and protected and whether they think that they are in a relationship where conflicts and stressful situations are resolved with the help of the relationship (Cassidy, 1988). Each story is scored with a 5-grade scale concerning its details (Seven, 2006). High scores in the scale indicate a secure relationship with the attachment figure. Each story is included in one of three categories and stories where the infant character is regarded as important and the relationship with the mother is identified to be important, special and warm are classified as secure/strong. A total score ranging between

6-17 is classified as “avoidant attachment” while a 25-30 score range is classified as “secure attachment” (Seven, 2006).

Coping With Children’s Negative Emotions Scale (CCNES). The parents’ emotion socialization behaviours were evaluated with the Coping With Children’s Negative Emotions Scale developed by Fabes et al. (1990) and adapted to Turkish by Altan, Yağmurlu, & Yavuz (2013). The scale comprises 12 cases that involve negative emotions that children experience such as anger, fear, sorrow, shame and disappointment. Each scenario is followed by 6 different types of reactions that might be given to children’s negative emotions. After reading each scenario, parents are asked to choose how often they might use the unnecessary reaction options. These six reactions establish the sub-scales of CCNES. The mean value of the items in each sub-scale determines the points scored in that sub-scale. The sub-scales of the scale include: “Problem-focused reactions (PFR)”, which refers to parents’ attempts to help their children solve the problem causing the negative emotions, and “Emotion-focused reactions (EFR)”, which refers to parents’ attempts to make their children feel better. Supportive Emotion Socialization” levels are identified by adding the scores of the “Expressive Encouragement (EE)” scale to these two sub-scales. Other sub-scales are “Minimization Reactions (MR)”, which minimize the importance of the child’s emotional reactions, “Punitive Reactions (PR)”, which impose verbal or physical punishment on the child’s expressions, and “Distress Reactions (DR)”, which respond to the child’s negative emotion with sorrow. Scores obtained in these three sub-scales indicate “Non-supportive Emotion Socialization” levels. Fabes et al. (2002) reported high inner consistency coefficients for the scale. The Cronbach’s alpha coefficients for the Punitive Reactions, Distress Reactions and Minimization Reactions sub-scales are .69, .70. and .78, respectively, while these coefficients are .78 for Problem-focused Reactions, .80 for Emotion-focused Reactions and .85 for Expressive Encouragement. The internal consistency coefficients for the Turkish scale adaptation are .83 for Punitive Reactions, .65 for Distress Reactions, .86 for Minimization Reactions, .72 for Problem-focused Reactions, .79 for Emotion-focused Reactions and .87 for Expressive Encouragement (Altan, Yağmurlu, & Yavuz, 2013).

The internal consistency coefficients found in this study are .762 for emotion-focused reaction, .912 for problem-focused reactions, .753 for punitive reactions, .663 for distress reactions, .816 for minimization reactions and .816 expressive encouragements, respectively.

2.4. Procedure

Before starting the study, relevant permissions were obtained from the Directorates of National Education in İstanbul and Edirne provinces and information related to the schools attended by families of low socio-economic status. The schools for the study were randomly selected. The authors visited these schools and distributed a document describing the aims and practicalities of the study, as well as a parental consent form for participation in the study, to the parents of 60-72-month-old normally developing children from full-term families who had no chronic illnesses and had not been diagnosed with a psychiatric disorder. Families who consented to participate in the study were sent a demographic data form and Coping with Children’s Negative Emotions Scale (CCNES) inside a closed envelope and asked to return the documents, which were later collected using the school directors. A total of 155 of the 162 volunteer families completed the forms and send them to the schools. 5 children did not respond to the scale. Therefore, 143 children and their families were involved in the study group.

2.5. Data Analysis

The study data were analysed in two stages. In the first stage, the descriptive analysis of children’s attachment levels and mothers’ emotion socialization behaviours was calculated. Descriptive statistics results were then subjected to multiple regression analysis in the second stage.

2.6. Ethical

The research data were collected in September 2019 and all methods were performed following the Declarations of Helsinki.

3. Findings

Analysis of the collected data began by checking whether the regression hypotheses were met. It was checked whether there was a linear relationship between predictive variables (mothers’ emotion socialization

behaviours) and dependent variables (children's attachment levels) and whether the data had normal distribution. Mahalanobis distance values (D2) were used to analyse extreme values that prevented the normality hypothesis from being met (Büyüköztürk, 2018; Koide et al., 2015).

The analysis showed that data of 7 students had extreme values that could affect the normality hypothesis, so they were excluded from the data set. Consequently, data of 143 students were included in the regression analysis. Analysis of the scatter diagram of standardized residual values and dependent values showed that the result defined a linear relationship and points were likely to gather around an axis. At the same time, histogram and normal distribution curves had a nearly normal distribution. To check whether there was a linear relationship between variables, the variance inflation factor was analysed between the children's attachment levels and the sub-scales of the emotion socialization scale of the mothers, yielding the following results: emotion-focused reactions (VIF) (=2.905) and tolerance value (=0.204), problem-focused reactions (VIF) (=1.233) and tolerance value (=0.160), punitive reactions (VIF) (= 2.345) and tolerance value (=0.299) distress reactions (VIF) (=2.192) and tolerance value (=0.456), minimization reactions (VIF) (=2.742) and tolerance value (=0.365), expressive encouragement (VIF) (=1.150) and tolerance value (=0.241), which led to the conclusion that there was no linearity problem related to the data included in the study.

Children's attachment levels were assigned as the dependent variable, and mothers' emotion socialization behaviours as the independent variables. Pearson correlation was calculated to identify the correlation between the dependent and independent variables and the data were subjected to linear regression analysis. The findings are presented in Tables 2 and 3.

Table 2. *Pearson Order Difference Correlation Coefficient Results of the Sub-scales of the Incomplete Doll Family Story Scale and Coping with Children's Negative Emotions Scale*

	1	2	3	4	5	6	7
1- IDFSS Total Score	--						
2- Emotion-focused Reactions	.671	-					
3- Problem-focused Reactions	.697	.878	-				
4- Punitive Reactions	-.632	-.618	-.667	-			
5- Distress Reactions	-.501	-.576	-.643	.695	-		
6- Minimization Reactions	-.666	-.579	-.621	.777	.606	-	
7-Expressive Encouragement	.644	.828	.850	-.589	-.564	-.597	-

**p<0.01 N= 143

As seen in Table 2, a correlation coefficient in the 0 – 0.30 range indicates that there is no correlation while the 0.31 – 0.49 range indicates a weak correlation, the 0.50 – 0.69 range a moderate correlation and the 0.70 – 1.00 range a strong correlation (Sönmez & Alacapınar, 2011). Table 2 shows that the IDFSS total score had a moderately significant positive correlation with the Emotion-Focused Reactions subscale ($r=.671$; $p < 0.01$), a moderately significant positive correlation with the Problem-Focused Reactions subscale ($r=.697$; $p < 0.01$), a moderately significant negative correlation with the Punishing Reactions subscale ($r=-.632$; $p < 0.01$), a moderately significant negative correlation with the Distress Reactions subscale ($r=-.501$; $p < 0.01$), a moderately significant negative correlation with the Minimization Reactions subscale ($r=-.666$; $p < 0.01$), and a moderately significant positive correlation with the Expressive Encouragement subscale ($r=.644$; $p < 0.01$) of the Coping with Children's Negative Emotions Scale (CCNES).

Table 3. *Results of multiple linear regression analysis to identify whether mothers' emotion socialization behaviours account for children's attachment levels*

Mode	R	R2	R2(ΔR2) Change	F	B	Std Error	t	p
1.	.768 ^a	.590	.572	32.608	13.420	3.00118	3.590	.000**

**p<.001; N=143

According to Table 3, mothers' emotional socialization behaviours account for 59 % of the score variance related to children's attachment levels (R2 (ΔR2) Change = .301). t-test results on Table 3 related to multiple linear regression coefficients also show mothers' emotion socialization behaviours significantly predict children's attachment levels ($p<.01$).

Table 4. B and Beta Correlation Coefficients and Significance Levels

Predictors	B	SE	Beta	t	p
Constant	13.420	3.738		3.590	.000**
Emotion-focused Reactions	.120	.079	.183	3.590	.134
Problem-focused Reactions	.125	.063	.273	1.508	.049*
Punitive Reactions	-.070	.060	-.117	1.989	.245
Distress Reactions	.072	.071	.083	-1.168	.309
Minimization Reactions	-.172	.048	-.323	1.020	.001*
Expressive Encouragement	.027	.066	.045	-3.554	.691

As seen in Table 4, an analysis of the B and Beta correlation coefficients and significance levels of the dependent variables reveals that problem-focused reactions ($t(1.508)$, $p < .05$) and minimization reactions ($t(1.020)$, $p < .05$) predict children's attachment levels significantly. While emotion-focused reactions ($t(3.590)$, $p > .05$), punitive reactions ($t(1.989)$, $p > .05$), distress reactions ($t(-1.168)$, $p > .05$) and expressive encouragement ($t(-3.554)$, $p > .05$) do not significantly predict children's attachment levels.

4. Discussion

This study aims to identify the predictiveness of mothers' emotion socialization behaviours on children's attachment levels. As a result of the descriptive statistics and multiple linear regression analysis, mothers' emotion socialization behaviours constitute a significant predictor of the score variance of children's attachment levels.

Pearson Correlation Analysis, carried out to identify the correlation between dependent and independent variables, revealed a significant relationship between the total score of IDFSS and the sub-scales of the Coping with Children's Negative Emotions Scale. There is a moderate significant positive correlation between IDFSS and the Problem-focused Reactions and Expressive Encouragement sub-scales of the Coping with Children's Negative Emotions scale and a moderate significant negative correlation between IDFSS and the Punitive Reactions, Distress Reactions and Minimization Reactions. Thus, mothers' positive emotion socialization behaviours are positively correlated with children's attachment levels and negative emotion socialization behaviours are negatively correlated with children's attachment levels.

Multiple linear regression analysis, carried out to identify the predictiveness of mothers' emotion socialization behaviours on children's attachment levels revealed that dependent variables have 59% predictiveness on the independent variables ($R^2 = .590$; $p < 0.01^{**}$), while analysis of the B and Beta correlation coefficients and significance levels indicated that problem-focused reactions ($p < 0.05$) and minimization reactions ($p < 0.05$) predict children's attachment levels significantly, whereas emotion-based reactions ($p > 0.05$), punitive reactions ($p > 0.05$), distress reactions ($p > 0.05$) and expressive encouragement ($p > 0.05$) do not significantly predict children's attachment levels. According to this result, it can be thought that problem-focused and dismissive reactions may increase children's stress and cause insecure attachment.

The results of the study show similarities with the results of the previous studies. Chen, Lin, and Li (2012) suggested that children whose mothers show positive emotion socializations have more secure attachment patterns, while children whose emotions are ignored by their mothers have lower attachment levels. In a similar study, Roque, Veríssimo, Fernandes and Rebelo (2013) dealt with the correlation between children's attachment styles and their emotion regulation and emotional expression. They concluded that children with secure attachment were more likely to use emotional expressions in a meaningful way and secure attachment had a positive effect on their emotion regulation. Leerkes, Bailes and Augustine (2020) found that parent emotion socialization had four profiles; teaching and problem-focused parent, supportive parent, balanced parent and overly attached parent. These profiles depended on income, ethnicity, families' expressionism, parent and child emotion regulation disorders. They concluded that parents with supportive teaching and problem-focused profiles had less emotion regulation than balanced and overly attached parents. Ahmetoğlu, İlhan-Ildız, Acar and Encinger (2018) studied the correlation between parent emotion socialization and children's emotion regulation and attachment to parents. Results revealed that parents' minimization reaction to children's emotions moderated the association between children's emotion regulation and attachment to parents.

An attachment relationship requires the caregiver to give consistent responses and comfort the infant in cases of discomfort and distress (Hazan & Shaver, 1994). Infants who lack the skills to cope with negative emotions need the caregiver's comfort to cope with negative emotion such as anxiety, fear and anger. Infants who are not comforted by their parents fail to cope with negative emotions and reflect this emotion to their primary caregivers, which affects the attachment relationship unfavourably (Bowlby, 1969). In this case, according to the "Heuristic Model" proposed by Eisenberg, Cumberland and Spinrad (1998) for parents' emotion socialization behaviours, it could be said that positive parent emotion socialization strategies are one of the basic parental behaviours required for secure attachment. According to Southam-Gerow (2014), emotion socialization is built using parent-child attachment, modelling of parents and emotional speech between parent and child. Studies are suggesting that supportive behaviours that help children understand emotions, model them using appropriate emotional reactions and help them build their emotion regulation influence children's emotion socialization behaviours (Birle & Losif, 2014; Boldt, Goffin & Kochanska, 2020; Garner et al., 2008; Blair et al., 2014; Fabes et al., 2001; Garner et al., 2008; Mcelwain, Halberstadt & Volling, 2007; Root & Stifter, 2010).

Considering the study findings in the context of "Attachment Theory" and "Heuristic Model", the fact that mothers' emotion socialization behaviours significantly predict children's attachment levels overlaps with the theoretical framework.

5. Limitations and Future Work

This study, aiming to identify the predictiveness of mothers' emotion socialization behaviours on children's attachment levels, has several limitations. The study was carried out based on a quantitative research paradigm. Observation and survey methods might enable a comprehensive analysis of the subject in studies dealing with children's attachment styles and parents' emotion socialization behaviours. The study involves children from families of low socio-economic status. Future studies could involve families and parents of low, middle and high socio-economic status to analyse the relationship between parent emotion socialization behaviours and children's attachment levels in the context of socio-economic differences. The study was carried out with 143 child-mother pairs; therefore, extending the study group might produce different results.

6. Conclusions

This study was carried out to identify the predictiveness of mothers' emotion socialization behaviours on children's attachment levels. It was concluded that mothers' emotion socialization behaviours significantly predict children's attachment levels. Mothers are the most important attachment figures for children, and the fact that mothers' reactions, especially to their children's emotions, predict children's attachment strength is consistent with the theoretical framework. It is expected that the results of the study will contribute to the theoretical body of knowledge and inform researchers.

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Development and Validation of the Grit Scale: Test of Measurement Invariance across University and High School Students

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ABSTRACT

The concept of grit has become a widely investigated topic in mental health and education in recent years. This study aims to develop a tool for measuring grit in high school and university students and to examine the measurement invariance of the developed scale on two different groups. A total of 586 high school students (411 female, 70%; 175 male, 30%) and 639 (437 female, 63%; 202 male, 37%) university students participated in the study. Grit Scale, Short Grit Scale, and Beck Hopelessness Scale were used as data collection tools in the study. The exploratory factor analysis results indicated that 14-item Grit Scale with three sub-dimensions explained 61.88% of the variance. The dimensions in the scale were named Perseverance, Commitment to Goals, and Consistency of Interest. Confirmatory factor analysis showed that the three-dimensional structure of the Grit Scale fit the data well, with measurement invariance between the high school and university student groups. Cronbach's alpha internal consistency coefficients of the total score and sub-dimensions of the scale were found as .87, .85, .84, and .75, respectively. Convergent validity was evaluated by calculating the zero-order correlation between the Grit Scale and Short Grit Scale and a significantly high positive correlation was found ($r = .655, p < .001$). Divergent validity was evaluated by examining the relationship between Grit Scale and the Beck Hopelessness Scale and a mild correlation was found ($r = -.484, p < .001$). The study revealed that the Grit Scale is a valid and reliable measurement tool that can be used with adolescents and university students.

Keywords:

Grit, perseverance scale development, measurement invariance.

1. Introduction

Psychology has always sought answers to the question of what makes people different from one another, what factors cause one person to be more successful than another who grows up in the same family, whether the differences between people are caused by genetic factors or by environmental factors in which individuals grow up. These questions have always had an important place in the field of education as well. When considering the features that predict success in educational processes, the effectiveness of effort and talent in these processes has always attracted the attention of researchers. This question has also been related to the issue of how much individuals can benefit from educational processes. Within this scope, these questions had an important effect on developing the first intelligence tests. In the history of psychology, many theories and

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views have been put forward within the nature vs. nurture discussions, longitudinal studies have been conducted on identical twins, and many studies revealed scientific findings on the issue. However, over time, it has been observed that the emphasis on the effects of genetic factors has shifted to dimensions such as environmental factors, the richness of life experiences, and educational opportunities. One of the concepts that are widely emphasized on this subject is grit. American psychologist Angela Duckworth has sought answers to questions such as *"Is effort or talent the most important determinant of the success of individuals? Why some people are more resilient in difficult educational processes, while others give up in a short time?"* in her studies throughout the years and she came up with a theory regarding the concept of grit (Duckworth et al., 2007).

Turkish Language Association (TDK, 2021) defines grit (*azim*) as *"the determination to overcome the obstacles"*. However, (Duckworth, 2016) added a new dimension to the concept after investigating the issue throughout the years by stating that the concept of grit should not be addressed only with the dimension of being determined and persistent in dealing with obstacles and difficulties. She defined grit as the determination of the individual in his efforts and the consistency of his interests. Thus, the concept of grit refers to perseverance and passion for long-term goals (Duckworth et al., 2007). In this context, grit is about being resilient in the face of adversities and difficulties of life, and at the same time, it is about having objectives and life goals that the individual will adhere to in the long term (Perkins-Gough, 2013). Hence, grit is the individual's commitment to long-term goals with persistence and passion. This passion expresses consistency over time rather than intense emotions (Duckworth et al., 2007). When the individual begins to enjoy his work, passion starts to emerge. According to this view, grit means pursuing high-level goals consistently for a long time. However, the individual's lack of well-structured goals may result in a lack of grit. Therefore, the individual needs to have a well-structured hierarchy of goals, and these goals must be interrelated and integrated (Duckworth, 2016). Analyzing grit within the framework of character strengths, Peterson and Seligman (2004), discussed the concept of grit as a feature of courage, which is one of the features of character strengths, and defined grit as the determination to continue one's efforts voluntarily despite the obstacles, difficulties, and discouraging situations. Individuals who have grit as a positive personality trait have high expectations and complete hard work despite the obstacles and the urge to give up (Carr, 2013). The individual's desire to pursue their passions and dreams, believing in themselves, doing their best, working hard, thinking about the future, and giving up old habits are also characteristics evaluated within the framework of grit (Wedding, 2014).

Grit means being resilient in the face of failure or negative experiences (Perkins-Gough, 2013). Grit is closely related to the concept of success, and grit in this process often predicts success more than talent because being talented in a certain subject causes an individual to make an effort only up to a certain point. In this process, grit often predicts success more than talent because being talented in a certain subject causes an individual to make an effort only up to a certain point and then stop working upon reaching that threshold. On the contrary, gritty people do not stop working at a certain threshold because they have a permanent habit of working, and they keep working hard even after they achieve. They keep working hard even after achieving considerable success. On the other hand, the road to success is often long and every individual faces many obstacles and difficulties in this process, and from time to time they experience some failures. Thus, individuals who achieve success in the long term are, above all, gritty individuals.

For this reason, those who stop trying and working when faced with obstacles or who constantly change their interests have a lower chance of succeeding (Credé et al., 2017). Similarly, Duckworth (2016) argued that putting effort is twice as important as talent, and she talked about two significant characteristics of people who achieve superior success: they have extraordinary endurance and diligence, and they are well aware of what they want, and they act accordingly. She also defined these characteristics as the basic components of grit. According to this approach, focusing too much on talent involves some potential harm. In labeling and categorizing individuals according to their talents, there is a risk of overshadowing and discarding various traits of individuals, most importantly grit. Studies have shown that grit predicts success beyond and above talent (Duckworth & Quinn, 2009).

Various views have been put forward on the development of grit, and related questions have been asked about the concept, just like the discussions on personality. These questions were related to whether grit comes from birth, whether it is a personality trait, and whether it changes according to environmental conditions. Findings of studies show that grit is a trait that changes depending on environmental interventions, such as the individual's efforts and the amount of time spent on the task at hand (Alan et al., 2019; Cross, 2014). Grit, like

all other personality traits, is affected by genetic factors. The Grit Scale was administered to 2000 twins in a study conducted in England. According to the results, the genetic transmission rate of the determination subscale of grit was calculated as 37%, and the genetic transmission rate of the passion scale was calculated as 20%. This situation revealed that the remaining part was explained by experience and showed that grit is a feature that could be developed (Duckworth, 2016). Peterson and Seligman (2004) dealt with the concept of grit within the framework of character strengths and indicated that grit is a trait that can be learned.

Techniques such as rewarding individuals' efforts, teaching them to attribute their failures to insufficient efforts and giving them positive feedback in cases of learned helplessness contribute to the development of grit. Duckworth (2016) put forward four dimensions of the development of grit. The first is increasing interest and passion and enjoying what we do. The second one is to practice. Doing something better than the previous day, making it a part of one's nature by repeating it continuously, and demonstrating a long-term steady effort and determination for all these. The third is to have goals that mature the passion, make the individual move forward and sustain. To achieve this, it is significant that the individual sets the goals that serve the well-being of both himself and others. The fourth one is hope. According to this dimension, hope is a force necessary for every stage of grit that keeps the individual's perseverance alive, uplifts them when they falls, and makes them move forward when they make a false step. Similarly, Tough (2012) stated that grit can be developed by education. Grit is a trait that can be developed by education by functional reinterpretation of various life experiences, and it significantly predicts the success levels of individuals. Diener et al. (2009) indicated that the ability of the individual to adapt to the situation when faced with obstacles and difficulties also plays an important role in building grit. Re-evaluating negative events with a positive perspective helps the individual to show grit and become perseverant in achieving their goals.

It has been determined that the concept of grit has important consequences for individuals in various fields such as mental health and education. With the studies conducted by Duckworth (2016) and Peterson and Seligman (2004), the concept of grit has started to be considered one of the protective and developing factors in mental health. Several studies have shown that the concept of grit has a significant positive relationship with variables such as resilience (Jin & Kim, 2017), academic performance (Pate et al., 2017), life satisfaction, happiness, well-being, and positive emotions (Jin & Kim, 2017; Peterson et al., 2007; Singh, 2008). Studies also revealed that grit reduces the risk of suicidal ideation by developing meaning in life (Kleiman et al., 2013). The concept of grit has been considered as one of the variables closely related to academic success, it has been examined as one of the strong variables that predict success (Eskreis-Winkler et al., 2014; Tang et al., 2019), and the concept of academic grit has been introduced in concerning this. The concept of academic grit is related to setting goals regarding the educational processes of individuals, overcoming the difficulties they encounter in the process of achieving these goals, and their determination and endurance in this process (Sağkal, 2020).

Since the period during which first intelligence tests were developed in the field of education and psychology, cognitive variables such as intelligence have been predominantly used in predicting success, and non-cognitive dimensions such as grit have been addressed in a more limited way. In this context, the relationship between the concept of grit as a non-cognitive variable success and performance has begun to be investigated extensively (Kannangara et al., 2018) with the introduction of virtues and character strengths that were discussed within the positive psychology approach and Duckworth et al.'s (2007) extensive research on the concept. The US Department of Education published a report in 2013, stating that skills such as grit, tenacity, and perseverance are important components of learning processes and success in the 21st century. These non-cognitive skills are critical for individuals to achieve long-term and high-level goals and cope with the difficulties they face in school life and other areas of life. Within this scope, it has been suggested to all stakeholders of the educational field to create educational environments that allow the development of these traits of individuals (Shechtman, 2013). Thus, it can be said that the concept of grit is critically significant for the field of education. This situation, on the one hand, points out the importance of investigations on the subject and intervention studies aimed at developing grit, and it reveals that new tools need to be developed to measure the concept of grit.

When the literature is examined, no other measurement tool for measuring grit has been found other than the Grit Scale developed by (Duckworth & Quinn, 2009). Within this scope, the Grit Scale was used in most of the studies on the concept of grit that were conducted in different cultures. Although adaptation studies have been undertaken for this scale, the scale is a measurement tool developed in the individualist western culture.

In this context, it was noticed that a significant part of the research on grit was conducted in American culture (Tang et al., 2019). Traits such as grit are variables that are closely related to culture (Datu et al., 2016). On the one hand, this situation shows that the cultural adaptation studies of the existing measurement tools should be done carefully, on the other hand, it also points out the importance of developing cultural-sensitive measurement tools. Related studies in the literature reveal that while using a single measurement tool is beneficial in terms of comparison, this might put the studies, which investigate an important concept like grit, in a vicious circle after some time.

On the other hand, recently, various opinions have been put forward regarding the predictive power, sub-dimensions, and insufficiency of the measurement power of the Grit Scale (Datu et al., 2016; Tang, Wang, et al., 2021). One of the current debates about grit is the suggestion that studies on grit in adolescents are limited, most studies are conducted with university students, and that these groups should be diversified (Tang et al., 2019). In addition, various studies have shown that the dimension of commitment to goals has been neglected, or that the dimension of consistency of interest yielded different results in collectivist cultures, and suggestions have been made that different dimensions should be considered in measuring grit (Tang, Wang, et al., 2021). Based on these discussions, it is thought that the development of new measurement tools in different cultures and age groups will allow the emergence of different dimensions and orientations regarding the concept and in this way, this will contribute to the development of the literature on the topic with different perspectives. Although the Short Grit Scale was adapted to the Turkish language, it is thought that developing a new measurement tool for Turkish culture in the context of new and different discussions and suggestions would fill an important gap in the literature. It is seen that, in Turkey, the tools for measuring traits such as grit, tenacity, and perseverance are limited, and the existing measurement tools are the ones that have been developed and adapted in other cultures. Although the validity and reliability of the measurement tool are calculated by statistical methods in adaptation studies, it is thought that it is important to develop the measurement tool directly in the respective culture, rather than adaptation, especially in the measurement of some culture-sensitive personal traits. This situation will partially reduce the already existing limitation of self-report measurement tools and will reveal the desired feature to be measured in a more reliably.

2. Methodology

2.1. Research Model

The research is a scale development study carried out with the general survey model. The scale development process was carried out within the framework of the steps that Worthington and Whittaker (2006) suggested as a result of their study based on an extensive literature review.

2.2. Research Sample

Using the convenience sampling method, 586 (411 female, 70%; 175 male, 30%) high school students and 639 (437 female, 63%; 202 male, 32%) university students were recruited via classroom announcement in the present study. The range of age is from 14 to 19 ($M= 16.01$, $SD= 1.27$) for high school students and 18 to 32 ($M= 21.37$, $SD= 2.37$) for university students. The procedures and aims of the study were explained to each volunteer student before taking their written consent. Furthermore, the purposes and procedures of the study were approved the local ethical committee of the university.

2.3. Data Collection Tools and Procedure

Short Grit Scale (Grit-S): The Grit-S is a 8-item self-report measure to evaluate trait level perseverance and passion for long-term goals (Duckworth & Quinn, 2009). The Grit-S has two components: Consistency of Interest and Perseverance of Effort and a total score. Four items of Grit-S were reverse coded, and the higher scores represent higher grittiness. The Turkish form of Grit-S has the original factor structure (Sarıçam et al., 2016). Both subscales and total scores of Grit Scale have reasonable reliability in the present study; Cronbach's alphas for consistency of interest, perseverance of effort, and total score were .63, .74, and .68, respectively.

Beck Hopelessness Scale (BHS): BHS, developed by Beck et al. (1974), is a 20-item true-false self-report measure that evaluates the individual's negative expectations for the future. Eleven of the items are keyed true and 9 false. The items are summed to obtain a total hopelessness score, ranging from 0-20. The higher scores demonstrate the higher level of hopelessness. The validity and reliability studies of BHS were conducted by

Seber et al. (1993) and Durak and Palabıyıkoglu (1994). In the current study, Cronbach's alpha reliability coefficient of BHS was .86

Item Development Process: For the item development process, we carried out a comprehensive literature review on the topic of grit at the first stage. In this context, the studies and theoretical approaches put forward within the framework of the concepts of grit (Duckworth, 2016) and perseverance (Peterson & Seligman, 2004) were examined. As a result of this examination, we started to form an item pool for measuring this concept. Then, after taking the opinions of the field experts and conducting a pilot study with a total of 258 students, 112 of whom were high school students and 146 university students, we created a 27-item question pool. First, an exploratory factor analysis was conducted on this pool of items. As a result of EFA analysis, the final scale form consisting of 14 items was obtained. The model was tested with the confirmatory factor analysis (CFA) and this analysis was performed on two different groups of both high school and university students. As a result, it was revealed that the scale's goodness of fit index values were good and the scale's factor structure was confirmed.

2.4. Data Analysis

SPSS 21 (IBM Corporation, 2015) and Mplus 7.3 (Muthén & Muthén, 1998-2012) were used for the statistical analysis. Following the calculation of the socio-demographic characteristics of the sample, several additional statistical analysis were conducted; i) calculating skewness and kurtosis values, ii) corrected-item total correlation, iii) assessment of the construct validity of the Grit Scale by using explanatory factor analysis and confirmatory factor analysis (CFA), iv) convergent and divergent validity performing the Pearson moment product correlation analysis the Grit Scale and relevant measures, and calculating average variance extracted and composite reliability, v) testing the reliability calculating the Cronbach's alpha and retest reliability with a time interval of two weeks, vi) examining measurement invariance performing several multi-group confirmatory factor analysis.

Skewness and kurtosis values were less than ± 1.2 , which fell between Tabachnick and Fidell's (2007) recommendation. The corrected-item total correlation coefficients of all the 27 items were greater than .30 (Nunnally & Bernstein, 1994). We randomly split the sample into two groups. In the first group ($n=628$), due to the principal component analysis (PCA) is a technique for reducing the dimensionality of the data (Tabachnick & Fidell, 2007) and it is a psychometrically sound and less complex procedure, we performed a PCA on the 27 items to investigate the dimensional structure of the Grit Scale (Field, 2009). Considering that factors were expected to correlate each other, an oblique (Promax) rotation was performed (Tabachnick & Fidell, 2007). Moreover, parallel analysis were run to determine the number of factors, using Horn's (1965) procedure. Then, confirmatory factor analysis was performed using maximum likelihood estimation on the second group ($n= 597$). We used the following commonly used fit indices (Brown, 2015; Kline, 2011) and acceptable ranges to evaluate model fit (Hu & Bentler, 1999; Tabachnick & Fidell, 2007): the CFI ($\geq .90$), the TLI ($\geq .90$) and the RMSEA ($\leq .08$) with a 90% CI. In addition, the composite reliability (CR), average variance extracted (AVE) and Cronbach's alpha were calculate to evaluate the validity and reliability of the Grit Scale.

To examine measurement invariance across the high school students and university students group, we performed several multi-group CFA to examine the Grit Scale's configural, metric and scalar invariance (Li et al., 2015; Vandenberg, 2002). First, as baseline models, the models were estimated freely for both high school and university students. Then, the configural invariance evaluated whether the Grit Scale was best described with three-latent factors for the two groups. Factor loadings were constrained to be equal across groups in the metric invariance. To examine scalar invariance, intercepts and factor loadings were set to be equal. To compare the increasingly nested models, chi-square difference test ($p > .05$) and recommended change in fit indices were used: $\Delta CFI \leq .010$; $\Delta TLI \leq .010$; $\Delta RMSEA \leq .015$ (Chen, 2007; Cheung & Rensvold, 2002).

2.5. Ethical

The authors declare no conflict of interest. The participants were informed about the study, and the approvals for participation in the study were received. The compliance of the research process with ethical rules was ensured with the approval of the ethics committee obtained from the Erzincan Binali Yıldırım University ethics committee with the number E-85748827-050.06.04-65991.

3. Findings

3.1. Exploratory Factor Analysis (EFA)

The sample was randomly split into two groups. In the former subgroup ($n= 628$; 298 high school students, 330 university students), the PCA with an oblique rotation (Promax) was conducted on the 27 items to investigate the dimensional structure of the Grit Scale. The present study had the 23:1 subject to item ratio above Costello and Osborne's (2005) recommendation. Moreover, the Kaiser-Meyer-Olkin (KMO) measure was .94 (in the superb range), which verified the sampling adequacy. All KMO values for individual items (diagonals of the anti-image correlation matrix) fell between .71 and .97, which is well above the acceptable limit of .5 (Field, 2009). To determine the presence of multicollinearity, the correlation was investigated (i.e. $r < .89$; Field, 2009) but all correlations were below than .61. Bartlett's test of sphericity, $\chi^2(351) = 7365.008$, $p < .001$ revealed that there is an adequately large correlation between items for PCA.

An initial factor analysis was performed to calculate eigenvalues for each component. Five components had eigenvalues greater than Kaiser's criterion of: 9.88, 1.77, 1.58, 1.054 and 1.018, respectively. This solution explained 56.67% of the variance. Horn's (1965) parallel analysis was performed using the SPSS syntax provided by O'Connor (2000) to determine the number of factors. Parallel analysis compares the extracting eigenvalues from the actual sample correlation matrix with the eigenvalues extracting from a random correlation matrix. Factors are retained if the actual eigenvalue is larger than the eigenvalue from the random data. The result of the parallel analysis indicated that the eigenvalues of first five factors are; 1.46, 1.38, 1.33, 1.29 and 1.25, respectively. According to the parallel analysis, three factors were retained because the eigenvalue of the fourth factor of the random data are higher than that of the actual data. Investigation of the scree plot clearly showed inflexion that would justify retaining of three components. Given the large sample size, eigenvalues and scree plot, a second factor analysis (PCA; Promax rotation) was conducted with a fixed number of three factors. Three-factor solution explained 49% of variance. The pattern matrix and structure matrix were investigated to define which items to retain (Tabachnick & Fidell, 2007). Because the greater factor loading are considered indicative of well-defined structure, an item was retained and loaded to a factor if its loading was .60 or greater for that factor (Comrey & Lee, 1992). Ten hyperplane items that had not loaded on any of the factors and three items that had loaded on two factors were removed, and the EFA was rerun. The final three-factor solution had 14 items that explained 61.88% of the variance.

The first factor, called Perseverance (Pers), includes five items for coping with difficulties and not giving up; it explains 40.38% of the variance. The second factor comprises five items focusing on the pursuing goals and explains 11.92% of the variance. This factor was named as Commitment to Goals (CtG). The last factor, called Consistency of Interest (CI) includes 4 reverse-coding items focusing on the consistency of interest and goals and explains 9.59% of the variance. Considering the oblique rotation, there were moderate or strong correlations between factors: Factor 1 and 2 ($r = .56$), Factor 1 and 3 ($r = .39$), Factor 2 and 3 ($r = .33$). Table 1 indicates the factor loadings of all 14 items.

Table 1. Factor structure and loadings of the Grit Scale

Item	R _{ij}	Factor 1 (Pers)	Factor 2 (CtG)	Factor 3 (CI)
I5	.651	.795		
I9	.430	.760		
I10	.563	.827		
I11	.646	.804		
I13	.584	.718		
I1	.593		.809	
I2	.582		.759	
I4	.548		.767	
I6	.651		.823	
I7	.550		.748	
I3	.545			.653
I8	.485			.809
I12	.413			.746
I14	.419			.805

Note: R_{ij}: Corrected item total correlations, Pers= Perseverance, CtG= Commitment to Goals, CI= Consistency of Interest

3.2. Internal Consistency

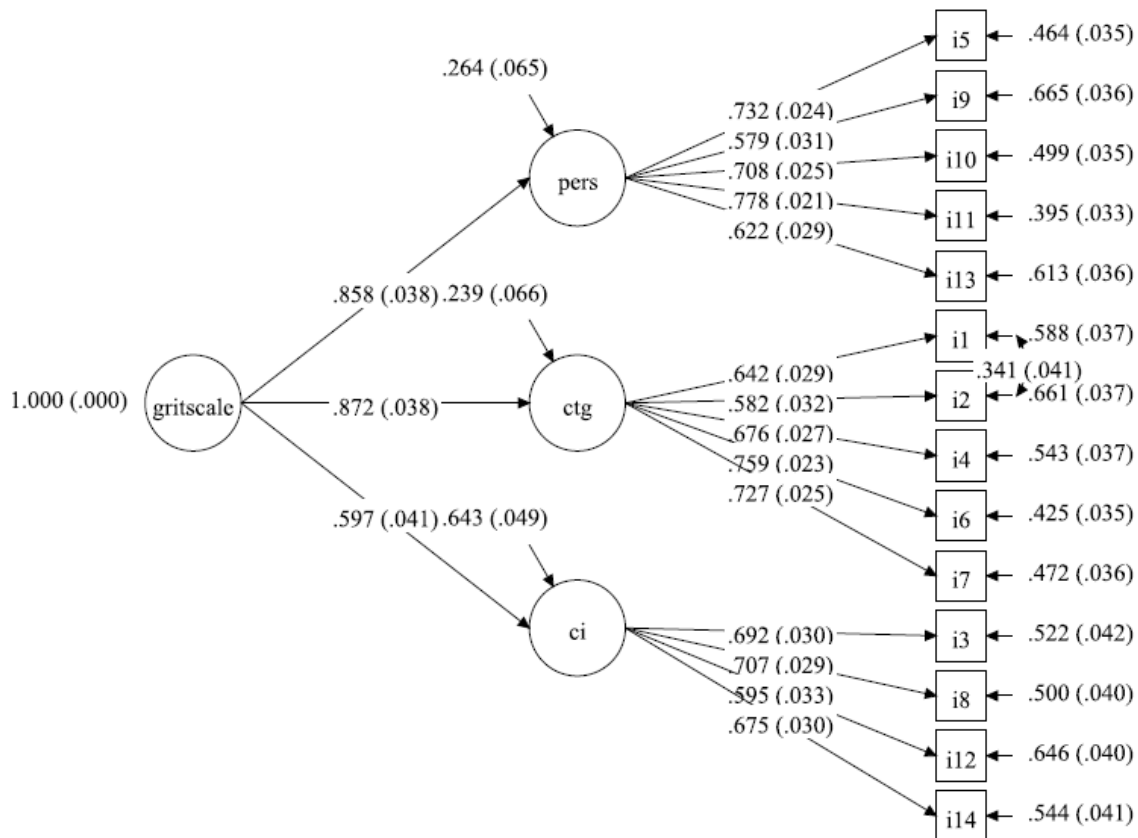
Internal consistency was tested using Cronbach’s alpha. The total Grit Scale ($\alpha=.87$) demonstrated high internal consistency. The corrected item-total correlations range from .49 to .65 and none of the items would increase the internal consistency if they were deleted. The Grit Scale subscales also had acceptable internal consistency, which are .85, .84 and .75, respectively. The all corrected item-total correlations for all subscales were above .48. Moreover, none of the items would increase the reliability of the relevant sub-factor, if it were removed.

3.3. Retest Reliability

A total of 72 participants completed the Grit Scale a second time, about two weeks after they responding the first Grit Scale administration. Retest reliability was tested by calculating zero-order correlations between the first and second administration scores. The total Grit Scale demonstrated adequate retest reliability ($r= .736$, $p< .001$). Moreover the Pers, CtG and CI also indicated well retest reliability; correlation coefficients were .858, .848 and .892, respectively (all p 's $< .001$).

3.4. Confirmatory Factor Analysis (CFA)

To examine the three-dimensional latent structure of the Grit Scale, a second-order CFA was performed in the second group consisting of 288 high school students and 309 university students. The CFA results demonstrated that the three-factor model of the Grit Scale adequately fit the data. Goodness-of-fit indices for the CFA model were as follows: $\chi^2=253.060$, $df= 74$, $CFI= .94$, $TLI= .93$, $RMSEA= .064$ [90% CI .055 to .072], $SRMR= .046$. Modification Indices demonstrated a possible covariance between the error variances related to the indicator variables of I1 and I2. Since the two items are semantically close and located in the same sub-factor, covariance between the error variance of the two items was put and the CFA was run again. The last CFA results showed that the model had better fit ($\chi^2=196.917$, $df= 73$, $CFI= .96$, $TLI= .95$, $RMSEA= .053$ [90% CI .044 to .062]). All items of the Grit Scale loaded strongly (.58 to .87) onto the respective latent factors. Moreover, the three dimensions loaded strongly on the general factor (ranging from .60 to .87; see Figure 1).



Note. CtG= Commitment to Goal, Pers= Perseverance, CI= Consistency of Interest. All loadings are significant at $p < .001$

Figure 1. The Factor Structure of the Grit Scale.

3.5. Convergent and Divergent Validity

Convergent validity was evaluated by calculating the zero-order correlation between the Grit Scale and Short Grit Scale. The Grit Scale had a significant high positive correlation with the Short Grit Scale ($r = .655, p < .001$). The Pers, CtG, and CI, the subscales of the Grit Scale, also had a positive correlation with the Short Grit Scale; the correlation coefficients were .552, .485 and .569, respectively (all p 's $< .001$). Additionally, the composite reliability of all three subscales ranges from .76 to .82, which fulfills the recommended level of .60 (Fornell & Larcker, 1981). The average variance extracted ranges between .45 to .47 and is a little below the recommended level of .5. According to Fornell and Larcker (1981), the average variance extracted is a more conservative measure, and "on the basis of the composite reliability alone, the researcher may conclude that the convergent validity of the construct is adequate, even though more than 50% of the variance is due to error" (p. 46). As the composite reliability of the three subscales is well above the acceptable level of .6, we may conclude that the convergent validity of the Grit Scale is adequate. Table 2 summarizes the composite reliability, average variance extracted and Cronbach's alpha of the subscales of the Grit Scale.

Table 2. Composite Reliability, Average Variance Extracted and Cronbach's Alpha Values

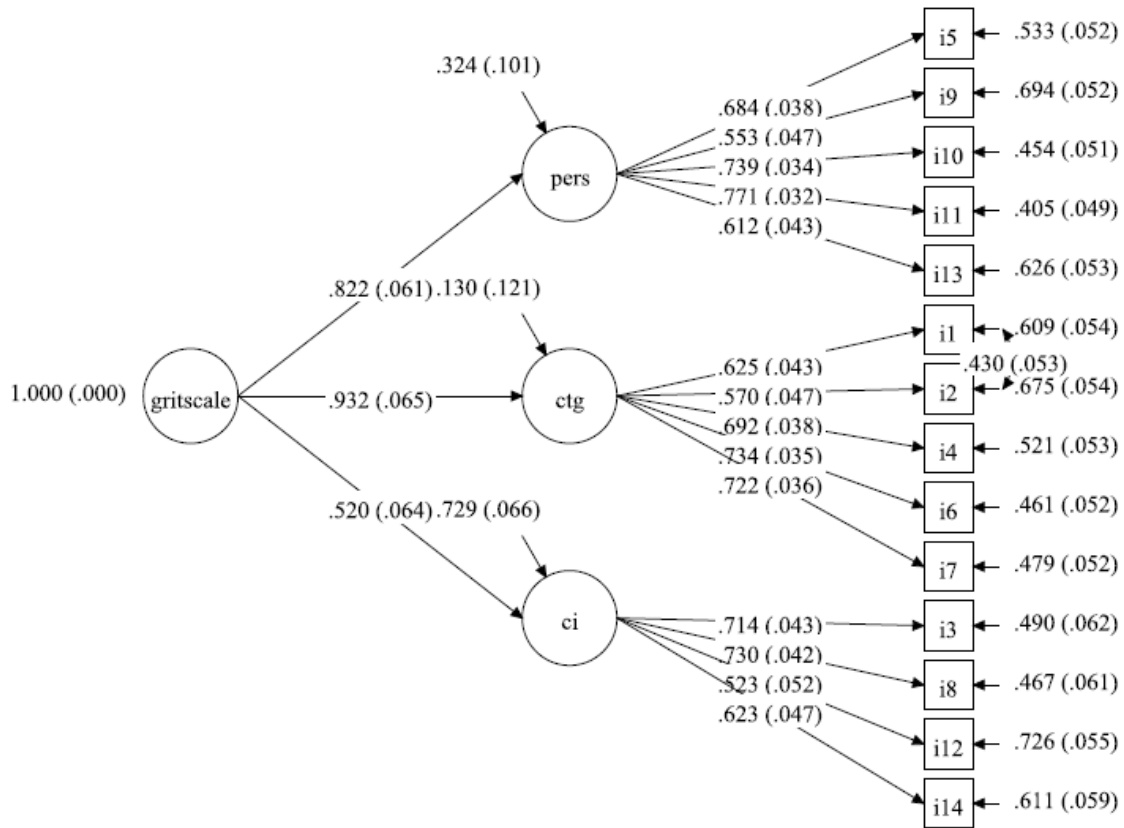
Subscale	CR	AVE	Cronbach's alpha
Perseverance	.82	.47	.85
Commitment to Goals	.81	.46	.84
Consistency of Interest	.76	.45	.75

CR= Composite reliability, AVE= Average variance extracted

Since hopelessness and perseverance are expected to have the opposite nature, the association between the Grit Scale and the Hopelessness Scale was examined to assess divergent validity. There is a mild correlation between the Grit Scale and a Hopelessness Scale ($r = -.484, p < .001$). Furthermore the Pers, CtG and CI were negatively associated with the Hopelessness Scale ($r = -.372, -.375$ and $-.380$, respectively; all p 's $< .001$).

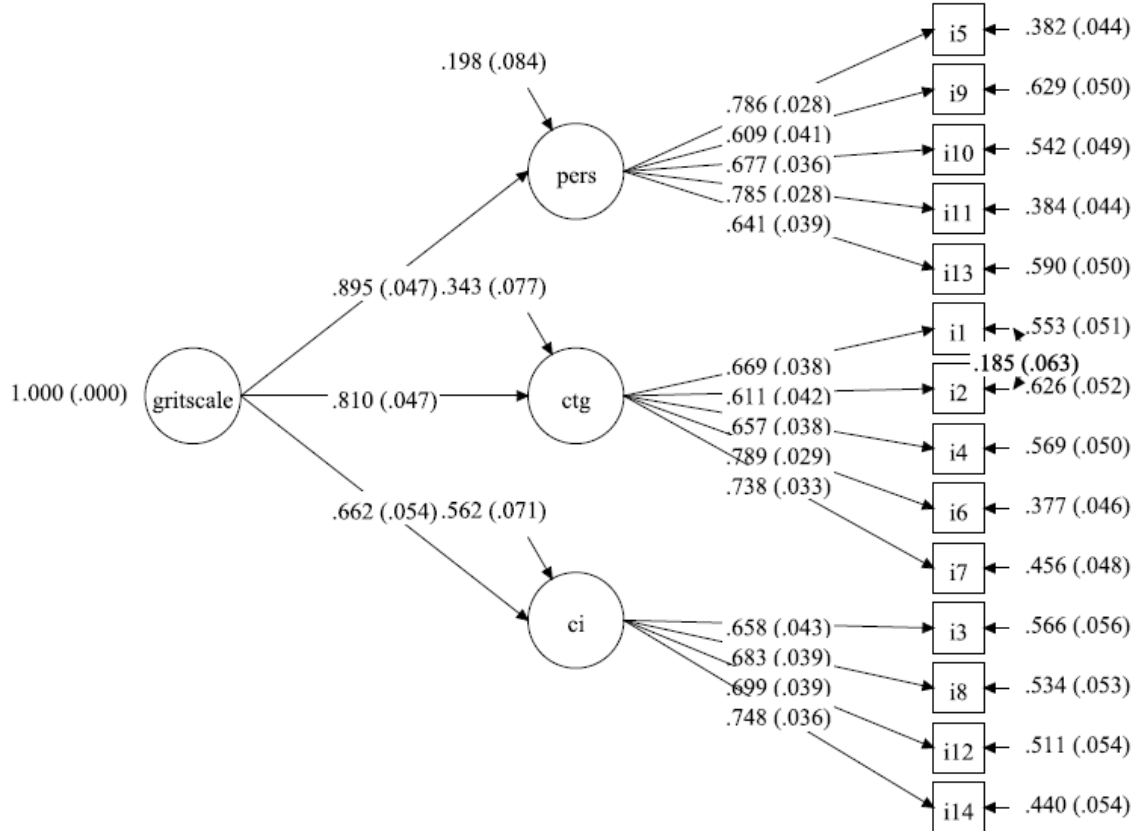
3.6. Measurement Invariance

Following the CFA test of model fit, measurement invariance was performed using multi-group CFA to examine the factor structure of the Grit Scale across two subgroups: high school students and university students. At first, the baseline models, estimated freely for both high school students and university students, demonstrated good fit (Figure 2 and 3). The results of the measurement invariance analysis are indicated in Table 3.



CtG= Commitment to Goal, Pers= Perseverance, CI= Consistency of Interest. All loadings are significant at $p < .001$.

Figure 2. The Factor Structure of the Grit Scale for High School Students.



CtG= Commitment to Goal, Pers= Perseverance, CI= Consistency of Interest. All loadings are significant at $p < .001$.

Figure 3. The Factor Structure of the Grit Scale for University Students.

After obtaining adequate fit indices for both group, parameters were gradually constrained and changes in fit indices were assessed. The configural model (M1), in which all parameters were unconstrained, had acceptable fit indices ($\chi^2=276.545$, $df= 146$, CFI= .96, TLI= .95, RMSEA= .055 [90% CI .045 to .065], Table 3). This result indicated that the three-factor model has well model fit across high school and university students group. In the metric model (M2), factor loadings were constrained to be equal, resulting in good model fit ($\chi^2=291.751$, $df= 157$, CFI= .96, TLI= .95, RMSEA= .054 [90% CI .044 to .063]). When compared to the M1, the chi-square difference test was non-significant and no significant changes in model fit indices occurred; $\Delta CFI= -.001$, $\Delta TLI= .001$, $\Delta RMSEA= -.001$. This result demonstrated that factor loadings were invariant across the group of high school and university students. To determine scalar invariance (M3), intercepts and factor loadings were constrained to be equal across group, which demonstrating a good model fit ($\chi^2=306.354$, $df= 168$, CFI= .95, TLI= .95, RMSEA= .053 [90% CI .043 to .062]). When compared to the M2, chi-square differences test was not significant and there was no significant deterioration of fit indices; occurred; $\Delta CFI= -.002$, $\Delta TLI= .003$, $\Delta RMSEA= -.001$. This showed that intercepts and factor loadings were invariant across the group of high school and university students. The results of measurement invariance analysis suggest that the Grit Scale can be comparable across the high school and university students groups.

Table 3. Fit Indices for Measurement Invariance Across the Group of High School and University Students

Model	χ^2	df	CFI	TLI	RMSEA	Mc	$p(\Delta\chi^2)$	ΔCFI	ΔTLI	$\Delta RMSEA$
B1	124.946	73	.962	.952	.050					
B2	151.599	73	.953	.941	.059					
M1	276.545	146	.957	.947	.055					
M2	291.751	157	.956	.948	.054	2 vs.1	.173	-.001	.001	.001
M3	306.354	168	.954	.951	.053	3 vs. 2	.201	.002	.003	.001

Note: B1= Baseline model for high school, B2= Baseline model for university, M1= Configural model, M2= Metric model, M3: Scalar model, Mc= Model comparison.

4. Conclusion and Discussion

This study, in which the Grit Scale was developed for high school students and university students, examined the measurement invariance of the scale in high school and university student groups. The exploratory factor analysis revealed a 14-item scale including three sub-dimensions: perseverance, commitment to goals, and consistency of interest. Confirmatory factor analysis also confirmed this construct. Considering the relationships of the Grit Scale with the other scales used in this study (Grit-S and Beck hopelessness scale) and the composite reliability and average variance extraction of the Grit scale, it can be said that the Grit scale has convergent and divergent validity. According to the reliability analysis, the scale provided reliable results. Besides, the Grit Scale had measurement invariance in high school and university student groups and had a similar structure in both groups. The Grit Scale was considered valid and reliable, consisting of three sub-dimensions and 14 items.

Unlike the two-dimension structure that Duckworth & Quinn (2009) presented, this study found that the concept of grit has a third dimension called as the commitment to goals. During the ongoing process of this study, we realized that another scale (Kuruveettissery, Gupta, & Rajan, 2021) was developed in India to measure grit. This three-dimensional grit scale was developed on Indian students and professionals aged between 18 and 25. These dimensions were named as; perseverance-commitment, interest-passion and goal-directed resilience. When comparing these structures, it is seen that these sub-dimensions have similar characteristics with the dimensions of perseverance, commitment to goals, and consistency of interest that we reached in our study. Besides, this reveals that the variable of grit is a culture-specific variable and the search for different structures in measuring grit continues in different countries. In the most general sense, grit (as a psychological construct) refers to passion and perseverance for long-term goals. Also, grit is a concept used in explaining the differences that occur in people's levels of using their potential (Duckworth et al., 2007). In the most general sense, the concept of grit is conceptualized as a hierarchical feature and considered as a two-dimensional construct. These constructs are Perseverance of Effort (PE) and Consistency of Interest (CI). PE refers to grappling with the difficulties encountered in pursuing tough goals, and CI involves a passionate commitment to goals. These constructs are common in the known and widely used measurement tools and in the first conceptualization studies related to grit (Cormier et al., 2019; Duckworth & Gross, 2014; Duckworth & Quinn, 2009). Grit is an important feature that affects individuals' worldviews and goals. Duckworth (2016)

states that a growth mindset can lead to grit. , A growth mindset about individuals' personalities and abilities, shape their worldviews, goals, and actions. Thus, individuals act differently to similar situations, and this is due to the individuals' having different beliefs. In other words, when individuals think that their efforts in a task are paying off, they set long-term goals and make a determined effort to achieve this goal (Dweck, 2017). However, the opposite is also true. Gritty individuals tend to engage in activities that improve their skills. Over time, these individuals develop mastery experiences by working hard and grappling with difficulties (Duckworth et al., 2011). This is because a change in behavior also accelerates the changes in the mindset. Although not empirically studied, passionate towards long-term goals can help individuals consider themselves flexible and capable. This situation emphasizes the importance of goals, goal setting, and commitment to goals in developing a sense of grit. Therefore, it is suggested that studies investigating intervention and measurement tool development should investigate issues of commitment to goals and achieving goals passionately (Park et al., 2020). Although goals are defined as the central components of grit, little attention has been paid to this issue in the grit scales existing in the literature. Goals have been neglected especially in measuring and discussing grit. Hence, research on the Grit Scale shows that only one item is about the goal statement (Duckworth & Quinn, 2009; Tang, Wang, et al., 2021). The Grit Scale developed by Duckworth and Quinn (2009) indicates that the item "*I often set a goal but later choose to pursue a different one*" is related to the goals. This situation is considered as a problematic situation both in conceptualizing and measuring grit. Especially in the Grit-S, there is a criticism towards naming two concepts such as Perseverance and Passion as a single factor by combining them with a medium level of relationship. Therefore, there is a call to develop and improve existing measurement tools regarding grit. In experimental research to be carried out to understand the role of grit better, the existing measurement tools are insufficient (Credé, 2018). The concept of goal in psychology has been examined in two dimensions. One of them is goal setting, and the other is goal implementation. Goal setting mostly reflects the direction of goal pursuit, while goal implementation reflects goal pursuit activation. The studies on grit have investigated goal implementation but neglected goal-setting processes (Tang, Wang, et al., 2021). In the literature, a study has been conducted with athletes considering grit as domain specific. In this study, the CI dimension was changed as the goal dimension and the expression "goal" was added next to the "project" expression in the items in this dimension. Thus, the statements were transformed into expressions of daily life for students and this dimension was associated with goals (Cormier et al., 2019). This situation points to the limitations in the current measurement tools. The existing measurement tools on grit do not have enough items related to the goals. This can be interpreted as a need for new measurement tools regarding grit.

Another theoretical explanation discusses the relationship between grit and goals by considering an example of grit and academic achievement. In this context, academic achievement is a long-term goal that requires students to take time and self-regulate to overcome difficulties. Therefore, grit encourages students to engage in academic tasks and results in higher achievement in students (Jiang et al., 2019). Achieving challenging goals such as being successful at school requires impulse control and the willingness to work hard and the ability to manage the emotions that arise while pursuing goals. Thus, intellectual/cognitive abilities, emotions, attributional styles, cognition, and self-regulation skills play an important role in academic success. Although no relationship was found between grit and academic achievement in a study conducted with high school students, there was a prediction between one's own chosen goals and grit.

On the contrary, no relationship was observed between grit and goals in which individuals may not be passionate about achieving (Ivcevic & Brackett, 2014). In studies conducted with adolescent, the PE dimension was found to be stronger in criterion-related validity than the CI dimension. Besides, the CI dimension was weaker than the PE dimension in predicting many outputs in adolescents (Bowman et al., 2015; Wolters & Hussain, 2015). Therefore, situations such as determining goals, focusing on goals and pursuing goals are important indicators of grit. These are also emphasized to be important features in developing adolescents' self-concept (Clark & Malecki, 2019). Similarly, in a study conducted with 1907 adults ($M_{age} = 41.4$) in different life periods (ages between 18 and 80), a positive and statistically significant relationship was found between goals defined in five dimensions of present and past (education, career, personal, relationships and health / Well-Being) and grit (Vazsonyi et al., 2019). A study conducted with 1296 adolescents in Finland examined the relationship between depressive symptoms, loneliness, and grit. In the study, grit was found to be the resilience factor against school burnout. Besides, it was concluded that grit decreased depressive symptoms in students with high levels of school burnout. This situation was observed to be more pronounced in male

adolescents. In other words, it was observed that grit had a more protective effect against depressive symptoms and loneliness in male adolescents at risk in school burnout when compared to female students (Tang, Upadyaya, et al., 2021).

Angela Duckworth, who has made a lot of research on grit, has contributed to conceptualizing and measuring the concept of grit as well as determining which variables it is related to. However, researchers are criticizing the GritScale developed by Duckworth et al. (2007) in the literature. Sturman and Zappala-Piemme (2017) criticize the Grit Scale for the following reasons: (i) younger students do not fully understand the expressions in the scale in terms of development because they require a high level of reading skill (e.g., "I have overcome setbacks to conquer an important challenge"), (ii) there is disagreement in the definition of the concept of grit (especially in the CI dimension) (e.g., the statement "My interests change from year to year" indicates the lack of grit). It is stated that multivariied interests should be considered as a positive situation rather than a lack of grit. The important thing here is that the person with a wide range of interests should follow one of their interests and have a life project to complete it. Thus, the researchers defined grit as "to sustain a focused effort to achieve success in a task, regardless of the challenges that present themselves, and the ability to overcome setbacks" and developed a measurement tool to measure grit in both adults and children. This 12-item scale is a 5-point Likert type measurement tool (1= Strongly Disagree, 5= Strongly Agree) and was developed to measure grit in children and adults. The scale was carried out with 249 students (from 3rd to 12th grades). The validity and reliability analysis reported that the 12-item scale had a single factor and was a valid and reliable measurement tool (alpha= 0.84-0.86, two-week test-retest reliability= 0.78). Based on the similar needs, this study aimed to develop a valid and reliable measurement tool for measuring grit in both high school and university students. Based on validity and reliability analyzes and evidence regarding measurement invariance, the developed scale is useful for high school and university students.

There are other criticisms of the Grit Scale developed by Duckworth. One of them is the lack of validity and reliability of the two-dimensional hierarchical structure conceptualized for the concept of grit. In this context, it is emphasized that the CI dimension is less related to grit in collectivist cultures when compared to the PE dimension. This was empirically tested in a study conducted with students attending high school (n= 220) and university (n= 606) in the Philippines, reflecting the collectivist culture's characteristics. In the study, the CI dimension was found to have a lower internal consistency coefficient than the PE dimension, and the PE dimension had higher correlations with basic psychological features such as positive affect, negative affect, academic engagement, and life satisfaction. This was interpreted as having a steady interest in long-term goals and not necessarily maintaining it to be defined as gritty (Datu et al., 2016).

Nonetheless, the concept of "context-sensitive self" is an important issue in collectivist cultures (Suh, 2007). Therefore, importance is attached to people's adaptation to the environment. As a result, it is stated that one of the reasons why people's interests remain unchanged over time may be due to this cultural feature. This is because individuals can determine their interests and goals in line with the group's expectations from time to time to maintain group harmony. Markus and Kitayama (1991) state that one of the basic characteristics of collectivist cultures is interpersonal harmony and pursuit of the group's goals. Another concern regarding grit is the situation in which grit can appear in different forms in different cultures. Researchers state that grit can have different definitions depending on the differentiation of cultural and social contexts. For example, in collectivist cultures where interdependence is important, relationships with family, friends, and peers lead to passionate commitment to long-term goals and persistence in achieving them. Thus, emphasis is placed on examining alternative models related to the concept of grit and developing ways of measuring it. It is especially important to realize these in different cultural contexts (Datu, 2017; Datu et al., 2017). In a study that aimed at conceptualizing grit in a cultural context, the definitions of ten Filipino university students regarding the concept of grit through their past life experiences were examined. In this study, the aim was to discover the cultural differences in the meanings attributed to the concept of grit, based on the collectivist cultural nature of the Philippines. The interviews displayed that grit had a triarchical structure. According to the themes obtained from the interviews, these structures have been named as the perseverance of effort, consistency of interests and adaptability to situations (Datu et al., 2018).

Grit is called "sisu" in Finland, which shows the typical features of the individualist culture. Grit (*sisu*) is explained as the determination of the person to overcome difficulties and is considered as a distinctive feature (hallmark). Thanks to grit, Finnish people have overcome the difficulties they faced in the past and have

become one of the happiest countries in the world by grappling with harsh climatic conditions. As in Finnish culture, the concept of grit can be observed in many different countries and cultural contexts. However, its definition differs from country to country or culture to culture. Also, traits associated with grit can vary according to cultural contexts.

For this reason, it is important to examine grit in different cultural contexts and replicate research on grit (Tang et al., 2019). Although grit has the characteristics of collectivist culture, it is defined in Turkey as (*azim*) "Determination to overcome the obstacles in a job" and gritty person (*azimli*) is defined as "Determined, resisting in her/his decision and attitude" (TDK, 2021). Thus, the person should be consistent and determined in features such as decisions, interests, attitudes, and important goals in their life. This definition is similar to the one in Finland, which reflects the characteristics of the individualist culture. However, it cannot be said that the characteristics of a fully collectivistic or individualist culture are clearly observed in Turkey. Studies show that common self-forms in Turkey reflect the characteristics of both individualistic and collectivist cultures. For Turkey, the autonomous-related self-construal has been defined. Therefore, it can be said that Turkey reflects the characteristics of both cultures (Kağıtçıbaşı, 2017). Thus, it can be said that the similarities in the dimensions and items of the measurement tool stem from cultural characteristics. As a matter of fact, it is seen that there is a similarity between the Grit-S developed by Duckworth and Quinn (2009) and the dimensions of this scale. It can be said that this similarity stems from the characteristics of the cultural context in question for Turkey.

5. Recommendations

The newly developed grit scale's validity and reliability were tested in various ways. According to results, the scale has good fit values, and it is a valid and reliable measurement tool that can be used in measuring grit. Accordingly, the developed measurement tool can be used on both adolescents and university students in studies on grit. Within the positive psychology approach framework, the issue of character strengths has become one of the widely researched topics in the literature. The number of theoretical and applied studies on determining, using and developing the character strengths of individuals is increasing rapidly. In this context, this developed scale can be used to research grit character strength. On the other hand, grit is an important feature for students' development processes as a non-cognitive skill. It is thought that it is important to use this scale in this context.

This study has some limitations. First, the scale was carried out on high school and university students and in the Turkish sample. To investigate the generalizability of the scale, studies with samples other than the student group and in other cultures are needed. Second, almost all measurement tools developed to measure non-cognitive properties such as grit are paper-and-pencil tests. To eliminate this limitation, other methods can be developed to measure grit. Research prefers longitudinal methods to measure grit because in this way they could examine the change in grit over time (Luo et al., 2020). However, this study was carried out with a cross-sectional method. Based on this limitation, it may be beneficial to conduct future studies with a longitudinal method by focusing on different age groups in society. In addition, the participants' responses to the scale items may have been affected by social desirability. After that, case examples about grit can be used in the scale development studies to be carried out on grit. The Grit Scale developed in this study mainly was evaluated as a valid and reliable tool in measuring the grit levels of the students. However, the concept of grit is not just a valid concept for school or educational settings. Grit has also been adapted to work and organizational psychology and employee behavior.

Because no measurement tool has been found in determining the grit levels of employees in Turkey. This shows that there is a need for a measurement tool for grit in workplace. For this reason, it may be useful to examine the psychometric properties of the developed Grit Scale in people in different works and workplaces.

6. References

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Appendix:

GRİT SCALE (AZİM ÖLÇEĞİ)

	MADDELER	Kesinlikle Katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Kesinlikle Katılıyorum
1	Kendimi hedeflerime adarım	1	2	3	4	5
2	Hayallerimin peşinden giderim	1	2	3	4	5
3	Bin bir hevesle belirlediğim hedeflerimden kısa sürede vazgeçerim*	1	2	3	4	5
4	Hedeflerim beni cesaretlendirir	1	2	3	4	5
5	Ne olursa olsun önüme çıkan engellerle mücadele eder, onları aşmaya çalışırım	1	2	3	4	5
6	Sonuna kadar çabalamaya devam ederim	1	2	3	4	5
7	Bir hedefim olduğunda tüm varlığımla ona odaklanırım	1	2	3	4	5
8	Sık sık hedeflerimden vazgeçer, onları değiştirip hedefler belirlerim*	1	2	3	4	5
9	Engellerle karşılaştığımda karamsarlığa kapılmam	1	2	3	4	5
10	Zorluklara ve engellere rağmen yapmam gerekeni yapmaya devam ederim	1	2	3	4	5
11	Zorluklar karşısında kolay kolay pes etmem	1	2	3	4	5
12	İstekle başladığım birçok işte çabucak hevesim kırılır*	1	2	3	4	5
13	Engeller ve zorluklar beni yolumdan alıkoyamaz	1	2	3	4	5
14	Hedeflerim ve ilgi alanlarım çok sık değişir*	1	2	3	4	5

1. *Perseverance (Zorluk ve engellerle mücadele)*: 5, 9, 10, 11, 13

2. *Consistency of Interest (İlgi ve hedeflerin tutarlılığı)*: 3, 8, 12, 14


3. *Commitment to Goals (Hedeflere adanma ve bağlılık)*: 1, 2, 4, 6, 7

* Reverse-coding items (Tersten puanlanacak maddeler) (3, 8, 12, 14)

The Relationship of Character Strengths with Peer Bullying and Peer Victimization Among Adolescents*

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ABSTRACT

This research examined the relationship of character strengths with peer bullying and peer victimization. The research group consists of 663 high school students in Kocaeli chosen by convenience sampling method. Character Growth Index, Peer Bullying Scale Adolescent Form and Personal Information Form have been used. The results indicated that peer bullying was related to the strengths of perseverance, humility, optimism, kindness, love/care, calmness, wisdom, spirituality, and honesty, while no relationship was found with courage and forgiveness. It was also found that peer victimization was related to the strengths of perseverance, humility, optimism, kindness, love/care, calmness, courage, wisdom, spirituality, and honesty character strengths, while there was no correlation with the strength of forgiveness. As a result of the regression analysis, the strength of perseverance and honesty in the Character Growth Index explained 10% of the total variance in being a victim of peer bullying, while the strength of perseverance, humility, spirituality, and honesty in the Character Growth Index explained 16% of the total variance in performing peer bullying. In the examination made according to the gender variable, it was found that there was a statistically significant difference in the sub-dimensions of optimism, kindness, calmness, courage, wisdom, and honesty in the Character Growth Index scale according to gender. Again, according to the gender variable, it was found that the total peer victimization and total peer bullying scores of the students were higher in male students than in female students.

Keywords:

Adolescents, character growth, character strengths, peer bullying, peer victimization.

1. Introduction

Adolescence, which is considered a critical period in terms of personality development, covers a wide area of social life (Kulaksızoğlu, 2002). The crises that need to be overcome during this period and the needs that need to be satisfied cause the individual to behave aggressively by increasing the level of anxiety and stress (Koç, 2006). Another important problem the individual face during adolescence is bullying, a sub-dimension of aggression behavior (Eşkisü, 2009). Olweus (2003) defines school bullying as one or more students harming those who are weaker than their peers through negative actions such as aggressive behavior or deliberate hitting, disturbing, excluding, and gossiping about them. According to Olweus (2003), for an act to be bullying, it must contain the following 3 criteria: 1. intentional damaging actions against the individual or group in the position of victim, 2. the continuity of the act over time, 3. the inequality of power between the bully and the victim. Bullying, which is expressed as the stronger constantly disturbing the weaker himself, has always existed from the past to the present. Many people who now continue their lives as adults have had a life of bullying as a bully and/or victim or witnessing this process (Ayas & Pişkin, 2011). It can be said that

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bullying behavior is an important issue because it carries risks that affect the academic, physical, social, and emotional development of adolescents and may cause unwanted problems in adulthood (Pelendecioğlu, 2011). The sooner negative behaviors such as bullying begin in individuals, the higher the likelihood of committing chronic, serious, and violent crimes as adults. The opposite can also happen. The later the individual exhibits negative behavior, the less concern will be about his behavior in adulthood (Steinberg, 2007). For this reason, it is of great importance to plan activities to prevent negative and undesirable behaviors towards our youth in our schools, to recognize the concept of bullying, which has turned into a school syndrome, and to raise awareness, to protect the health of students, to create a safe environment in schools and to increase school success (Avşar, 2016; Yaman et al., 2011).

Considering the studies for students in terms of preventive studies, emphasizing the positive behaviors that young people need will help reduce negative behaviors. When it comes to the positive development of young people, the most important part is the character strengths which are evaluated within the scope of positive traits. Character strengths are recognized as one of the newest research areas of positive psychology (Steen et al., 2003). Positive psychology focuses on the questions of what is good for the person, how can we measure, how do we build good character in children and young people. For this reason, character strengths are accepted as the center of the psychological good life (Park & Peterson, 2008). Character corresponds to the spiritually valuable aspects of personality. It is the set of positive characteristics that take place in an individual's feelings, thoughts, and behaviors. It also includes moral values (Park & Peterson, 2008). Character strengths are different from externally based forces such as skills and abilities, which are positively related within themselves. It is a set of positive characteristics that enable human development (Shoshani & Slone, 2013; Niemiec, 2013). Good character is not just a structure that is determined by right or wrong and consists of existence or non-existence, it is the whole of them (Peterson & Park, 2008).

Park and Peterson (2009) created the classification of character strengths by defining 24-character traits within 6 virtue dimensions. *Wisdom*: It is the virtue dimension of cognitive strengths for acquiring and using knowledge. This virtue can be considered as a kind of intelligence. Wisdom virtue dimension is regarded as the main virtue dimension that enables the existence of other strengths. Originality, curiosity, openness to learning, open-mindedness, versatile perspective character strengths are included in this virtue dimension. *Courage*: It includes emotional competences that have the willingness to succeed against all obstacles from inside or outside. It includes the observed behaviors and the cognitions, emotions, motives, and decisions that make up these behaviors. Honesty, courage, perseverance, and enthusiasm for life character strengths are included in this virtue dimension. *Humanity*: It is defined as positive personality traits that include establishing good relations with other people, being friendly, socializing and being pro-social within the science of psychology. Good courage, social intelligence, and capacity to be loved character strengths are included in this virtue dimension. *Fairness*: The virtue dimension includes the personality traits necessary for individuals to live more comfortably, fairly, and equally in the society they live in. Equity, leadership, and responsibility character strengths are included in this virtue dimension. *Moderation*: The dimension of virtue consists of personality traits that protect the individual against extremism. It includes the devotion that the individual shows towards himself and his environment. It is about the consequences of a psychologically good life. Forgiveness, modesty, caution, self-control character strengths are included in this virtue dimension. *Transcendence*: It is the virtue dimension that explains the meaning of life by providing connection with the greater being in the universe and includes the strength of the individual to believe and attach to the transcendent. This dimension of virtue includes the strengths of aesthetics and appreciation of perfection, gratitude, hope, humor, and spirituality.

Lately, Liston (2014) classified the character traits a little differently. He has reviewed many character trait classifications to design a simple, useful, and economical character development scale in schools. The most widely distributed character lists in the field of character education, the most detailed character lists and the most comprehensive character strength lists have been determined by scanning and creating 6 important lists to be included in the taxonomy. Among these lists, he identified 18 hypothesis features for use in his study. As a result of the factor analysis made on these hypotheses, Liston determined the Character Growth Index (CGI) classification as 11 factors. Character traits determined in the character development approach: Perseverance, optimism, love, humility, courage, kindness, peace, forgiveness, wisdom, spirituality, and honesty.

Character strength classification has an important potential for youth development practices since the first day it was developed (Biswas & Diener, 2006). Strong characters are personality states that are considered morally valuable. Today, most schools and youth programs focus on developing the skills and abilities of young people, such as reading, writing, understanding, and thinking, to achieve their life goals. These characteristics play an important role in helping young people reach their life goals. However, people cannot desire the right things without good character (Park & Peterson, 2009). Good character brings results such as school success, leadership, valuing diversity of tolerance, the ability to delay satisfaction / satisfaction, kindness, and altruism. It has been stated that good character is associated with decreasing problems such as substance use, alcohol addiction, smoking, violence, aggression, depression, and suicide (Park & Peterson, 2008). The biggest problem of schools is to deal with such problems and not to take preventive interventions before the problem occurs (Korkut-Owen, 2015).

Having strong characters prevents unwanted consequences in life and is also important for healthy development throughout life. Much evidence shows that character strengths such as hope, hope, self-control and self-regulation, social intelligence, and multi-faceted perspective protect the individual against the negative effects of stress and traumas, prevent their problems, and limit their problems. In addition, they (character strengths) provide desired results such as academic success, tolerance, leadership, ability to delay gratification, altruism, and kindness by helping the development of young individuals (Park & Peterson, 2009). Character strengths development programs show that students who build strengths such as kindness, altruism, spirituality, morality, willpower, responsibility, and social intelligence eliminate aggression, behavioral problems in school, antisocial behaviors such as fighting, bringing a weapon to school, violence, suicide, and long-term alcohol addiction; although it does not eliminate them completely (Park & Peterson, 2006) Character strengths can be taught and developed differently from personality traits (Shoshani & Aviv, 2012). For example, the main purpose of psychological counseling is to identify the strengths that students can use to produce solutions for their problems and encourage them to use these strengths (Kabakçı, 2016). This psychological counseling, not only developing strengths such as perseverance, is beneficial in solving academic problems in educational settings, it has also been found to be useful in solving disciplinary (Shoshani & Slone, 2013; Seider et al., 2013). Raising happy, healthy, and good children is the main goal of every educator, family, and society (Park & Peterson, 2008). When educators and parents talk about the qualities they wish to develop in children, they often express character strengths such as kindness, teamwork, love of learning, love, honesty, and optimism (Seligman et al., 2009). They think that children who has these qualities can contribute to society and do what is necessary in their lives. Eryılmaz (2013) and Seligman and Csikszentmihalyi (2000) stated that focusing on negative features should be avoided in the 21st century and stated that people should focus on the construction of positive traits such as optimism, courage, interpersonal skills, trust, and hope.

Today, the issues that are constantly on the agenda of counseling services in schools are academic achievement and discipline problems. Using character strengths in counseling services can help the students know themselves better. Working with the student who comes to the fore because of the survey and learns their strengths in the background can be easier and more encouraging in the studies on their problems. Featured strengths include 5-character strengths, which are at the top of the student's 24-character strength rankings (Park & Peterson, 2009 cited in Kabakçı, 2016). A student who knows their strengths will be more open to work and renew himself. He is encouraged to develop his weak and background strengths. From this point of view, the inclusion of character strengths in counseling services can be the starting point to support the positive development of students who show risky behavior, bullying discipline, or who need special education.

The concept of character strengths has been explored in a limited number of studies in the Turkish literature, with concepts such as subjective well-being, resilience, academic achievement, peaceful and happy life, and internalization and externalization in adolescents (Kabakçı, 2013; Demirci, 2017; Kiyi, 2016). No study was found that examined the relationships between character strengths and bullying. The concept of character strengths is a field that provides positive development of the individual. Having strong characters prevents unwanted consequences in life and is also important for healthy development throughout life (Park & Peterson, 2009). Since character strengths are a new area of research and few studies have been conducted in our country, it is anticipated that examining the relationships between character strengths and bullying, as well as examining these variables in relation to gender, will make an important contribution to the literature. For this purpose, answers to the following questions have been sought.

- Do the character strengths of adolescents differ by gender?
- Do adolescents who engage in peer bullying and are victims of peer bullying differ by gender?
- Are there significant relationships between adolescents' character strengths and engaging in peer bullying and being a victim of peer bullying?
- Do character strengths predict whether adolescents will engage in peer bullying and become victims of peer bullying?

2. Method

2.1. Research Model

In the study, the relational survey model was used to examine the relationships between the strengths of the character, which are the independent variables, and the level of being a bully and a victim. In addition, among the aims of the research is to examine whether the character strengths and bullying variable differ significantly according to gender.

2.2. Research Sample

The research study group consists of 663 (400 male and 263 female) high school students studying in 6 secondary education institutions in Gebze, Darıca and Çayırova districts of Kocaeli province. 25.6% of the participants are 9th grade, 26.1% is 10th grade, 23.1% is 11th grade, 25.2% is 12th grade. 4.1% of the students' mothers participating in the study are illiterate, 35.3% are primary school graduates, 24.7% are secondary school, 24.1% are high school graduates, and 11.8% are university graduates. Looking at the fathers' education levels of the students, it is seen that 0.8% were illiterate, 22.8% were primary school graduates, 21.7% secondary school, 35.3% high school, and 19.4% university graduates. Considering the working status of the parents of the students, 33.5% of the mothers are working, 66.5% of them do not work. 94% of fathers are working, 6% are not working.

2.3. Data Collection Tools and Procedure

Character Growth Index, Peer Bullying Scale Adolescent Form and Personal Information Form were used to collect data within the scope of the research.

Character Growth Index. The purpose of the Character Growth Index (CGI), developed by Liston (2014) and adapted into Turkish by Ekşi et al. (2017), is to evaluate the character development characteristics of adolescents in a valid and reliable manner. The measuring tool consists of 11 sub-dimensions. These dimensions are perseverance, humility, optimism, kindness, closeness, calmness, courage, wisdom, spirituality, forgiveness, and honesty. The internal consistency reliability coefficient of the scale was calculated as .92. The factor loads of the items in the scale vary between .30 and .80. Internal consistency reliability coefficients of 11 sub-dimensions of the scale vary between .60 and .83. It is seen that the item-total score correlation coefficients of the scale are between .22 and .68. In the confirmatory factor analysis, it was stated that the 11-dimensional model showed a valid fit. For coherence validity, the relationship between CGI and Character Strengths and 52 items of the 96-item form of the Virtuous Becoming Youth Inventory was found at the level of .85. The relationship between the 11 sub-dimensions also varies between .41 and .81. As a result of the reliability analysis conducted in this study, the Cronbach alpha internal consistency coefficients of the Character Growth Index scale sub-dimensions were .82 for the Perseverance sub-dimension, .45 for the Humility sub-dimension, .78 for the Optimism sub-dimension, .67 for the Kindness sub-dimension, and .51 for the Calmness sub-dimension, .69 for the Courage sub-dimension, .72 for the Courage sub-dimension, .78 for the Wisdom sub-dimension, .74 for the Spirituality sub-dimension, .78 for the Forgiveness sub-dimension, and .50 for the Honesty sub-dimension.

Peer Bullying Scale Adolescent Form. The "Peer Bullying Scale-Adolescent Form" developed by Ayas and Pişkin (2015) consists of two parallel scales, one called the "Peer Bullying Scale" and the other "Peer Victimization Scale" and consists of asking the same items in different ways. This scale consists of 53 items and six factors (physical, verbal, exclusion, rumor spreading, damaging things and sexuality) to identify students who "bully" their peers and who are "exposed to bullying". Each item was evaluated using a 5-point rating scale. The psychometric studies regarding the subscales are as follows.

a) Victimization Scale: This part of the scale consists of physical victimization, verbal victimization, exclusion, rumor, damage to belongings and sexual victimization. Confirmatory factor analysis was performed after evaluating the expert opinions for the validity study of the scale. As a result of the first order DFA, the fit index ($\chi^2 = 5407.73$ (sd = 1307, p. = .00), $\chi^2 / df = 4.13$ RMSEA = 0.041, GFI = 0.90, AGFI = 0.89, CFI = 0.90, NFI = 0.96 and NNFI It was found to be = 0.97 and then as a result of the second level CFA; fit indices $\chi^2 = 5959.71$ (sd = 1315, p. = .00), $\chi^2 / df = 4.53$ RMSEA = 0.043, GFI = 0.89, AGFI = 0.88, CFI = 0.97, NFI = 0.96 and NNFI = 0.97. For Victimization Scale, the internal consistency reliability coefficient was found as 0.93. As a result of the reliability analysis conducted in this study, the internal consistency reliability coefficient was calculated as .88 for the total score of the Victimization Scale.

b) Bullying Scale: Sub-dimensions of physical bullying, verbal bullying, exclusion, rumor making, damaging things and sexual bullying constitute this part of the scale. Confirmatory factor analysis was performed after evaluating the expert opinions for the validity study of the scale. As a result of the first order CFA, the fit index is $\chi^2 = 6461.32$ (sd = 1307, p. = .00), $\chi^2 / df = 4.94$ RMSEA = 0.046, GFI = 0.89, AGFI = 0.88, CFI = 0.96, NFI = 0.95 and NNFI = 0.96. As a result of the second level CFA performed later, the fit indices are $\chi^2 = 7298.38$ (sd = 1316, p. = .00), $\chi^2 / df = 5.54$, RMSEA = 0.049, GFI = 0.87, AGFI = 0.86, CFI = 0.96, NFI = 0.95 and NNFI = 0.96. The Cronbach α number for the internal consistency reliability coefficient was found to be 0.92 for the Total Bullying Scale. As a result of the reliability analysis conducted in this study, the internal consistency reliability coefficient was calculated as .85 for the total score of the Bullying Scale.

Personal Information Form. The personal information form prepared by the researcher contains the students' demographic information. The personal information form consists of information about gender, the type of school the students attend, the class level, the education level of the parents, and the parents' working status, respectively.

The scales used in the study were applied by the researcher in each class within one course hour (45 minutes). Before the application, the researcher introduced himself to the class, explained the purpose of the investigation and gave the necessary explanations to answer the questions. He also stated that the information provided will be kept confidential and no personal evaluation will be made to ensure that the students give sincere answers.

2.4. Data Analysis

SPSS 24.0 for the Windows package program was used to analyze the data. Pearson Correlation Analysis was conducted to determine the correlation between sub-dimensions of the Character Growth Index and sub-scales of the peer bullying scale. In addition, the Independent Samples T-Test was applied to see whether the scores of high school students in the Character Strengths 11 sub-dimensions differ significantly according to gender. Likewise, the Independent Samples t-Test was applied to see whether the scores of high school students obtained from the victim and bully scales differ significantly according to gender. In addition, a Multiple Linear Regression Analysis was used to examine whether the character strengths of high school students participating in the study predicted their level of being bully and victim. To meet the assumptions of the analyzes, the normality values were examined from the plot's tables and the skewness and kurtosis coefficients of the data were examined.

2.5. Ethical

In this study, all rules stated to be followed within the scope of "Higher Education Institutions Scientific Research and Publication Ethics Directive" were followed. Ethical Review Board Name: Abant İzzet Baysal University Ethics Committee. Date of Ethics Evaluation Decision: 08.05.2018 Ethics Assessment Document Issue Number: 2018/05

3. Findings

The study's main purpose is to examine the relationship between 11 sub-dimensions of character strengths and adolescents' performing bullying and being victim of peer bullying. In addition, in the study, it was examined whether the character strengths of adolescents and their status of being a bully and a victim differ according to gender and whether character strengths predict adolescents' status of being a bully and a victim.

Table 1. The Scores Obtained from the CGI Scale and the Mean and Standard Deviation Values Obtained According to the Gender Variable

	Gender	n	X̄	ss
Perseverance	Female	400	19,9950	3,25599
	Male	263	20,3156	2,83974
Humility	Female	400	19,6075	2,75725
	Male	263	19,5209	2,89355
Optimism	Female	400	18,2325	3,93983
	Male	263	18,9354	3,38491
Kindness	Female	400	22,5050	2,26225
	Male	263	21,6692	2,48370
Love/Care	Female	400	22,0850	2,20339
	Male	263	22,0722	2,18393
Peace	Female	400	15,6175	3,79634
	Male	263	16,7947	3,87245
Courage	Female	400	17,6900	3,23730
	Male	263	19,3004	3,16425
Wisdom	Female	400	18,7250	2,96587
	Male	263	19,8783	2,61098
Spirituality	Female	400	19,9525	3,25911
	Male	263	20,2662	3,23941
Forgiveness	Female	400	16,8475	4,13606
	Male	263	17,2471	4,40633
Honesty	Female	400	19,9375	3,00102
	Male	263	19,1331	3,38629

It is observed that the total scores of male and female high school students from the 11-character strengths are normally distributed. As a result of the analysis, the lowest and highest skewness values (-.601, -.001) and the lowest and highest kurtosis values (-.571, -.202) of character strengths sub-dimensions are as the deviation limit from the normal distribution. It was found to be between the accepted (-2 and +2) values (Tabachnick and Fidel,2007).

Table 2. Findings on Whether the Scores from the CGI Sub-Dimensions Differ According to the Gender Variable

	Gender	n	X̄	ss
Perseverance	Female	400	19,9950	3,25599
	Male	263	20,3156	2,83974
Humility	Female	400	19,6075	2,75725
	Male	263	19,5209	2,89355
Optimism	Female	400	18,2325	3,93983
	Male	263	18,9354	3,38491
Kindness	Female	400	22,5050	2,26225
	Male	263	21,6692	2,48370
Love/Care	Female	400	22,0850	2,20339
	Male	263	22,0722	2,18393
Peace	Female	400	15,6175	3,79634
	Male	263	16,7947	3,87245
Courage	Female	400	17,6900	3,23730
	Male	263	19,3004	3,16425
Wisdom	Female	400	18,7250	2,96587
	Male	263	19,8783	2,61098
Spirituality	Female	400	19,9525	3,25911
	Male	263	20,2662	3,23941
Forgiveness	Female	400	16,8475	4,13606
	Male	263	17,2471	4,40633
Honesty	Female	400	19,9375	3,00102
	Male	263	19,1331	3,38629

* p<0,05

The results stated that there was a statistically significant difference according to gender in the optimism, kindness, calmness, courage, wisdom, and honesty sub-dimensions of the Character Growth Index. According to the descriptive statistics, male students ($X = 18.93$, $Ss = 3.38$) have a higher average score than girls ($X = 18.23$, $Ss = 3.93$) in the dimension of optimism. In the calmness dimension, male students ($X = 16.79$, $Ss = 3.87$) scored higher than girls ($X = 15.61$, $Ss = 3.79$). In the courage dimension, male students ($X = 19.30$, $Ss = 3.16$) scored higher than girls ($X = 17.69$, $Ss = 3.23$). In the wisdom dimension, male students ($X = 19.87$, $Ss = 2.61$) scored higher than girls ($X = 18.72$, $Ss = 2.96$). In the dimension of honesty, female students ($X = 19.93$, $Ss = 3.001$) scored higher than boys ($X = 19.13$, $Ss = 3.38$). In the kindness dimension, female students ($X = 22.50$, $Ss = 2.26$) had a higher average score than boys ($X = 21.66$, $Ss = 2.48$). It was concluded that there is no significant difference in terms of gender in the other sub-dimensions of the Character Growth Index, namely, perseverance, humility, love/care, spirituality, and forgiveness.

Table 3. The Scores Obtained from the Victimization and Bullying Scales of Peer Bullying and the Average and Standard Deviation Values Taken According to the Gender Variable

	Gender	n	X	ss
Total Bullying Score	Female	400	67,4000	13,60156
	Male	263	74,1141	18,29931
Total Victimization Score	Female	400	63,0100	11,63500
	Male	263	66,6274	12,64903

It is observed that the total scores obtained by female and male high school students from the victimization and bullying scales show a normal distribution. The total victimization score obtained from the analysis was seen as the value of skewness and kurtosis (1.313; 1.532), while the bullying score was seen as the value of skewness and kurtosis (1.466; 1.982). These values are between (-2 and +2) values, which are accepted as the limit of deviation from the normal distribution (Tabachnick & Fidel, 2007).

Table 4. Findings Regarding Whether the Scores of the Peer Bullying Scale Differ According to the Gender

		F	p	t	df	sig.
Total Bullying Score	Variances are equal	29,108	,000*	-5,410	661	,000*
	Variances are not equal			-5,096	448,089	,000*
Total Victimization Score	Variances are equal	3,095	,079	-3,782	661	,000*
	Variances are not equal			-3,718	527,410	,000*

Independent samples t-test was conducted to determine whether the scores obtained from the victimization and bullying scales differ significantly in terms of gender. When the analysis was examined, it was found that there was a statistically significant difference according to gender in the total victimization and total bullying scores. According to the descriptive statistics, male students ($X = 74.11$, $Ss = 18.29$) scored higher than girls ($X = 67.40$, $Ss = 13.60$) in the total victimization score. In the total bullying score, male students ($Xs = 66.62$, $Ss = 12.64$) had a higher average score than girls ($X = 63.01$, $Ss = 11.63$).

Table 5. Relationships Between the Scores of the Adolescents' 11 Sub-Dimensions of the Character Growth Index with Peer Victimization Scale and Peer Bullying Scale

	1	2	3	4	5	6	7	8	9	10	11	12	13
1	1												
2	,210**	1											
3	,357**	,176**	1										
4	,263**	,312**	,227**	1									
5	,192**	,233**	,285**	,343**	1								
6	,251**	,274**	,347**	,043	,147**	1							
7	,392**	,243**	,216**	,242**	,038	,333**	1						
8	,491**	,299**	,372**	,216**	,198**	,423**	,475**	1					
9	,301**	,236**	,323**	,290**	,266**	,195**	,115**	,285**	1				
10	-,064	,164**	,211**	,121**	,279**	,240**	-,066	,042	,170**	1			
11	,391**	,342**	,167**	,255**	,187**	,182**	,181**	,289**	,268**	,070	1		
12	-,209**	-,167**	-,086*	-,098*	-,103**	-,092*	-,086*	-,142**	-,089*	,003	-,295**	1	
13	-,226**	-,238**	-,096*	-,102**	-,101**	-,153**	-,057	-,146**	-,207**	-,058	-,361**	,665**	1
X	20,12	19,57	18,51	22,17	22,07	16,08	18,32	19,18	20,07	17,00	19,61	70,06	64,44
Ss	3,09	2,81	3,74	2,38	2,19	3,86	3,30	2,88	3,25	4,24	3,18	15,96	12,16

N= 663 **P<0,01 *P<0,05, 1= Perseverance, 2=Humility, 3= Optimism, 4= Kindness, 5=Love, 6=Peace, 7=Courage, 8=Wisdom, 9=Spirituality, 10= Forgiveness, 11= Honesty, 12= Total Victimization, 13= Total Bullying

The results of the Pearson correlation analysis conducted to examine the relationships between the scores on the 11 subdimensions of the Character Growth Index (CGI) scale of high school students and the scores on the victimization and bullying subdimensions of the Peer Bullying Scale are presented in Table 5. According to Table 5, when the correlation coefficients between the Character Growth Index (CGI) sub-dimensions and total bullying scale are examined, it is seen that the highest negative significant relationship of peer victimization is with honesty sub-dimension of CGI ($r = -.295$). It is also seen that the lowest negatively significant relationship of peer victimization scale is with the optimism ($r = -.086$) and courage ($r = .086$) sub-dimensions of CGI. According to the relation coefficients between CGI sub-dimensions and the total bullying scale, it is seen that the highest negative significant relationship of bullying is with the honesty sub-dimension of CGI ($r = -.361$). It is also seen that the lowest negative significant relationship of peer bullying is with the love/care sub-dimension of CGI ($r = -.101$). According to Table 5, no relationship was found between total victimization scale score and the forgiveness sub-dimension of CGI. There is also no significant relationship between total bullying scale score and courage, and forgiveness sub-dimensions of CGI. Finally, the multiple regression analysis is performed, and the results are evaluated below.

Table 6. Multiple Regression Analysis Results on the Prediction of Character Strengths at High School Students' Levels of Being a Victim of Peer Victimization

	<i>B</i>	<i>Sh</i>	<i>Beta</i>	<i>t</i>	<i>p</i>
(Constant)	112,307	7,751		14,489	,000
Perseverance	-,570	,242	-,111	-2,357	,019*
Humility	-,379	,242	-,067	-1,567	,117
Optimism	,017	,186	,004	,090	,928
Kindness	,074	,290	,011	,256	,798
Love	-,235	,303	-,032	-,777	,438
Peace	-,030	,180	-,007	-,167	,867
Courage	,086	,217	,018	,397	,691
Wisdom	-,063	,271	-,011	-,233	,816
Spirituality	,144	,206	,029	,698	,485
Honesty	-1,167	,214	-,233	-5,445	,000*

R= 0,321 R2=0,103 F (10, 652) = 7,479 *p<0.05

The results of multiple regression analysis regarding the prediction of high school students' victimization levels according to the Character Growth Index sub-dimensions are given in Table 6. When the skewness and kurtosis values of the character strength sub-dimensions and the total victimization score were examined, the lowest and highest skewness values were found between $-.601$ and $-.001$ for the character strengths sub-dimensions. The lowest and highest kurtosis values of character strength sub-dimensions were determined between $-.571$ and $-.202$. The skewness and kurtosis values of the total victim score are between 1.313 and 1.532, and it is between the values $(-2$ and $+2)$ accepted as the limit of deviation from the normal distribution (Tabachnick & Fidel, 2007).

As the students' perseverance and honesty scores increase, being a victim of peer bullying decreases. When looking at the t-test results regarding the significance of the multiple regression coefficients, it is seen that only the honesty and perseverance character strengths are significant predictors of being a victim of peer bullying. Perseverance and honesty explain 10% of the total variance in being victim ($R = 0.323$, $R^2 = 0.104$, $p < 0.01$).

The results of multiple regression analysis regarding the prediction of high school students' level of performing peer bullying according to the Character Growth Index sub-dimensions are given in Table 7. When the skewness and kurtosis values of the character strength sub-dimensions and the total peer bullying score were examined, the lowest and highest skewness values were found between $-.601$ and $-.001$ for the character strengths sub-dimensions. The lowest and highest kurtosis values of character strength sub-dimensions were determined between $-.571$ and $-.202$. The skewness and kurtosis values of the total peer victimization score are between 1.466 and 1.982, and it is between the values $(-2$ and $+2)$ accepted as the limit of deviation from the normal distribution (Tabachnick & Fidel, 2007).

Table 7. Multiple Regression Analysis Results in the Prediction of Character Strengths of High School Students' Level of Performing Peer Bullying

	<i>B</i>	<i>Sh</i>	<i>Beta</i>	<i>t</i>	<i>p</i>
(Constant)	102,529	5,642		18,172	,000
Perseverance	-,369	,174	-,094	-2,119	,034*
Humility	-,504	,177	-,116	-2,842	,005*
Optimism	,096	,137	,029	,699	,485
Kindness	,231	,209	,045	1,105	,270
Love	-,010	,220	-,002	-,043	,966
Peace	-,191	,131	-,061	-1,461	,145
Wisdom	,211	,191	,050	1,104	,270
Spirituality	-,382	,151	-,102	-2,529	,012*
Honesty	-1,059	,157	-,277	-6,733	,000*

R= 0,406 R2=0,165 F (9, 653) = 14,329 *p<0.05

As students' perseverance, humility, spirituality, and honesty scores increase, performing peer bullying decreases. Forgiveness and courage were not included in the regression analysis because they were not found to be related in the correlation analysis. According to the standardized regression coefficient (β), the order of importance of character strengths; it is in the form of honesty, humility, spirituality, and perseverance. When looking at the t-test results regarding the significance of the multiple regression coefficients, it is seen that only the character strengths of perseverance, humility, spirituality, and honesty are significant predictors of performing peer bullying. They explained 16% of the total variance in peer bullying score ($R = 0.406$, $R^2 = 0.165$, $p < 0.01$). The variables of love, calmness, wisdom, kindness, and optimism character strengths do not have a significant effect.

4. Conclusion and Discussion

As per results obtained from the study, female students scored higher in the honesty and politeness sub-dimension than male students, while male students scored higher in the sub-dimensions of optimism, calmness, courage, and wisdom. According to the study of Shimai et al. (2006), while love and humor character strengths were higher in women's reports than men's, bravery and creativity were higher in men's character strength reports than women. Brdar et al. (2011) found that the highest five character strengths for women are integrity, kindness, love, gratitude and fairness, while for men the strengths of integrity, hope, humor, gratitude and wonder. In their study, Linley et al. (2007) stated that women differed from men by getting high scores in their strengths of kindness, love, and gratitude, and men differed from women by getting high scores in their power of originality. In general, when examining the studies conducted, it was concluded that "there are more similarities than differences between the sexes" and therefore stated that gender differences in character strengths should not be exaggerated. Since character strengths are mostly related to individual differences and one's lifestyle, it can be said that gender differences do not have much influence, as the studies show.

As per results obtained from the study, when situations of bullying are analyzed according to gender, male students score higher than female students in terms of total victimization score and bullying score. In a similar study, Kartal and Bilgin (2008) investigated if the bullying changes according to gender or not and it was found that male students mostly did the bullying. Similarly, many researchers such as Cenkseven-Önder and Sarı (2012), Hilooğlu and Cenkseven-Önder (2010), Froschl and Gropper (1999), Rigby and Slee, (1991) found that boys were involved in more bullying incidents and that female students were less involved in bully / victim groups. These studies are mutually supportive. However, some studies found different results on bullying and gender. Pişkin (2003) and Totan (2008) found that boys were more in the bully/victim group than girls, while Pelendecioğlu (2011) and Kavşut (2009) found that girls were more victims and bullies than boys in their study. Unlike these studies, Dölek (2002); Gültekin (2003); Mynard and Joseph (2000); Pekel (2004); Pişkin (2002) and Smith and Shu (2000), found out that there was no difference between male and female students in terms of bullying and being bullied in their studies. When these studies in the literature are evaluated, it is understood that there are very different results regarding the relationship between bullying and gender. Still, as a result, it is known that the phenomenon of bullying has negative physical, emotional, psychological, academic, and sociological consequences for both female students and male students.

According to the results of the examination of the relations of character strengths with bullying, the highest negative correlation of both being a victim of peer bullying and performing peer bullying was found with honesty character strength. The lowest negative correlation was found with the strength of optimism in the case of being a victim, and the strength of love/care in the case of performing bullying. A review of the literature shows that character strengths and peer bullying have been treated and studied separately in many concepts. Still, no one study has been found that deals with the relationship between these two concepts. Hilliard et al. (2014) investigated how the development of character virtues are associated with the course of adolescents and bullying situations. In the study of Hilliard et al. (2014), it was concluded that the young people defined as bullies exhibit less good behavior and behave less well than the others, think less about society, and contribute less to society than the young people who are not bullied.

Considering the extent to which character strengths explain adolescents' state of performing peer bullying and being a victim of peer bullying, it is observed that as perseverance and honesty scores increase, victim status decreases. It was also found that as the scores of perseverance, humility, spirituality, and honesty increased, the situation of performing peer bullying decreased. As mentioned before, no study has investigated the relations of character strengths and bullying. Therefore, we cannot compare these results with previous findings. However, there can be theoretical explanations for the results. One of the most important theoretical concepts associated with perseverance is self-efficacy. It can be predicted that individuals with high self-efficacy are more successful in coping with negative behaviors. So having high levels of perseverance could mean for the adolescents that they can achieve their goals despite the difficulties. This might help adolescents control their actions when they face negative emotions and experiences, which leads them not to perform bullying when they are upset. Implications of the results of this study for education: Perseverance can be increased by rewarding people for their efforts and attributing their failures to lack of effort rather than low ability. Individual planning can be done by paying attention to this in the individual interviews held in the counseling services and the bully and victim students can be intervened.

According to the results obtained from the study, as honesty scores increase, victimization and peer bullying scores decrease. Honesty requires a person to present himself / herself in a real way, act sincerely, live without lies, and take responsibility for his / her actions and feelings. People with high honesty characteristics determine their behaviors according to their personal values, remain loyal to their beliefs, and treat others with respect (Wedding & Niemiec, 2018). In addition, they lead an authentic life by avoiding acting, hypocrisy and *dalavera*. They stick to other people, institutions, principles, and rules in their lives. Individuals with such a characteristic cannot expect bullying behavior to occur anyway, and they do not allow themselves to become victims. Even if they are being bullied, they can express this clearly and ask for help. Rettinger and Kramer (2009) stated that the opposite term of honesty, dishonesty, is contagious and can be learned by seeing. Based on this situation, if a social disgust attitude is placed against the deceptive, dishonest, negative, and bullying behaviors encountered in schools, an important way can be achieved in reducing these behaviors (cited in Wedding & Niemiec, 2018).

As per the results obtained from the study, humility negatively predicts peer victimization, which humility character strength can be defined as the correct evaluation of one's abilities, knowing the limits, being open to new ideas, considering his achievements, and appreciating the value of everything. These people can become aware of the good and the bad and adjust their behavior accordingly. Means that as humility increases, peer bullying decreases. People with high humility strength do not see themselves at the center of the universe, they have a realistic view of themselves. They cultivate positive and other-oriented emotions in their relationships. In this characteristic, people do not behave negatively towards them because they see other people with them as partners (Liston 2004). So, it is predictable that adolescents with a high level of humility would not perform bullying.

Spirituality is the strength of character most associated with happiness. Spirituality is another character strength which that negatively predicts peer bullying. As spirituality increases, performing peer bullying decreases. Spirituality and religious strengths are defined as finding the meaning of the universe and having a consistent belief about one's position within this meaning (Peterson & Seligman, 2004). In general, spirituality is when the individual is in contact with a divine being, with God, with a supreme power, with his beliefs and bonds with ultimate reality. Studies have found that individuals with this power experience lower levels of depression, anxiety, distress, and negative behaviors using positive religious coping methods (Ano &

Vasconcelles, 2005; cited in Wedding & Niemiec, 2018). Insufficient spirituality or meaning in life can lead to consequences such as emptiness, meaninglessness, irregularity, and automatism. Based on the literature, people who lack the strength of spirituality can lead themselves and their environment in destructive ways. According to the results of this study it might be predicted that the adolescent whose spiritual aspect has increased might exhibit less bullying behavior at school and might participate more in actions that benefit the community. Young people who develop this aspect keep themselves away from bad events and negative behaviors in schools by adding a more profound purpose and sense of meaning to their lives. The results of the present study supported previous theoretical background and suggestions.

The results provide an empirical finding into how character strengths can be related to peer bullying and peer victimization. However, there are some limitations of the present study. First, the study group was formed with high school students who are studying in one city in Turkey. This limits the generalizability of the findings. Secondly, the data were obtained only by self-report measures. The use of diverse data collection methods can supply deeper insights.

Despite the limitations, this study contributes the growing positive psychology literature. Positive psychology has emphasized identifying psychological strengths that enhance healthy development. This study found evidence that character strengths are related to the absence of peer bullying and peer victimization. For further research, it could be suggested to investigate the relationship between character strengths and peer support. In addition, research can be conducted to reveal the relationships between perceived parental attitudes, school bullying, and students' character strengths. Regarding the implications of the findings of this study in the field of counseling, it can be suggested that developing character strengths at schools can reduce the main problems in schools, such as violence, bullying and aggression. Character strengths training and intervention programs can be designed to prevent students' aggressive behaviors in schools. Programs specifically on honesty and perseverance can be designed to reduce peer victimization. In addition, developing the character strengths of spirituality, humility, honesty, and perseverance seems to be important to prevent and reduce peer bullying at schools. Studies aimed at developing character strengths can be applied to students individually or in groups by counselors to assist them to use and develop their strengths in the psychological counseling process.

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The Effectiveness of the Post-divorce Psychological Support Program (PDPSP) on Divorced Individual Adjustment Levels: A Pilot Study at Women*

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ABSTRACT

The study examines the effect of the Post-divorce Psychological Support Program (PDPSP) on the adjustment levels of divorced individuals. The program developed by the researchers was conducted with a group of 8 divorced women. This research was designed according to a quasi-experimental method with an unequalized control group model. 55 participants were called to pre-interview, and 16 of them were selected according to the eligibility criteria. The group was divided into two randomly, group A was assigned as experimental, and group B was noted as the control group. The 11-week program (PDPSP) was applied to the experimental group, at the end of the time, the Fisher's Divorce Adjustment Scale was given to the groups again. The study revealed that PDPSP was found to be effective on the individuals' level of adjustment to divorce. Professionals working with divorced individuals can benefit from this program.

Keywords:

Divorce, adjustment to divorce, post- divorce psychological support program (PDPSP)

1. Introduction

While getting married, individuals think that they will be happy, their lives will be better, and their relationships will last forever. However, divorce statistics show that dreams of happiness do not last forever for many couples. According to the U.S. National Center for Health Statistics (2019), the divorce rates which was %4,0 in 2019 decrease to % 2, 7 in the USA. Although, the divorce rate tends to decrease, it is still considered to be high. The 28 member states of the Eurostat, the divorce rates increased from %0,08 in 1965 to %2,0 in 2013 (Eurostat Statistics Explained, 2020). Although the statistics in Turkey shows that the divorce rate is lower than it is in the European countries, but it tends to increase over years. The rough divorce rate, which was %1,41 in 2001, was determined as %1,90 in 2019. While the number of divorced couples was 91,994 in 2001, it increased to 156, 587 in 2019 (Turkish Statistical Institute, 2020). With the increasing divorce rates, more individuals need post divorce support. Because it is known that divorce affects not only the spouses but also the families and the society.

Although divorce is perceived as a solution for couples who have problems, studies show that divorce is a traumatic life event, a stressful (Booth & Amato, 1991), a grieving (James & Friedman, 2009), a transition (Sakraida, 2005), and a crisis-transition process (Korkut, 2003; Uçan et al., 2005). When the literature was

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reviewed, it was seen that divorce was a painful and a stressful experience affecting the well-being of individuals in post-divorce period (Amato, 2000; Williams & Dunne-Bryant, 2006). Compared to married individuals, divorced individuals have more psychological (Bierman, et al., 2006) and physical health problems (Huges & Waite, 2009; Monden, et al., 2015), their feelings of loneliness (Van Tilburg, et al. 2015) and psychological stress increase (Booth & Amato, 1991), their well-being (Kalmijn, 2009; Shor et al., 2012) and economic welfare decrease (De Vaus, et al., 2014). Divorce increases individuals' parental stress as well (Tein, et al., 2000) and children who have divorced families suffer from this situation (Amato, 2010; Wallerstein & Lewis, 2004). The literature reveals that the children whose parents are divorced or who are exposed to the negative effects of divorce are frequently studied (Eitle, 2006; Öngider, 2013; Paxton, et al., 2007; Strohschein, 2005; Troxel & Matthews, 2004). Well-being of these children is directly related to the well-being of their parents. Hence, an intervention program for divorced individuals to adjust their new status is thought to be crucial.

Researchers need to take many psychological variables associated with post-divorce adjustment into consideration while dealing with divorced individuals. Communication skills, empathy (Thiessen et al., 1981), rational thoughts about divorce (Graff, et al., 1986), coping skills (Lee & Hett, 1990), social support (Berman & Turk, 1981; Kramrei et al., 2007), forgiving ex-spouse (Aysta, 2010; Rohde-Brown & Rudestam, 2011; Rye et al., 2005), attachment style (Yárnoz, et al. 2008), psychological resilience (Quinney & Fouts, 2004), spiritual well being (Steiner, et al., 2015; Steiner, et al., 2011), and control over concerns about the child (Yılmaz & Fışıloğlu, 2005) can be listed as variables to consider. Among the variables having a positive effect on post-divorce adjustment process were included in the PDPSP by the researchers.

Adjustment to post-divorce life, which is the main target of this research, is a concept that is defined differently by many researchers. Adjustment to divorce is the result of complex processes that are affected by the individual's own characteristics, communication with people, and relationship variables (Wilder, 2016). According to definition by Kramrei et al., (2007), adjustment to post-divorce is the process of adapting to the life changes and well-being after divorce process. Sayhan-Karahan (2012) defines the concept of adjustment to post-divorce life as "the level of coping with the consequences of the individual's divorce and divorce status, rather than the individual's level of personal or social or general harmony, including adaptation to a new set of losses and a new role that accompanies the divorce situation". According to Kramrei et al. (2007) it will be insufficient to define post-divorce compliance as just the lack of negativity caused by divorce. Positive adjustment should also include elements such as psychological well-being, positive changes, being happy, coping and life satisfaction. In the scope of this research, post-divorce adjustment is described as to understand divorce and the effects of divorce, to notice negative emotions happening after divorce, to express and cope, to develop self-esteem and self-worth, to be emotionally and physically healthy, taking care of children and understanding their needs, if any, to develop individually and plan the future.

The first studies after divorce took place in both clinical and religious sources in the period after 1970. The pioneer of post divorce support groups were conducted by Kessler (1976) and Fisher (1976). Studies put forth that they were called the Divorce Recovery Group (Abondola, 1983; Fetch & Surdam, 1981; Kessler, 1976; Vukalovich, 2004). Divorce Support Group (Aysta, 2010; Øygard, Thuen & Solvang, 2000), Divorce Workshop (Davidoff, Mildred & Schiller, 1983), Divorced Parent Education Programs (Blaisure & Geasler, 2000; Becher, et al., 2015; Schmittel, 2013; Zimmerman et al., 2004). Although these groups had different goals from each other, their common goal was to meet the needs of individuals after divorce. The studies generally included communication skills, focused on the effects of divorce on individuals, the feelings experienced after divorce, relationship with the ex-spouse, romantic relationships, coping, the effect of divorce on children, and social support issues.

When post-divorce studies in Turkey were examined, it was seen that the assistance needed was provided to individuals in the divorce process in some health institutions and private consultancy organizations, and units affiliated with the Ministry of Family and Social Policies (MFSP) (Family and Divorce Process Consultancy, 2015). It has been observed that the services provided under the MFSB have been mostly in the form of individual counseling (Assembly Research Commission Report, 2016). On the other hand, the experimental works carried out in Turkey seems to be more for children with divorced families (Arifoğlu-Çamkuşu, 2006; Serter-Öztürk & Balcı-Çelik, 2020; Şentürk-Aydın & Nazlı, 2014; Şimşek-Yüksel, 2006). Apart from them, a limited number of experimental studies (Bulut-Ateş, 2015; Canbulat, 2017; Öngider, 2013) were carried out

with the group for divorced women. One of them is about the assessment of the effectiveness of Cognitive Behavioral Therapy (CBT) on divorced women (Öngider, 2013). The other study is about child-parent relationship therapy (Bulut-Ateş, 2015). There is no mandatory parent education program or divorce support program in Turkey. Unlike these studies, the PDPSP was designed in the form of interaction, sharing, training, and it is a psycho-educational study in which various information was provided to learn the necessary knowledge and skills for the post-divorce process and to support adjustment for post-divorce life.

With the newly developed program - PDPSP, the following hypotheses were tested.

RQ1. Posttest levels of adjustment to divorce of individuals in the experimental group who participated in the post-divorce psychological support program are significantly higher than pretest levels of adjustment to divorce.

RQ2. The posttest levels of adjustment to divorce of individuals in the experimental group who participated in the post-divorce psychological support program are significantly higher than the posttest level of adjustment to divorce of the individuals in the control group who did not participate in this program.

2.Method

2.1. Model of the study

This research was designed in accordance with a quasi-experimental method with unequalized control group model. Groups were randomly assigned in the research. FDAS was applied to 16 participants as a pretest and posttest (One of the participants did not take the posttest because of not meeting one of the criteria). After the pretest, the group was randomly divided into control ($n=8$) and experimental group ($n=8$).

2.2.Participants

Primarily, the program's announcement to call for participants was done through leaflets and social media. At the end of the first three months there were not enough applications, so the start of the implementation of the program was delayed another three months than planned. The second method chosen to reach the sample group is the method of interviewing the authorities who can reach the divorced people. The researcher conducted interviews with School Guidance Services, Public and Private Pre-School Education Institutions, Giresun Bar Association, Giresun Public Education Center, Family Health Centers, Guidance Research Center, Family Counseling Centers, associations, women's centers, and lawyers. In these interviews, information was given about the program and its implementation, and contact information was left for the authorities. After these 3 months of announcements, the researcher reached 55 people and conducted an initial telephone interview.. Finally, the researcher conducted a face-to-face interview with 28 volunteer participants. 12 applicants were eliminated because they did not meet the criteria. The group was made up of volunteers 1) who divorced officially, 2) divorced for two years most, 3) experienced divorce for the first time, 4) did not have a psychiatric diagnosis, 5) did not use drugs, 6) had high self-expression skills, 7) have at least primary level education. 2 male applicants were excluded as their work schedule was too strict to follow the program, even if it was designed for regardless of gender differences. After losing participants to get a job in another city and get married again, the total number of participants decreased to 16. The experimental group was gathered in a private Psychological Counseling Center on Tuesday evenings between 18:00 - 21:00 from March to June in 2018. In the following part, the selection of participants, the steps for program development, Fisher's Divorce Adjustment Scale, information on the implementation of the scale and the PDPSP was explained elaborately. Figure 1 shows the enrollment of the participants.

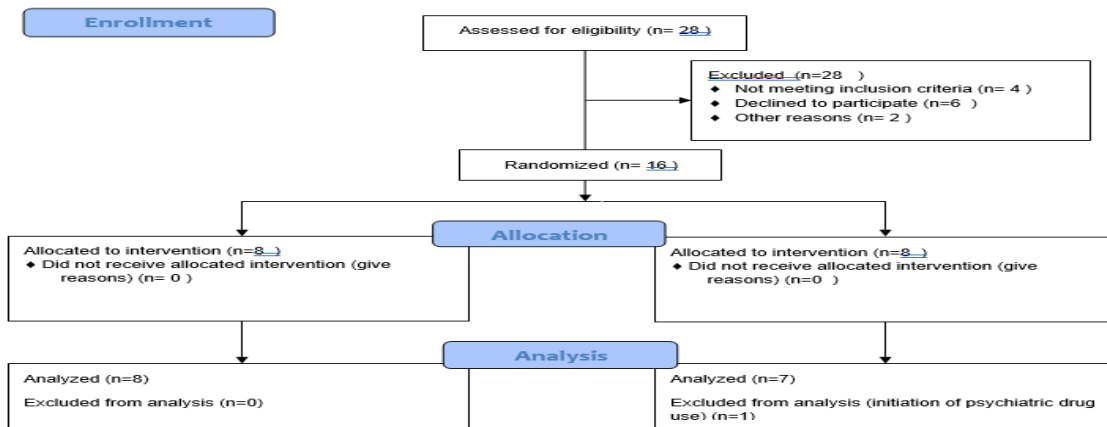


Figure 1. Consort Flow Diagram

Descriptive information of group members is given in Table 1.

Table 1. Descriptive Information of Individuals Participating in the Study Group

Characteristics of Individuals	f
Age	
25-30	4
31-35	1
36-40	6
41-45	3
46-50	1
Marriage Age	
18-22	11
23-27	3
28-33	1
Education level	
Middle school	2
High school	6
Pre-bachelor	2
Bachelor	4
Master	2
Perceived socio-economic level	
Low	2
Middle	12
High	1
Number of children	
One	10
Two	5
The place spent most of life	
Small City	15
Duration of marriage	
1-5	1
6-10	6
11-15	5
16 -20	2
21-25	1
The reason for ending the marriage (Multiple options marked).	

A) Infidelity	8
B) Attempt against life and mistreatment	2
C) Crime and dishonor	1
D) Abandonment	3
E) Mental illness	1
F) Severe conflict	9
G) Parental intervention	7
H) Indifference	10
I) Personal disharmony	5
J) Financial problems	6
K) Jealousy	4
L) End of love	7
M) Other.....	
Alcohol addiction	1
Irresponsibility	1
Who made the decision to divorce?	
I decided	10
My partner has decided	1
We decided together	4
Time spent together before marriage	
Less than one year	5
1-2	4
2-3	3
More than 3 years	3
Presence of people who have experienced divorce in the family	
None	7
My parents	1
Sister/brother	5
My close relatives (aunt, uncle, cousin, etc.)	2

2.3. Developing Post-Divorce Psychological Support Program

In preparing the group sessions for the PDPSP to be implemented in the research, the relevant literature was reviewed, the topics that would support the adaptation process were examined, and the appropriate content and exercises were prepared or adapted the existing exercises from the works of Abondola (1983), Acun-Kapıkıran (2013), Altınay (2009), Bingöel-Çağlayan (2013), Coates & LaCrosse (2003), Fisher (1998), Fıfılođlu (2014), Güven (2013), Kararımak & Gülođlu (2012), Kessler (1976), Terzi-Işık & Tekinalp-Ergüne (2013), Tesler & Thompson (2006), Wagner (2002), Wolfelt (2008), Rich (2001), Zara (2013), Zat (2014) by the researchers. The first draft of the program included the following topics for each week respectively: introduction and understanding the effects of divorce, noticing and expressing negative emotions, coping with negative emotions, disentanglement from relationship with the ex-spouse and defining the need of new relationship, developing self-esteem, coping and living healthy, developing social support divorce and its effects on children, personal development and planning for the future, and evaluating the program and exchanging farewells. The second step of developing the program was to present it to two professors from the field of psychology to assess the appropriateness. In the light of the suggestions and corrections of the experts, "communication skills" were added in the first session and the program was ready to use. The related literature found out that the group sessions conducted in the post-divorce studies generally changed between 6-8 weeks. (Asanjarani et al., 2017; Fetch & Surdam, 1981; Vukalovich, 2004). In the PDPSP, there were a total of 11 sessions where the first session included a meeting, reviewing the communication skills, the last session had an evaluation of the program and farewells, and the other sessions had discussions about the post-divorce process. Each session was planned to last approximately 2-2.5 hours. The main purpose of this program was defined to support the divorce adjustment process of divorced individuals, 1) to assist to participants share their experience 2) to gain the knowledge and skills needed in this process, 3) to recognize and express emotions, 4) to deal with problems, 5) to help provide the necessary motivation for a new beginning. The summary and the objectives of the PDPSP are given in Figure 2.

Table 2. Summary of Post Divorce Psychological Support Program Sessions

Summary of PDPSP sessions		
1	Meeting and review of communication skills	Meeting group members, to give information about the group process, to share group rules and to develop a common understanding of these rules, increase the motivation to join the group, and review communication skills.
2	Divorce and understanding the divorce	Sharing the feelings, thoughts and sufferings experienced after divorce, to identify unrealistic thoughts about divorce and to organize these thoughts.
3	Noticing and expressing negative emotions	Noticing and expressing negative feelings experienced after divorce.
4	Coping with negative emotions	Making the group members realize their post-divorce negative feelings and helping them cope with the negative emotions.
5	Divorce and its effects on children	Helping participants notice how their children were affected by divorce, understand how they were affected by their child's reactions and
6	Disentanglement from a relationship with the ex-spouse and defining the need of new relationship	Helping group members understand their feelings and thoughts about their past relationships, review their relationship with their ex-spouses to develop new relationships, identify the need of new relationships, and move forward from their ex-spouses.
7	Developing self-esteem	Examining the effects of divorce on self-esteem and self-worth and to develop self-esteem.
8	Coping and living healthy	Realizing that emotional health and physical health are related, that coping skills affect their physical and mental health positively or negatively and make them gain new coping skills.
9	Developing social support	Ensuring that they are not alone after divorce, not hesitate to say that they are divorced, and focus on support needs after divorce.
10	Personal development and planning for the future	Planning the future for personal development and to make them prepare an action plan.
11	Evaluating the program and exchanging farewells	Evaluating the group process and to exchange farewells.

The program summarized in Figure 2 was applied to the participants for eleven weeks. A- post-test was applied at the end of the time, and the group was dismissed.

2.4. Data collection tools

2.4.1. Personal Information Form

The form prepared by the researcher contains questions aimed at obtaining information about the marriage and divorce process, as well as the demographic characteristics of the individuals.

2.4.2. Fisher Divorce Adjustment Scale

The Scale (FDAS) is a 100-item scale developed by Fisher (1976). Items are in the range of "1-Always, 5- Never". The higher scores obtained from the measurement tool, used for individuals separated from the relationship or divorced, indicate the low level of adjustment to divorce. The original scale has six subscales. 1) *self worth* 2) *disentanglement* 3) *anger* 4) *grief* 5) *trust and intimacy* 6) *social self worth*. The research was conducted with 129 divorced individuals and Brief Symptom Inventory (BSI), Multidimensional Scale of Perceived Social Support (MSPSS) and General Life Satisfaction (GLS) were used for adjustment studies. In the Turkish version of the scale there are five subscales as 1) *Grief reaction (37 items)* 2) *Disentanglement from relationship (20 items)* 3) *Self worth (21 items)* 4) *Anger (11 items)* 5) *Trust and intimacy (7 items)*. The reliability of the scale was determined by using the internal consistency coefficient and split-half methods. Cronbach Alpha internal consistency coefficient was found .97 for all items in the scale. According to the split-half method, Cronbach

Alpha coefficient of the first part is .94 and of the second part is .95. The first of the validity studies of the scale is to examine the relationship between FDAS and 3 scales selected as simultaneous validity. A high level of positive correlation was found between the BSI and FDAS ($r = .72, p < .001$). There is a moderate negative correlation between FDAS and MSPSS ($r = -.47, p < .001$) and GLS ($r = -.59, p < .001$). The criterion validity study of the scale was evaluated based on the BSI method using the extreme groups method. Two groups were determined as low stress group ($N = 32$ people) and high stress group ($N = 32$). It was determined that the post-divorce adjustment levels ($M = 3.06$) of the high stress group were significantly lower than the low stress group ($M = 1.81$). According to the validity and reliability study findings of the scale, the use of FDAS in Turkish form is seen as appropriate (Yılmaz & Fıçiloğlu, 2006).

2.5. Data analysis

Mann Whitney U Test, which is frequently used in experimental studies with fewer subjects involving unrelated measurements, and Wilcoxon signed-rank test used for related measurements were used in the analysis

Firstly, it was examined whether there is a difference between the pre-test scores of the individuals constituting the experimental and control groups. Mann Whitney U test was used for these analyzes and the findings related to the analysis are given in Table 3.

Table 3. Mann Whitney U Test Results Regarding Pretest Scores

Group	N	\bar{X}	S	Rank Average	Ranks Total	U	p
Total Post-Divorce Adjustment	Experiment	8	229,25	8,00	64,00	28,000	1,000*
	Control	7	229,85	8,00	56,00		
	Total	15					
Grief Reaction	Experiment	8	84,12	7,38	59,00	23,000	,563*
	Control	7	91,00	8,71	61,00		
	Total	15					
Disentanglement from Relationship	Experiment	8	39,37	9,44	75,50	16,500	,181*
	Control	7	25,28	6,36	44,50		
	Total	15					
Self Worth	Experiment	8	39,75	6,88	55,00	19,000	,298*
	Control	7	15,16	9,29	65,00		
	Total	15					
Anger	Experiment	8	39,37	9,25	74,00	18,000	,246*
	Control	7	35,71	6,57	46,00		
	Total	15					
Trust and Intimacy	Experiment	8	18,50	6,94	55,50	19,500	,323*
	Control	7	7,44	9,21	64,50		
	Total	15					

* $p > .05$

As shown in Table 2, there is no significant difference between the adjustment to divorce pre-test scores of the divorced individuals who constitute the experimental and control groups according to the results of Mann Whitney U test ($U=28.00, p > .05$).

2.6. Ethical

In this study, all rules stated to be followed within the scope of "Higher Education Institutions Scientific Research and Publication Ethics Directive" were followed. Permission was obtained from the Ondokuz Mayıs University Ethics Committee for the study.

3. Results

Findings regarding divorce adjustment levels of divorced individuals

The arithmetic mean and standard deviation values of the pre-test and post-test scores, calculated in line with the responses to the Fisher Divorce Adjustment Scale of the divorced individuals in the experimental and control groups, are given in Table 4.

Table 4. Experimental and Control Group Arithmetic Mean and Standard Deviation Values

Groups	Pretest				Posttest			
	Experiment (n=8)		Control (n=7)		Experiment (n=8)		Control (n=7)	
	\bar{X}	S	\bar{X}	S	\bar{X}	S	\bar{X}	S
Total	229,25	54,92	229,85	35,74	176,12	34,57	210,42	36,54
Grief Reaction	84,12	16,40	91,00	22,18	60,37	11,40	80,71	20,66
Disentanglement from Relationship	39,37	20,84	25,28	4,80	28,87	11,40	24,00	3,51
Self-Worth	39,75	15,16	48,14	15,71	31,50	8,92	45,71	19,10
Anger	39,37	6,71	35,71	6,15	30,87	8,88	34,14	7,73
Trust and Intimacy	18,50	7,44	22,71	8,26	16,50	7,48	19,42	6,52

Note. The high score obtained from Fisher Divorce Adjustment Scale shows that the level of adjustment to divorce is low.

As seen in Table 4, the average of total pre-test adjustment to divorce scores of the experimental and control groups participants are close to each other. After the program, it was determined that the total scores of the experimental group decreased more than the control group.

The Wilcoxon signed rank test results regarding the divorce adjustment levels of the individuals who participated in the experimental group and whether they differ before and after the experiment are shown in Table 5.

Table 5. Wilcoxon Signed-Rank Test Results of the Experimental Group

	\bar{X}	S		N	Rank Average	Ranks Total	Z	p
Total Posttest- Total Pre-test	176,12	34,57	Negative Ranks	8	4,50	36,00		
	229,25	54,92	Positive Ranks	0	,00	,00	-2,524	,012*
			Equal Ranks	0				
			Total	8				
Grief Posttest - Grief Pretest	60,37	11,40	Negative Ranks	8	4,50	36,00		
	84,12	16,40	Positive Ranks	0	,00	,00	-2,521	,012*
			Equal Ranks	0				
			Total	8				
Disentanglement from Relationship Posttest – Disentanglement from Relationship Pretest	28,87	11,40	Negative Ranks	8	4,50	36,00		
	39,37	20,84	Positive Ranks	0	,00	,00	-2,521	,012*
			Equal Ranks	0				
			Total	8				
Self-Worth Post-test – Self-Worth Pretest	31,50	8,92	Negative Ranks	6	4,50	27,00		
	39,75	15,16	Positive Ranks	1	1,00	1,00	-2,197	,028*
			Equal Ranks	1				
			Total	8				
Anger Posttest – Anger Pretest	30,87	8,88	Negative Ranks	7	4,71	33,00		
	39,37	6,71	Positive Ranks	1	3,00	3,00	-2,103	,035*
			Equal Ranks	0				
			Total	8				
Trust and Intimacy Posttest - Trust and Intimacy Pretest	16,50	7,48	Negative Ranks	4	5,00	20,00		
	18,50	7,44	Positive Ranks	3	2,67	8,00	-1,018	,309
			Equal Ranks	1				
			Total	8				

*p < .05

Table 5 show that there is a significant difference between the scores of the individuals, participating in the research, obtained from the Fisher Divorce Adjustment Scale before and after the experiment ($Z = -2,524, p <.05$). According to these results, the post-divorce support program is effective in the grief response ($Z = -2,521, p <.05$), disentanglement from relationship ($Z = -2,521, p <.05$), self-worth ($Z = -2,524, p <.05$) and anger ($Z = -2,103, p <.05$) subscales. It did not significantly differ in the trust and intimacy subscale ($Z = -1,018, p >.05$). These findings support the first hypothesis of the research.

The test results are shown in Table 5 using the Wilcoxon signed-ranks test to determine whether there is a significant difference between the -control group's pre-test and post-test scores.

The results of the analysis of whether the divorce adjustment levels of individuals who participated in the control group differ during process showed that there was a significant difference between the scores of the individuals who participated in the study and completed the Fisher Divorce Adjustment Scale ($Z = -2, 023, p <.05$). This difference is significant in pre-test and post-test mean scores and grief subscale ($Z = -2, 023, p <.05$). The change in the grief subscale has affected the overall mean score. However, there is no significant difference between pre-test and post-test in other subscales.

Table 6. Wilcoxon Signed-Rank Test Results of the Control Group

	\bar{X}	S		N	Rank Average	Rank Total	Z	p
Total Posttest – Total Pretest	210,42	36,54	Negative Ranks	5	3,00	15,00		
	229,85	35,74	Positive Ranks	0	,00	,00	-2,023	,043*
			Equal Ranks	2				
			Total	7				
Grief Posttest - Grief Pretest	80,71	20,66	Negative Ranks	5	3,00	15,00		
	91,00	22,18	Positive Ranks	0	,00	,00	-2,023	,043*
			Equal Ranks	2				
			Total	7				
Disentanglement from Relationship Posttest – Disentanglement from Relationship Pretest	24,00	3,51	Negative Ranks	3	3,00	9,00		
	25,28	4,80	Positive Ranks	1	1,00	1,00	-1,473	,141
			Equal Ranks	3				
			Total	7				
Self-Worth Posttest – Self-Worth Pretest	45,71	19,10	Negative Ranks	3	2,83	8,50		
	48,14	15,71	Positive Ranks	1	1,50	1,50	-1,289	,197
			Equal Ranks	3				
			Total	7				
Anger Posttest - Anger Pretest	34,14	7,73	Negative Ranks	4	2,75	11,00		
	35,71	6,15	Positive Ranks	1	4,00	4,00	-,944	,345
			Equal Ranks	2				
			Total	7				
Trust and Intimacy Posttest - Trust and Intimacy Pretest	19,42	6,52	Positive Ranks	3	3,00	9,00		
	22,71	8,26	Pozitif Sıralar	1	1,00	1,00	-1,461	,144
			Equal Ranks	3				
			Total	7				

*p <.05

To understand if there is a significant difference between the post-test scores of the experimental and control groups, which is another question of the study, the difference between the means of the pretest-posttest difference scores of the two groups was examined. The Mann Whitney U test was used to determine this difference. The results are shown in Table 7.

Table 7. Significance of Pretest-Posttest Score Difference for the experimental and control groups

	Group	N	\bar{x}	S	Rank Average	Ranks Total	U	p
Total Posttest - Total Pretest Difference	Experiment	8	53,12	38,28	10,25	82,00	10,000	,037*
	Control	7	19,42	24,09	5,43	38,00		
	Total	15						
Grief Posttest - Pretest Difference	Experiment	8	23,25	14,12	10,31	82,50	9,500	,032*
	Control	7	10,28	14,53	5,36	37,50		
	Total	15						
Disentanglement from Relationship Post-test – Pretest Difference	Experiment	8	10,50	9,84	10,75	86,00	6,000	,011*
	Control	7	1,28	2,36	4,86	34,00		
	Total	15						
Self-Worth Post-test – Pretest Difference	Experiment	8	8,25	9,48	9,25	74,00	18,000	,242
	Control	7	2,42	4,75	6,57	46,00		
	Total	15						
Anger Posttest – Pretest Difference	Experiment	8	8,50	7,91	10,13	81,00	11,000	,048*
	Control	7	1,57	5,06	5,57	39,00		
	Toplam	15						
Trust and Intimacy Posttest – Pretest Difference	Experiment	8	2,0	5,01	7,63	61,00	25,000	,726
	Control	7	3,28	6,36	8,43	59,00		
	Total	15						

*p <.05

As shown in Table 5, there is a significant difference between the mean difference scores of the experiment and control groups ($U= 10.00$, $p<.05$). The adjustment to divorce levels of the members who participated in the experimental group increased more from the control group. When subscales are checked, it could be seen that this difference is in grief ($U= 10.00$, $p<.05$), disentanglement from a relationship ($U= 9.50$, $p<.05$), anger ($U= 11.00$, $p<.05$). no significant difference was found in the self-worth ($U= 10.00$, $p<.05$), and trust and intimacy ($U= 10.00$, $p<.05$) subscales. These findings partially support the second hypothesis of the research.

4. Discussion

This research has investigated whether the PDPSP effectively increases the individuals' level of adjustment to divorce. Research findings show that the applied program creates a significant difference on the experimental group's level of adjustment to divorce. In other words, participants' level of adjustment in the experimental group and the subscales of the scale, Grief, Disentanglement from Relationship, Self-Esteem, and Anger, differed significantly after the program and the program contributed to individuals' level of adjustment to divorce, with the exception of the Trust and Intimacy subscales. These results partially support the study's first hypothesis. The second research question is to investigate the adjustment level of the control group, which is not intervened, to the divorce. The result of the analysis shows that there is a small but significant difference between the pre- and post-tests of the control group compared to the experimental group. This difference is significant only for the Grief Reaction scale. The improvement in grief reaction also contributed to the overall adjustment score. In other words, the individuals who participated in both the experimental and control groups were able to improve their adjustment performance to divorce in terms of total scores and grief reaction. The last process is examining the difference between the post-tests of the experimental and control groups. For this purpose, it was examined whether the difference was significant by comparing the mean difference scores between the pre-test and post-tests. Significant differences were found out between experimental and control post-tests. This difference was in the total scores of adjustment to divorce, grief response, disentanglement from relationship and anger subscales. There was no significant difference between groups in the self-worth, trust, and intimacy subscales. This finding partially supports the second hypothesis of the research.

This program was tested in a small study group because of the problems of reaching divorced individuals, and its generalizability depends only on the results of this study. However, in reviewing the relevant literature, it was found that support programs conducted with divorced individuals help them to better adjust and increase their psychological well-being, increase their self-esteem, create catharsis, enable interpersonal learning, improve their emotional awareness and psychological resilience, although there are differences in

subject, method and techniques. (Asanjarani et al., 2017; Avery & Thiessen, 1981; Canbulat, 2017; Kessler, 1976; Øygard, Thuen & Solvang, 2000; Quinney & Fouts, 2004; Vera, 1993; Öngider, 2013). The positive contributions of this study on the participants were determined as a result of both the pre-test and post-test analysis of the answers they gave to the Fisher Divorce Adjustment Scale and the answers they gave to the questions in the session evaluation forms. It is seen that the only subscale that the program does not contribute to is trust and intimacy.

In contrast to this study, Abandolo (1983) found that total divorce adjustment scores increased significantly in the groups that improved divorce adjustment for 10 weeks compared with the control group, according to the Fisher Divorce Adjustment Scale. When the question items in the trust and intimacy subscale are examined, it is seen that there are mostly items related to sexual life and trust to a new relationship. It has been found that the most important problem divorced women in Turkey experience in a new relationship is to build trust (Uğur, 2014).

Based on the finding that there is no improvement on the trust and intimacy scale, two possible explanations for this situation can be considered. The first possibility is that there may be cultural effects considering that all participants are women because the meaning attributed to sexuality is different in Turkish society. Another possibility is that the result could be related to the structure of the program. New relationships were discussed in the sessions, but no specific section on sexuality was prepared. Since the participants did not bring up the topic, sexuality was not focused on. The other finding of the study includes analysis for the control group. When the significance between the pre-test and post-test scores of the individuals participating in the control group is examined, it is seen that the level of adjustment of individuals in the control group increased in the grief subscale. The improvement in the grief subscale has increased the overall adjustment levels. Grief consists of emotional responses to a loss, and it is expected that the normal grief reactions that occur after the loss disappear over time (Gizir, 2006). Similarly, in the study conducted by Vukalovich (2004), it was found that the group waiting to be intervened recovered without any intervention. Fisher Divorce Adjustment Test pretest-posttest results were carried out with an interval of about three months and over a maximum of two years after the divorce period. It is stated that normal grief reactions usually last about six to twenty-four months and lose their effect over time (Bildik, 2013). Considering that the loss due to divorce was also grief (James & Friedman, 2009), it is seen that the improvement in the participants progressed in the normal process. When the control group was examined, it was found that there was no improvement in other subscales. Compared to the control group, the program's contribution in the experimental group is more significant in other subscales.

The final finding of the research was obtained by calculating the significance of the mean difference scores of groups. Accordingly, there is a significant improvement between the experimental group's pre-test and post-test difference scores compared to the control group's pretest-posttest difference scores in terms of general adjustment levels. When subscales are considered, it is seen that the difference is significant in grief reaction, disentanglement from relationship and anger scales, and it is not significant in trust and intimacy and self-worth scales. As the second finding of the study, it was found that adjustment scores of the control group increased in grief reaction depending on time and without intervention. There also is an improvement in grief reactions; however, the difference in score in the experimental group is higher than in the control group, and this difference is statistically significant. It is possible to link the significant difference improvement in the experimental group made compared to the control group to the contribution of the topics shared in the program. An interesting finding that emerges from comparing the posttests of the experimental and control groups is that there is no significant difference in self-esteem. Self-esteem making a significant difference according to the results of the pretest and the posttest of the experimental group, the first result of the study, made no significant difference when compared to the difference values of the posttest of the control group. Another subscale that does not make any significant difference is trust and intimacy. The applied program or elapsed time was not effective in this subscale. In the study conducted by Vukalovich (2004), when the answers the participants gave to the Fisher Divorce Adjustment Scale after 6 weeks of application were examined, an increase could be seen in trust and intimacy, grief reaction, separation anger, disentanglement from the relationship. Similar to the findings of this research, there was no increase in self-worth. Another study was conducted by Asanjarani et al. (2017) where there was no significant difference in self-worth after post-divorce support program even though there was a significant difference in all other subscales according to the Fisher

Divorce Adjustment Scale data. Research mention many factors that affect post-divorce adjustment. Some of these factors include the individuals' high level of education, the presence of a job and income (Wang & Amato, 2000), the perceived level of social support (Krumrei et al., 2007), how they perceive divorce, the personal strength they perceive, the strength of social support they perceive, whether they participate in meaningful activities, whether they receive professional help (Chan Lai Cheng & Pfeifer, 2015). Similarly, individuals' self-worth may be affected by these variables and post-divorce support studies.

5. Conclusion

The PDPSP is effective on the individuals' level of adjustment to divorce. Professionals working with divorced individuals can benefit from this program. The forms developed for the program can be used during the divorce process or in sessions with officially divorced individuals. This study was a pilot one and it had certain limitations. First, the pilot studies working group was all women, so it needs improving with a more diverse group. Second, all 16 participants had children, its effectiveness on divorced individuals without children need to be tested again. Third, the program can be applied to larger groups as well. Also, the criteria for the time passed after divorce was specified as two years in this paper. Regardless of the time passed after divorce, a new study can be conducted for further research. This can help to specify the levels of divorce and the psychological phases divorced people have experienced. Another topic to be included in the program is intimacy and sexuality, which will broaden the scope of the program. Finally, the most important phase of divorce is the pre-divorce period. Intervention programs for separated persons need to be developed and more sessions can be conducted. Follow-up studies need to be conducted to observe the long-term impact of the program. The PDPSP has an indirect positive effect on children. The studies conducted in Turkey are concerned about the support for the children of divorced parents. It is an undeniable fact that the most important side of a divorce is children; however, the most deeply affected parties are parents. Parents will have difficulty parenting in a healthy way before they feel adjusted to divorce. Therefore, supporting a divorced individual is the same thing as supporting a child. Within the perspective, the support programs for parents need generalizing.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Examination of the Relationship between Phubbing and Continuous Anger and Anger Expression Styles in Adults

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ABSTRACT

This research examines the relationship between phubbing (sociotelsism) and continuous anger and anger expression styles. In addition, it aims to search whether there is a significant difference between phubbing and continuous anger and anger expression styles according to some demographic information of the sample. This research is a quantitative study and a relational survey model was used. This study was conducted on an online platform on 303 people, 188 female and 115 male men, between the ages of 18-64 living in Turkey. Demographic information form, phubbing scale, continuous anger and anger expression scales were used in this study. In the data analysis, Pearson correlation coefficient, independent groups t-test, Anova and post-hoc test were used. According to the findings, it is seen that there is a significant correlation between phubbing and continuous anger and anger expression styles. At the same time, analyzes were made with the demographic information obtained from the sample and some findings were found. As a result of the literature review, not many studies were found about these two variables in Turkey. No research has been studied these variables together; from this aspect, the research is important for the literature. This study was expected to be a guiding study for the future researches. However, it is thought that the results of this research will provide perspective when working in mental health, especially in the field of smartphone and anger in clinical applications.

Keywords:

Phubbing, sociotelsism, continuous anger, anger expression styles, young adults

1. Introduction

Human life is changing and developing day by day with the effect of technology. Technology raises the standard of living and at the same time simplify lives. When it is looked at today's world, almost no person does not use technology in at least one part of her/his life. With the inclusion of smartphones worldwide, it is an inevitable fact that people do most of their work through them. Smartphones have affected everybody's life both positively and negatively. Many studies have found that people also use technology when socializing with others. This harms the social relations (Parmaksız, 2020; Chotpitayasunondh and Douglas, 2018; Karaköse, 2019). This situation has led to the emergence of the concept which calls "phubbing". Phubbing is described as dealing with the phone in the presence of others. It is seen as social rudeness. Although it can be seen at any age, it has become more common among young people. Rather than being an interpersonal problem, it has now turned into a global problem. It causes a decrease in communication. Many psychological problems can occur pathologically with people who have reduced social communication and interaction because human race is social being who needs to have communication with others. Problems like depression, anger and anxiety, can be seen at the people who have decreased communication with others. Increasing the

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amount of time, especially young people spend on their smartphone causes researchers to focus on this matter and think about the situations in which phubbing occurs and what causes phubbing. Therefore, the subject of this study has recently become one of the curial research topics in the world and Turkey.

1.1. Phubbing

Technology, which is one of the benefits of the developing and changing world, appears in many areas of life. It is an undeniable fact that people live together with technology and do most of their work through it. The increasing use of the telephone has attracted attention in recent years. According to a study conducted in 2019, the number of smartphone users in Turkey is approximately 47 million. It corresponds to more than half of the population and is expected to increase (Parmaksız, 2019). According to another study conducted in 2018, it was found that smartphone users in Turkey look at their phones for control purposes seventy-eight times a day. The finding shows that smartphone users check their phones every 13 minutes. In the same study, %66 of these users are also aware that they use their phones more than necessary (Yıldırım & Ünal, 2020). Excessive phone use poses a risk in some issues, the most important is social communication. When people show interest in their phones, they cannot focus on the people in their physical environment; this disrupts the quality of social life and creates problems in communication between people interacting with the person (Parmaksız, 2020). Smartphones, which have the power to shake social relationships deeply, entered all people lives quickly and made their effects felt on relationships in a short time. One of the most important concepts in this regard is phubbing. Since it is a new concept in the literature, phubbing has not been sufficiently researched. In 2012, the concept of phubbing was created by a team of experts in the field, combining the words phone and snubbing, to produce a new word to explain the event of deliberately ignoring someone while using a mobile phone. Phubbing is a behavior in which people ignore the person next to them by engaging with their phone instead of interacting with the people there. In other words, instead of communicating with the people around them, they make phone calls, thus avoiding their perception of interpersonal relationships. With its entry into the world literature, it has also attracted the attention of researchers and some researches have been conducted on this topic (Parmaksız, 2019). Smartphone use decreases the quality of social interaction between individuals. According to a study, a lower empathy level was found in conversations with a smartphone at the table than in conversations without a smartphone (Chotpitayasunondh & Douglas, 2018). Little is known about what causes or causes phubbing. Existing findings are used to understand the factors predicting phubbing behavior. In a study by Koca (2019), it was stated that one of the factors that trigger phubbing is phone addiction.

A study on smartphone, social media and game addiction of university students was conducted by Karadağ et al. (2016), and it was determined that the most important determinants of phubbing were smartphones, text messages, social media and internet addiction (Yıldırım & Ünal, 2020, p. 8). Socializing only by phone while in a social environment harms interpersonal relations, and as a result, it causes some problems in individuals. Karaköse (2019) discussed these in a study. In this study conducted on students, a significant relationship was found between smartphone addiction and life satisfaction and depression. As phone addiction increases, life satisfaction decreases. In the same study, it was found that as phone addiction increased, depression increased. In the studies of Chotpitayasunondh and Douglas, it was found that there is a correlation between smartphone abuse, internet abuse and fear of missing out. Still, although there is a link between these behaviors, it does not mean that they cover all the features of these behaviors. A phubbing person may not be addicted to a smartphone or the internet. Therefore, phubbing should be separated from these concepts at some point (Göksün, 2019). At the same time, how much time a person spends on the phone is an important variable. A study applied by Ergün et al. (2019) resulted a strong correlation between the duration of phone use and phubbing.

1.2. Continuous anger and anger expression styles

It is natural to experience many good and pleasant emotions, it is also natural to experience unpleasant emotions. One of them is the emotion of anger. Whatever form it takes, anger is understood, accepted, and controlled. When used properly, anger is a useful emotion (Bal et al., 2019), can be learned to express and control. If this control is achieved successfully, anger can help increase understanding in problem-solving, attitude development, and interpersonal relationships. When it cannot be controlled, it causes interpersonal conflict, verbal and nonverbal attack, and aggression. In Bal et al. (2019) study, continuous anger refers to how

the person generally feels and the degree of anger. On the other hand, Anger expression styles refers to how often the person acts and the way he or she reacts to anger. Anger can manifest itself internally and externally. Inner anger is the tendency of anger to be suppressed and the amount of retention. On the other hand, external anger is the amount of expression, verbal or physical expression.

The emotion we call anger is a part of life and is necessary, but its effective and appropriate use can make a good difference in one's life. When the people evaluate the concept of anger in terms of men and women, it is inevitable that there will be certain differences due to evolutionary aspect. According to the findings of the study applied by Bal et al. (2019), it was found that anger management differed according to gender, employment status, and education. It was also concluded that men's average was higher in anger expression. Another finding of the same study was that the average score of the individuals who worked was higher than those who did not work in anger control. Based on the results of this study, it is obvious that gender, education level and work activity have a significant effect on anger expression and control. Although it is observed that gender makes a certain difference, personality traits can also reinforce this difference. The environment in which a person grew up and evolved has affected the expression of anger. The environment shapes the individuals attachment styles they grew up in. A study was applied with university students. As a result of this research, it was concluded that university students with secure attachment had low levels of continuous anger and anger-out and high levels of control (Ayyıldız & Elkin, 2016).

Anger can be a cause or a result of conflicts. In a study conducted on adolescents living in orphanages, the impact of interpersonal problem-solving skills training on structural problem-solving ability, and the amount of continuous anger was examined. Research findings showed that problem solving ability training provided a decrease in continuous anger level. The same research has shown a linear relationship between problem solving ability and anger control, and it seemed that as this ability increases, anger control skill also increases (Bedel & Arı, 2015, p.8). At the same time, in another study on depression by Köksal and Gençdoğan (2007), it was discovered that there is a correlation between depression and continuous anger, both anger in and anger out, guilt and shame. It was determined that women had more guilt and shame, while men had more anger and anger control. It was concluded that people who suffer from depression have higher continuous anger, anger in than those who do not.

What will be the source of anger has been one of the research topics. Many studies have been done in this direction. For example; Guo et al. (2014) conducted a study on mice. This study aims to find out which genes are impressed when anger is in and out. Initial analogy at the molecular level showed that genetic mechanisms can induce feelings of anger both internally and externally. Jingqianshu and Jingqianping (2015) showed the main specific purpose genes and signals include in the regulating path of granules during response to both anger-in and anger-out emotions. It is argued that this research may also be valid for humans and may work in anger-oriented treatments.

1.3. Phubbing and continuous anger and Anger expression styles

There is no study in the literature related to these two variables. As explained, phubbing is the situation of isolating oneself from the environment and dealing with the phone. This can be perceived as rude by the environment. When this situation gains continuity, it is inevitable to end the people's communication after a while. This can trigger the behaviors, such as; game play dependency, internet dependency, social media dependency, smartphone dependency. While phubbing is related to these, it does not or cannot be fully covered. This study aimed to find out what kind of relationship there is between phubbing and continuous anger and anger expression styles. The main curiosity of the research is that the individual who becomes lonely will change her/his continuous anger and anger expression styles and how she/he will express it. The research aims to find out which of the anger-in, anger-out or anger control parts of an individual who exhibits phubbing will use frequently and to determine the level of continuous anger and anger expression styles. Although a limited amount of information was obtained on both issues due to national and international resource reviews, it was believed that this issue should be investigated. It is expected that phubbing will isolate the person and it is a matter of curiosity how the individual will react after this isolation. This research aims to satisfy this curiosity. Therefore, The main purpose of this research is to examine phubbing in terms of continuous anger and anger expression styles. Consistent with this primary purpose, we will first examine the correlation between shame and persistent anger and the styles of expression of anger, and then determine

whether there is a significant difference by age, gender, education level and marital status, employment status, financial income, presence of a child or children, and duration of smartphone use.

2. Methodology

2.1. Research Model

Descriptive and correlational research designs were used in this study. Data were collected using an online survey platform.. In accordance with the established model, the hypotheses of the study are as follows;

H₁ There is a significant correlation between phubbing and continuous anger and anger expression styles .

H₂ Phubbing, continuous anger and anger expression styles differ significantly by age, gender, marital status, employment status, having children or not, educational status, financial income, duration of phone use.

2.2. Research Sample

The research population included individuals between the ages of 18-64 living in Turkey. The study sample comprised of 303 participants who willingly participated in the research. It comprised of 188 females and 115 males. The average age of sample participated in the study was 29.86 years. The distribution of the socio-demographic information data of the sample is shown in Table 1.

Table 1. Socio-Demographic Information of the Sample

	Groups	N	%
Gender	Woman	188	62.0
	Man	115	38.0
	Total	303	100.0
Age	18-24 (youths)	99	32.7
	25-44 (young adults)	175	57.8
	45-64 (adults)	29	9.6
	Total	303	100.0
Education status	Primary school	4	1.3
	Secondary School	6	2.0
	High school	29	9.6
	University	196	64.7
	Master	68	22.4
	Total	303	100.0
Marital status	Single	213	70.3
	Married	89	29.4
	Total	303	100.0
Employment status	Working	159	52.5
	Not Working	144	47.5
	Total	303	100.0
Financial Income	Low	56	18.5
	Middle	216	71.3
	High	31	10.2
	Total	303	100.0
Having a Child or Children	Yes	70	23.1
	No	233	76.9
	Total	303	100.0
Duration of Phone Use	less than an hour	6	2.0
	One to three hours	97	32.0
	three to five hours	113	37.3
	Five hours and above	87	28.7
	Total	303	100.0

As shown in Table 1, of 303 participants, 188 were women (62%) and 115 (38%) were men (N= 303) and %37.7 of participants were between 18-24 years old, %57.8 were between 25-44 years old, and %9.6 were between 45-64 years old. %1.3 of the participants attended elementary school (n=4), %2 attended secondary school (n=6), %9.6 attended high school (n=29), %64.7 attended university (n=196), %22.4 had a master's degree (n=68) and above. %70.3 of them were single (n=213), %29.7 (n=89) were married, while %23.1 have children, %76.9 have no children. 18.5% of the participants have low income, %71.3 have middle income and %10.2 have high income level. %2.3 of participants are retired, %45.2 are not working, and %52.5 are working. %2 of

participants are interested in their phone for less than an hour, %32 for 1-3 hours, %37.3 for 3-5 hours, %28.7 for more than 5 hours. The average age of those participating in the study is 29.86 years ($Ss=9.59$).

2.3. Data Collection Tools and Procedure

The questionnaire data collection method was used in this research. Demographic information form, phubbing scale, continuous anger and anger expression styles scale were included. The data was collected in November 2019. The collected data were evaluated by quantitative analysis methods using SPSS 25.0.

Demographic Information Form: This form consists of 8 inquiry prepared by the researchers. Demographic Information Form, which included questions about age, gender, marital status, educational status, employment status, financial income, whether they have children and the duration of mobile phone use, was given to the participants.

Phubbing Scale: The original version was divulged by Chotpitayasonondh and Douglas (2018). The Turkish adaptation was done by Ergün et al. (2020). The scale includes of 15 items. It is a Likert scale which has 7-point (1: Never, 7: Always). Internal validity is between .85 and .92. The scale includes of four sub-scales: Interpersonal Conflict, Nomophobia, Problem Recognition and Self-Isolation. Some of these questions were "I get worried when my phone is not near me", "People say I spend too much time on my phone", "I am happy when I pay attention to my phone instead of others."

Continuous Anger and Anger Expression Styles Scale: The original version belongs to Spielberger et al. (1988). It consists of 34 items. It was tailored into Turkish by Özer (1994). Items measure the presence of anger. It is a 4 Likert type measurement. "Almost Never" (1); "Sometimes" (2); "Often" (3) and "Almost Always" (4). The items measuring the level of continuous anger are items from 1 to 10, and items 13, 15, 16, 20, 23, 26, 27 and 31 measuring the amount of anger suppression. The items that measure the extent of anger are items 12, 17, 19, 22, 24, 29, 32, and 33, and the items that measure the extent of anger control are items 11, 14, 18, 21, 25, 28, 30, and 34. Some questions about the continuous anger are as follows: "I get angry when others' mistakes slow down my work." "It bothers me not to be appreciated after a good job." Some questions about anger in are as follows; "I let my anger in.", "I pout." Some questions related to anger out are "I show my anger", "I say sarcastic words to others." Finally, some of the items related to anger control are "I control my behavior," "I can stop myself before my anger gets out of control." The total score in the continuous anger and anger expression styles scale is obtained by summing the scores obtained from each item. Alpha values were observed to be between .67 and .92. It varies between .82 and .90 in its original form (Spielberger et al., 1983). Individuals can get a score between 10 and 40 from the Continuous Anger Sub-scale. Participants can get 8 to 32 points from the sum of each dimension in the Anger Expression Styles Sub-scale (Özer, 1994).

2.4. Data Analysis

In the study, the demographic characteristics of individuals aged 18-64 were measured with the demographic information form. The amount of phubbing was measured with the general phubbing scale. Their anger levels and expression styles were measured using the anger expression and continuous anger scale. The data obtained from the applied forms were analyzed with the SPSS 25.0 program. Accordingly, the relationship between phubbing and general anger levels, how much they suppressed their anger, how much they were able to express it and how they could control it, was analyzed with the Pearson Correlation Test. T-test was used as independent sample test to examine the variables of gender, marital status, and having children. ANOVA was used when examining variables such as age, financial situation, educational status, and duration of using the phone.

2.5. Ethical

In this study, all rules stated to be followed within the scope of "Higher Education Institutions Scientific Research and Publication Ethics Directive" were followed. Ethical Review Board Name: Beykent University Ethics Committee. Date of Ethics Evaluation Decision: 28.03.2022

3. Findings

A total of 303 people participated in this study, which was carried out to examine the relationship between phubbing and the continuous anger and anger expression styles in individuals aged 18 to 64 years. The

descriptive results related to phubbing and continuous anger and anger expression styles obtained from the analysis of the responses to the scales are demonstrated in Table 2.

Table 2. *The Descriptive Statistics of the Scales*

	N	Min.	Max.	\bar{X}	Sd	Skewness	Kurtosis	α		
Continuous anger total	303	11.00	37.00	23.4801	5.87618	.200	.140	-.579	.280	.829
Anger in total	303	9.00	31.00	18.2409	5.12409	.018	.140	-.536	.279	.804
Anger out total	303	9.00	30.00	18.4851	4.55419	.115	.140	-.585	.279	.816
Anger control total	303	8.00	31.00	23.7888	4.36591	-.975	.140	1.570	.279	.832
CAAES Total	303	38	121	84.00	10.728	-.155	.140	1.565	.280	.782
Phubbing Total	303	15	93	43.65	18.400	.780	.140	-.096	.279	.928

In Table 2, the continuous anger subscale mean was 23.49, standard deviation was 5.88, skewness values were .200/.140, kurtosis values were -.579/.280, cronbach alpha value was .829, Anger in subscale mean 18.24, standard deviation 5.12, skewness values .018/.140, kurtosis values -.536/.279, cronbach alpha value .804. Anger out subscale mean was 18.48, standard deviation was 4.55, skewness values were .115/.140, kurtosis values were -.585/.279, cronbach alpha value was .816. Anger control subscale mean was 23.78, the standard deviation was 4.36, skewness values were -.975/.140, kurtosis values were 1.570/.279, cronbach alpha value was .832. The mean caas was 84, the standard deviation was 10.73, the skewness values were -.155/.140, the kurtosis values were 1.565/.280, the cronbach alpha value was .782. The phubbing scale mean was 43.65, standard deviation was 18.4, skewness values were .780/.140, kurtosis values were -.096/.279, cronbach alpha values were .928.

The relationship between phubbing and anger expression styles total and subscales and continuous anger were analyzed by Pearson Correlation. Analysis results are given in Table 3.

Table 3. *The Correlation Table of Phubbing and Continuous Anger, Anger In, Anger Out and Anger Control Sub-Scales*

		Phubbing Total	Continuous Total	Anger In Total	Anger Out Total	Anger Control Total
Phubbing	r	1	.453**	.106	.120*	-.123*
Total	p		.000	.067	.037	.032
	N	303	303	303	303	303

** .p<0.01; * .p<0.05

Table 3 indicated a significant positive relationship (r (302)=0.45, p<.01) between phubbing and continuous anger total scores. A significant positive relationship was found (r (303)=0.12, p<.05) between phubbing and anger out total. It means that when phubbing increases, anger out increases too and when phubbing decreases, anger out decreases too. But a significant negative relationship was found (r (303)= -0.12, p<.05) between phubbing and anger control total . It means that when phubbing increases, anger control decreases. There is no a significant relationship was found (r (303)=0.11, p<.05, p<.01) between phubbing and anger in total.

The t-test performed to understand whether there is a significant difference between these two variables according to gender. Analysis results were demonstrated in Table 4.

Table 4. *The Comparison of Phubbing Andcontinuous Anger and Anger Expression Styles According to Gender*

Gender	N	\bar{X}	Sd	t	Sd.	p	
CAAES Total	Woman	188	83.47	10.530	-1.114	300	.266
	Man	115	84.89	11.037			
Continuous anger total	Woman	188	23.3670	5.94794	-.429	300	.668
	Man	115	23.6667	5.77708			
Anger in total	Woman	188	17.9521	5.26545	-1.256	301	.210
	Man	115	18.7130	4.86982			
Anger out total	Woman	188	18.2553	4.49584	-1.124	301	.262
	Man	115	18.8609	4.64321			
Anger control total	Woman	188	23.8936	4.20585	.534	301	.594
	Man	115	23.6174	4.62939			
Phubbing Total	Woman	188	43.88	18.850	.275	301	.784
	Man	115	43.28	17.715			

The t-test was conducted to determine whether the participants differed significantly according to their gender in the continuous anger and anger expression styles scale ($t(300)=1.114, p>.05$). The difference between the averages was not found significant. The subscales were evaluated separately, continuous anger $t(300)=.429, p>.05$, anger in $t(301)=1.256, p>.05$, anger out $t(301)=1.124, p>.05$, anger control $t(301)=.534, p>.05$. The results of the analysis show that there is no significant difference in the subscales. T-test was performed to determine whether the participants differed according to gender in the phubbing scale $t(301)=.275, p>.05$, there is no significant difference was found.

The t-test was performed to understand whether there is a significant difference between these two variables according to marital status. Analysis results were given in Table 5.

Table 5. *The Comparison Between Phubbing and Continuous Anger and Anger Expression Styles According to Marital Status*

	Marital Status	N	\bar{X}	Sd	t	Sd.	p
CAAES Total	Single	213	84.57	10.961	1.433	299	.153
	Married	88	82.63	10.134			
Continuous anger total	Single	213	23.8404	5.88994	1.696	299	.091
	Married	88	22.5795	5.80670			
Anger in total	Single	213	18.3333	5.20039	.514	300	.608
	Married	89	18.0000	4.98407			
Anger out total	Single	213	18.5352	4.51046	.266	300	.791
	Married	89	18.3820	4.70374			
Anger control total	Single	213	23.8638	4.15561	.404	300	.686
	Married	89	23.6404	4.86697			
Phubbing Total	Single	213	44.83	18.717	1.770	300	.078
	Married	89	40.73	17.467			

Table 5 indicated the results of the comparison between phubbing and continuous anger and anger expression styles according to marital status. As it is seen in the table, according to marital status $t(300) = 1.770, p>.05$. No significant difference was found between phubbing and continuous anger and anger expression scale $t(299)=1.433, p>.05$. No significant difference was found between the means.

The t-test performed to understand if there is a significant difference between these variables according to whether the sample has a child or not. The analysis findings were demonstrated in Table 6.

Table 6. *The Comparison Between Phubbing and Continuous Anger and Anger Expression Styles According to Having Children*

	Children	N	\bar{X}	Sd	t	Sd.	p
CAAES Total	Yes	70	83.06	10.258	-.833	300	.406
	No	233	84.28	10.869			
Continuous Total	Yes	69	22.8696	6.24008	-.983	300	.327
	No	233	23.6609	5.76561			
Anger In Total	Yes	70	17.7857	5.17489	-.847	301	.398
	No	233	18.3777	5.11201			
Anger Out Total	Yes	70	18.1571	4.79624	-.687	301	.493
	No	233	18.5837	4.48495			
Anger Control Total	Yes	70	24.2143	4.65908	.930	301	.353
	No	233	23.6609	4.27614			
Phubbing Total	Yes	70	41.94	17.403	-.885	301	.377
	No	233	44.16	18.695			

Table 6 indicated the results of the comparison between phubbing and continuous anger and anger expression styles according to whether the sample has a child or not; no any significant difference was found in the anger expression styles and continuous anger scale $t(300)=.833, p>.05$. No any significant difference was found in the phubbing scale, $t(301)=.885, p>.05$.

Data analysis was made according to the working status (working, not working). The t-test analysis was performed to understand if there is a significant difference in working status. Analysis results were given in Table 7.

Table 7. The Comparison Between Phubbing and Continuous Anger and Anger Expression Styles According to the Working Status

Employment status		N	\bar{X}	Sd	t	Sd.	p
Continuous	Working	158	22.9937	5.87611	1.510	300	.132
	Total	144	24.0139	5.85009			
Anger In	Working	159	18.7673	4.83159	1.887	301	.060
	Total	144	17.6597	5.38603			
Anger Out	Working	159	19.0692	4.49207	2.363	301	.019
	Total	144	17.8403	4.55067			
Anger Con.	Working	159	23.4717	4.23190	1.330	301	.184
	Total	144	24.1389	4.49804			
CAAES total	Working	158	84.32	10.946	.541	300	.589
	Total	144	83.65	10.511			
Phubbing	Working	159	41.92	17.573	1.721	301	.086
	Total	144	45.56	19.153			

Table 7 indicated the results of the comparison between phubbing and continuous anger and anger expression styles according to the working status. Although no any significant difference was found between the anger expression styles and the continuous anger scores; $t(300) = .541, p > .05$, $t(301)$ but in the anger out sub-scale, $t = 2.363, p < .05$ a significant difference was found. In other words, the working group scored higher in anger out scoring than the non-working group. In the phubbing scale, $t(301) = 1.721, p > .05$ could not find a significant result.

The Anova analysis was performed to understand whether there is a significant difference according to educational status or not. Analysis results are given in Table 8.

Table 8. The Comparison Between Phubbing and Continuous Anger and Anger Expression Styles According to Educational Status

ANOVA		Sum of Squares	df.	Mean Square	F	p	Difference
Continuous	Bet. Groups	182.956	2	91.478	2.679	.070	-
	Total	10210.425	299	34.149			
Anger In	Bet. Groups	49.892	2	24.946	.950	.388	-
	Total	7879.521	300	26.265			
Anger Out	Bet. Groups	29.149	2	14.575	.701	.497	-
	Total	6234.534	300	20.782			
Anger Control	Bet. Groups	2.660	2	1.330	.069	.933	-
	Total	5753.822	300	19.179			
CAAES	Bet. Groups	446.152	2	223.076	1.950	.144	-
	Total	34196.844	299	114.371			
Phubbing	Bet. Groups	1892.634	2	946.317	2.829	.061	-
	Total	100352.284	300	334.508			

While analyzing the educational status, since there were very few primary and secondary school graduates, they were combined with senior high school and the category of senior high school and above was created. The Anova analysis was performed to understand whether there is a significant difference in educational status. No any significant difference was found according to the continuous anger and anger expression styles scale; $F(2,299) = 1.950, p > .05$. No any significant difference was also found due to continuous anger, and also anger in, anger out and anger control sub-scales. In the phubbing scale, $F(2,300) = 2.829, p > .05$ could not found a significant result.

The Anova analysis was performed to understand whether or not there was a significant difference in financial income. The results of the analysis are given in Table 9.

Table 9. *The Comparison Between Phubbing and Continuous Anger and Anger Expression Styles According to the Financial Income*

ANOVA		Sum of Squares	df	Mean Square	F	p	Difference
Continuous Total	Bet. Groups	5.250	2	2.625	.076	.927	-
	Within Groups	10388.131	299	34.743			
Anger In Total	Bet. Groups	130.615	2	65.307	2.512	.083	-
	Within Groups	7798.798	300	25.996			
Anger Out Total	Bet. Groups	22.668	2	11.334	.545	.581	-
	Within Groups	6241.015	300	20.803			
Anger Control Total	Bet. Groups	4.984	2	2.492	.130	.878	-
	Within Groups	5751.498	300	19.172			
CAAES Total	Bet. Groups	186.335	2	93.168	.808	.447	-
	Within Groups	34456.661	299	115.240			
Phubbing Total	Bet. Groups	58.321	2	29.161	.086	.918	-
	Within Groups	102186.596	300	340.622			

Table 9 indicated the comparison between phubbing and continuous anger and anger expression styles according to the financial income. No any significant difference was found according to the continuous anger and anger expression styles scale; $F(2,299) = .808, p > .05$. No any significant result was found in the phubbing scores either. $F(2,300) = .086, p > .05$.

The Anova analysis was performed to understand whether there is a significant difference according to the duration of phone use. The analysis results were shown in Table 10.

Table 10. *The Comparison Between Phubbing and Continuous Anger and Anger Expression Styles According to the Duration of Phone Use*

ANOVA		Sum of Squares	df	Mean Square	F	p	Diff.
Continuous Total	Between Groups	97.125	2	48.562	1.410	.246	-
	Within Groups	10296.256	299	34.436			
Anger In Total	Between Groups	3.882	2	1.941	.073	.929	-
	Within Groups	7925.530	300	26.418			
Anger Out Total	Between Groups	15.110	2	7.555	.363	.696	-
	Within Groups	6248.573	300	20.829			
Anger Control Total	Between Groups	11.764	2	5.882	.307	.736	-
	Within Groups	5744.717	300	19.149			
CAAES Total	Between Groups	57.938	2	28.969	.250	.779	-
	Within Groups	34585.059	299	115.669			
Phubbing Total	Between Groups	10681.563	2	5340.781	17.499	.000	2>3,4
	Within Groups	91563.355	300	305.211			

Due to the small number of participants using less than one hour in the variable of telephone usage duration, the participants who used less than one hour and between 1-3 hours were combined and the 0-3 hour category was created. The Anova analysis was performed to understand whether there is a significant difference according to the duration of phone use. No any significant difference was found with respect to the continuous anger and anger expression styles scale; $F(2,299) = .250, p > .05$. No any significant difference was found according to the continuous anger, and also anger in, anger out and anger control sub-scales. A significant difference was found due to the phubbing scores, $F(2,300) = 17.5, p < .05$. Post-hoc analysis revealed where the significant difference was. While there is a significant difference between 0-3 hours and 3-5 hours, there is also a significant difference between 0-3 hours and 5+ hours.

The Anova analysis was performed to understand whether there is a significant difference according to age categories. The analysis findings are given in Table 11.

Table 11. The Comparison Between Phubbing and Continuous Anger and Anger Expression Styles According to the Age

ANOVA		Sum of Squares	df	Mean Square	F	Sig.	Fark
Continuous	Between Groups	209.908	2	104.954	3.082	.047	-
	Within Groups	10183.473	299	34.058			
Anger In	Between Groups	135.549	2	67.774	2.609	.075	-
	Within Groups	7793.864	300	25.980			
Anger Out	Between Groups	71.788	2	35.894	1.739	.177	-
	Within Groups	6191.895	300	20.640			
Anger Control	Between Groups	30.086	2	15.043	.788	.456	-
	Within Groups	5726.395	300	19.088			
CAAES	Between Groups	1219.024	2	609.512	5.452	.005	18-24>25-44
	Within Groups	33423.972	299	111.786			
Phubbing Total	Between Groups	4211.567	2	2105.784	6.444	.002	18-24>25-4,45-64
	Within Groups	98033.350	300	326.778			

Table 11 indicated the comparison between phubbing and continuous anger and anger expression styles according to the age. A significant difference was calculated in the anger expression styles and continuous anger scores; $F(2,299)=5.45$, $p<.05$. The post hoc analysis determined that the difference was between the ages of 18-24 and 25-44. At the same time, a significant difference was compute in the phubbing scores, $F(2,300)=6.44$, $p<.05$. In the post hoc analysis, while the difference was found between the ages of 18-24 and 25-44, there was also a difference between 18-24 and 45-64. A significant difference was found in the continuous anger sub-scale, $F(2,299)=3.08$, $p<0.05$. However, there was no any difference between groups in post hoc analysis.

4. The Conclusion and Discussion

This research intends to find the correlation between phubbing and continuous anger and anger expression styles. For this purpose, demographic information form, phubbing scale, and the anger expression styles and continuous anger scale were given to the participants and they were expected to answer sincerely. As a result of the analysis, it was detected that there was a significant correlation between phubbing and continuous anger and anger expression styles. At the same time, analyzes were made for two scales with the demographic information given by the participants and some findings were found. No any significant difference was found due to gender, having children, employment status, educational status and financial income. When the duration of phone use was considered, the sample showed a heap of use for three to five hours. According to the "Digital 2019 in Turkey" research conducted by a research company in Turkey in 2019, it has been revealed that individuals using social media in Turkey spend an average of 2 hours and 46 minutes per day on their social media accounts (Yıldırım and Ünal, 2020). This is a finding that matches our study. A significant difference was found between the duration of phone use and the continuous anger subscale. Participants who used less than one hour scored lower on the continuous anger scale than participants who used it for more than five hours. The amount of continuous anger was higher in participants who used the phone for more than five hours. A significant difference was found between the phone usage duration variable and the phubbing scale. The individuals who use less than an hour differ significantly with those who use more than five hours. At the same time, other information obtained as a result of post-hoc analyzes is that there is a significant difference between 0-3 hours of use and 3-5 hours and 5+ hours of use. At the same time, there is a significant difference between three-five hours and five or more hours uses. While there was a significant difference between the age variable and the continuous anger and anger expression styles scale, there was also a significant difference with the the continuous anger sub-scale. This difference is between 18-24 and 25-44. The age variable also reflected a significant difference with the phubbing scale. The 18-24 age range differs between 25-44 and 45-64 age ranges. Although a significant result was obtained in the continuous anger subscale, which groups differed in the post hoc analysis was not found.

The research was conducted with 303 individuals between 18-64. According to the participants' answers, the lowest score obtained from the continuous anger and anger expression styles scale was 38, while the highest score was 121. While the lowest score on the phubbing scale was 15, the highest score was 93. Considering the average of men and women, the scores of men from continuous anger and anger styles scale are higher than

women's. This may be because men are more comfortable in experiencing and expressing anger. Women cannot show anger directly due to internal and social barriers and the fact that they are not socially welcomed (Bal; Gül & Tumorbağa, 2019). On the phubbing scale, the women's average score is higher than the average score of the men. This may be because they use the smartphone to communicate with their partner. Within the traditional understanding, it is assumed that smartphone use has increased due to women's concerns about keeping their friends informed about what they are doing, where they are, and who they are with. This may lead people to phubbing (Karadağ et al., 2016).

A significant correlation was calculated between phubbing, continuous anger and anger expression styles. The small amount of correlation is due to the small sample size. In a study conducted with a larger sample, the relationship is predicted to be high. Since there is no study about these two variables after the literature review, it is expected to lead to further research. Smartphone users willingly or unwillingly ignore the people around them in their social environment while dealing with their phones. The quality of communication with their social environment decreases, creating problems in communication in social life (Parmaksız, 2019). Depression is an expected mental health problem because phubbing isolates people. Studies have shown that phubbing harms interpersonal relationships, decreases relationship satisfaction and causes depression (Koca, 2019). As mentioned in a study by Köksal and Gençdoğan (2007), it was observed that there is a correlation between depression and the continuous anger, anger in and anger out. Depression may play an interpose role in the correlation between phubbing, continuous anger and anger expression styles. In a study by Mert and Özdemir (2018), it was found that loneliness affects smartphone addiction. In a study conducted by Błachnio and Przepiorkan (2019), it was revealed that loneliness triggers phubbing. The feeling of loneliness is one of the variables that can lead to depression.

In this study, it was expected that there would be a significant difference according to gender, but it was not found. It is expected that men tend to experience anger externally, while women tend to experience it internally. Although Gül et al. (2019) found that continuous anger and anger expression styles vary according to gender, employment status, and education level, no difference was found in this study's variables. This may be due to the similarities among participants because the study was conducted online because of the pandemic. Also, the insufficient number of our sample may affect such a result. The reason why no significant differences were found as a result of the analyzes made with the sub-dimensions of the anger expression scale and the continuous anger may also be due to the same reasons. In the study conducted by Gül et al. (2019) on continuous anger and anger expression styles, it was resulted that there was no any significant difference between continuous anger and anger control sub-scales in the analyzes made according to the gender variable of the participants. According to their research, gender; it is a factor that affects the expression of continuous anger, but it is not a factor that affects the internally living of anger and the control of anger. The reasons why women cannot express their anger directly can be both internal and social obstacles. The main reason why women cannot express their anger is that the society does not welcome them. The need for social approval may lead to suppression of anger (Gül, 2019). At the same time, since the research is conducted on an online platform, it is also among the reasons people do not reply carefully due to the length of the scales while answering the questions. There were some significant differences between the groups according to age. The significant differences were between the ages of 18-24 and 25-44 within the scope of continuous anger and anger expression scale may indicate that although 18-24 year-olds have more anger than 25-44 year-olds, they also have more control. At the same time, there was a significant difference between the groups in the continuous anger subscale, but in the post hoc analysis, it was not determined which groups they were. A significant difference was found according to the age analysis performed in the phubbing scale. Ages 18-24 differ significantly between 25-44 and 45-64 age groups. This may be because the younger generation spends more time on the phone. Although there was no relationship between the phone's duration and the continuous anger and anger expression styles, a significant relationship was found with the phubbing scale. This finding is expected. The people who use smartphone 0-3 hours differ significantly with those who use 5+ hours. Using the phone for more than five hours indicates phone addiction, and continued use in social environments indicates phubbing. This result supports this research. A significant difference was found between 0-3 hours and 3-5 hours. It has been proven that there is a significant difference in the phubbing scale that they continue to use the phone in social environments other than its purpose. It is inevitable for an individual who spends five hours or more per a day on the phone to experience phubbing. In the study of T'ng et al. (2018), internet addiction was the biggest determinant of phubbing behavior. Considering that, the internet and mobile

phones are integrated into a single device; it increases the duration of phubbing behavior. Karadağ et al. (2015) found that internet addiction positively affects phubbing behavior. As a consequence of the study conducted by Ergün et al. (2019) showed that the duration of phone use was significantly and positively related to phubbing. Based on these findings, it can be said that the probability of phubbing increases as the duration of phone use rises. Thus, when an individual deals with a high degree of smart phone use, the likelihood of developing cell phone addiction and engaging in phubbing-related behaviors goes up too. No significant difference was found between the phubbing and the anger expression styles and the continuous anger according to the education variable. It was assumed that the phubbing rate of the sample whose educational level was senior high school and below would be higher, because it was predicted that they would spend more time on the phone depending on their working status. Likewise, it was predicted that expressing anger would change with respect to the educational status, and even if there was no any significant result in this study, another study reached a relevant meaningful result. In the study conducted by Gül et al. (2019) on continuous anger and anger expression styles, educational status; It has been revealed that it is a factor affecting anger in, controlling anger and continuous anger. However, it was revealed that educational status was not a factor affecting the expression of anger. The reason for this was attributed to the fact that their low status affects their way of expressing anger. It has been estimated that people will be more likely to experience anger as suppressed internally because they prefer to be ineffective even though they get angry when faced with bad situations.

According to the marital status variable, no any significant difference was obtained between the phubbing, the anger expression styles and the continuous anger. The expected result in this variable is that single individuals score higher on the phubbing scale than married individuals. This is because married individuals cannot find much time to deal with the phone as they will be more busy with housework, bilateral relations, and children. It was predicted that married individuals would get higher scores in the continuous anger and anger expression styles scale. The reason for this is marital problems, housework, children etc. It was thought that the styles of expressing anger would differ, as there may be disagreements on these issues. However, no significant result could be reached. In the study conducted by Gül et al. (2019) on continuous anger and anger expression styles, it was resulted that there was no any significant difference between participants' anger-out, anger-in, and anger-control sub-scales in respect to marital status. According to the research, it was revealed that marital status is not a factor affecting continuous anger, anger expression, anger suppression and anger control. In a research applied by Roberts and David (2016) on romantic partners, phubbing was found as a factor that increases cell phone-related disagreements and decreases relationship satisfaction. This research obtained a different result from this research; it found phubbing to be higher in married people. According to the financial income variable, no any significant difference was figured out between phubbing and the continuous anger and anger expression styles. What is expected here is that participants with low financial income score high on the the continuous anger and anger expression styles but low on phubbing. The reason for the difference in the phubbing scale of the participants with low financial income is due to the struggle for life. Differentiation was also expected in the the continuous anger and anger expression scale. In this struggle for life, it was predicted that there would be a difference in the anger total of the participants with low financial income, but it was not found.

Analysis was also made according to the variable of having children or not. What is expected here is that phubbing is lower for people with children than for those who do not. Because people with children will spend most of their time taking care of their children, it was thought that they would not be able to deal with the phone. However, no significant difference was found. Analysis was also performed by work status. As expected, the level of phubbing is higher among those who do not work than among those who do. This is because employees use their time to truly socialize. Since those who do not work have more time, it was predicted that the time spent on the phone would be more, but no significant difference was found. At the same time, another expected employee was more successful in anger management than non-workers. As mentioned in Fitness (2002)'s study on anger, it was expected to support the finding that working people refrain from expressing their anger at work to avoid the negative consequences of anger, but no significant difference was observed. In the study conducted by Gül et al. (2019) on continuous anger and anger expression styles, it was figured out that there was no any significant difference between the anger control, anger in and anger out sub-scales of the participants according to the working status variable. According to the research, it has been determined that working conditions are a factor affecting the control of anger. But the working status;

It has been found that there is no factor affecting the continuous anger, experiencing anger internally and anger outwardly. There is a possibility that the individuals cannot experience anger because of the fear of being excluded from the environment, losing their jobs, and not finding new jobs. The low status of employees affects the way they reflect anger. It has been stated that people who work in lower status suppress their anger more and thus condemn themselves to a state of continuous anger (Fitness, 2019).

5. Recommendations

The fact that our sample consisted of 303 people caused our results to be weak, although some of them were significant. Research on a larger sample may increase the correlation strength. Another limitation is that the research was conducted online. It was thought that if this was a face-to-face study, the results would be more meaningful. It is recommended to pay attention to this for future researches. Since our research is conducted on the online platform, certain provinces are redundant. It is recommended for future researches to conduct a study in which participants from all over Turkey participate. In an important variable such as educational status, the primary and secondary school participants are very few. Since the research was conducted on an online platform, the participants gathered above a certain educational level (such as undergraduate, graduate). Therefore, it is recommended that further research can be carried out face-to-face and with people from all educational statuses.

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The Mediation Role of Responsibility and Benevolence between Eighth Grade Secondary School Students' Empathy Skills and the Value of Justice*

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ABSTRACT

This study aims to test the mediating role of responsibility and benevolence between empathy skills and the justice value of eighth-grade secondary school students. The study group, which was designed in the type of a multifactorial predictive correlation, consisted of 646 eighth-grade secondary school students attending 20 different secondary schools that were randomly selected. The research data were collected with 4 different scales "Empathy Scale, Responsibility Scale, Benevolence Scale, and Justice Scale" developed by the authors. SPSS vol. 22 and AMOS vol.24 package programs were used to analyze the data, and the data were analyzed using descriptive statistics, linear correlation, and mediation analysis techniques. In line with the analyzes, it was seen that there was a moderately significant positive relationship between the empathy skill and the mentioned values. That empathy predicted the values mentioned above in a positive way. In addition, it has been determined that responsibility and benevolence have a significant partial mediation role between empathy skill and justice value. It has been concluded that empathy and responsibility, and benevolence have an important role in teaching the value of justice in social studies courses.

Keywords:

Empathy, justice, benevolence, responsibility, social studies, mediation analysis

1. Introduction

Values, the principles and basic beliefs that guide behaviors, and the by which actions are judged good or desirable (Halstead & Taylor, 2000, p. 169), affect behavior (Rokeach, 1973). It is claimed that there is no single type of value behind the behaviors, that values are the basis of the behaviors, and that the behaviors are directly or indirectly guided by values (Demircioğlu & Tokdemir, 2008; Dilmaç, 2002; Güngör, 1998). It is claimed that empathy, which is defined as the process of looking at events from the perspective of the other person, perceiving the feelings and thoughts of that person correctly, and communicating this situation to them (Rogers, 1975), also plays a central role in human behavior (Hogan, 1969; Smith, 2006). It is mentioned that there is a strong link between empathy and prosocial behaviors known as voluntary behaviors aimed at helping others (Eisenberg & Fabes, 1998; Hoffman, 1987). It is also seen that empathy is a skill that positively affects prosocial behaviors (Batson et al., 1981; Jolliffe & Farrington, 2004). However, studies show that the person who empathizes with the individual in need of help feels completely responsible and helps with an altruistic motive, regardless of their interests (Batson, 2011; Oswald, 1996; Thakkar & Kanekar, 1989). Therefore, a relationship was established between empathy skills and values. It aimed to test the mediating

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role of responsibility and benevolence between the empathy skills of secondary school eighth-grade students and the value of justice in the context of social studies. There are two reasons why these variables are considered in the context of social studies. First, empathy has been included as a skill that needs to be developed in the social studies curriculum for the first time in Turkey (Kabapınar, 2007, p. 103). It has still remained one of the 27 skills that should be gained in the social studies curriculum (Ministry of National Education [MoNE], 2018). The other is that social studies are an important lesson in values education and a more important position compared to other lessons (Keskin & Keskin, 2019; Nesbitt & Henderson, 2003). In addition, among the objectives of the social studies curriculum in Turkey, The importance and ways of being a virtuous person are aimed at adopting national, spiritual values and universal values (MoNE, 2018, p. 8). This statement shows how important social studies is in terms of values education and is a lesson related to values. It would be appropriate to state that the values of responsibility, justice, and benevolence discussed in the study are among the 18 values that are aimed to be developed in the social studies curriculum and constitute three of the ten core values that should be given in all curriculums in Turkey (MoNE, 2017; 2018).

1.1. Relationships between Empathy Skills and Value of Justice, Responsibility and Benevolence

Justice, the dependent variable of the research, is a democratic value that effectively regulates human relations and ensures social order (Duran & Bitir, 2021). Solomon (2004), who argues that the sense of justice develops due to the individual's reactions to injustices, argues that the sense of compassion is the source of justice. Hökelekli (2011) defines compassion as the feeling of pity that a person feels when he sees positive things in himself but not in the other person, and stated that compassion helps people oppose and resist the injustice done others. The relationship between justice and mercy is also explained by Solomon (2004) as follows: A person thinks about what he has and compares it with what the other party does not have. He wants others to have what he has. Then, helping behavior occurs in the person who feels pity. As a result of helping behavior, justice emerges. As can be understood from the explanation, it can be said that the person makes a cognitive evaluation by empathizing during the emergence of the sense of justice. At this point, it can be mentioned that there is a relationship between empathy and justice. Studies show that it is related (Büyükbodur & Kayma, 2020; Erken, 2009; Sarmusak, 2011; Segal & Wagaman, 2017). However, their relations have a complicated structure (Decety & Cowell, 2015). In other words, it is seen that there is no direct relationship between empathy and justice, and the behavior of helping together with the feeling of compassion is effective in the relationship between the two. Baron & Kenny (1986) stated that the relationships between the dependent and independent variables may not always be linear. Mediator variable(s) may also occur between the two variables.

From this point of view, benevolence was determined as one of the mediating variables of the research. Benevolence, which is a social value that unites society and strengthens unity and solidarity (Sönmez & Akıncan, 2013, p. 106), is the attitude and behavior of virtuous people who believe that some values will increase in life if shared, and the use of the opportunities one has for the benefit of others (Aktepe, 2010, p. 45). Concurrently, it is known that benevolence, which is a prosocial behavior, is associated with empathy, and sincere and selfless altruistic motives are effective in the helping behavior of an individual who empathizes with the person in need of help (Batson, 2011). It is argued that acting justly requires the values of respect, honesty, and responsibility, as well as the capacity for empathy (Katım, 2010), and that justice can be achieved by realizing the individual's sense of responsibility (Topçu, 2015).

On the other hand, it is said that certain values are imposed on the individual from the culture to which they are attached and that justice and responsibility from these values will increase the capacity to empathize (Hoffman, 2000). In this case, it can be mentioned that the responsible behavior that the individual shows completely sincerely and without any external reward expectation (Öner, 1987) is related to both empathy and justice. Studies show that empathy is associated with responsibility and that empathy predicts responsibility positively (Sanmartín et al., 2011; Yontar & Yel, 2018).

Along with the support of the explanations and related studies, a theoretical model presented in Figure 1 was constructed. The value of responsibility and benevolence plays a mediating role between the empathy skill and the justice value. In the relevant literature, there are studies constructing structural models in which empathy and social responsibility are the mediating variables, interpersonal helping behavior is the dependent variable (González & Lay, 2017), empathy is both the mediator and the independent variable, and helping

behavior is the dependent variable (Carlo et al., 2011; Guevara et al., 2015; Schoeps et al., 2020; Wang et al., 2019). In the context of social studies in Turkey, two studies tested the mediating role of benevolence and respect (Sever & Bayır, 2020) between empathy skills and fairness and the value of friendship and responsibility (Gokalp & Inel, 2021) between empathy and helpfulness. However, a hypothetical model in which the variables in the study were tested together was not encountered.

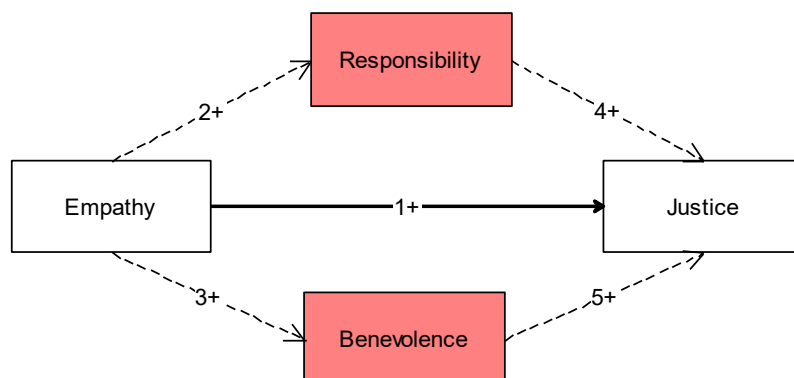


Figure 1. *The Hypothetical Model of the Effects of Empathy on Justice Mediating Responsibility and Benevolence*

As seen in Figure 1, five (5) paths, 1, 2, 3, 4, and 5, were created in the model. These paths represent the conditions put forward by Baron and Kenny (1986) in their mediation analysis and show the hypotheses to be tested in the research. The hypotheses of the research are as follows:

Hypothesis 1: Empathy predicts justice positively.

H₂: Empathy predicts responsibility positively.

H₃: Empathy predicts helpfulness positively.

H₄: Responsibility predicts justice positively.

H₅: Benevolence predicts justice positively.

If the above hypotheses are confirmed, research hypothesis H₆ "There is a mediating role between empathy and justice, along with the value of responsibility and benevolence" will be tested. Thus, it is expected that the findings obtained in the study will help to teach students the value of justice.

2. Method

2.1. The Research Model

The research was designed in the multi-factor predictive correlation type, which is one of the correlational methods. In predictive correlation studies, the relationships between variables are examined. One of the variables is tried to predict the other. Thus, the unknown values of the variable are tried to be determined (Fraenkel & Wallen, 2006). In addition, while direct relationships are tested in multi-factor predictive correlation designs, it aims to reveal indirect (mediation) relationships. In this way, the relationship between the dependent variable and the independent variable is determined, and the changes in the dependent variable are tried to be explained (Büyüköztürk et al., 2017; Punch, 2016). It has shown a relationship between empathy, justice, responsibility and benevolence supported by the relevant literature. It was tested whether there is an indirect effect of the value of responsibility and benevolence between the value of empathy and justice.

2.2. Participants and Procedure

The research was carried out with 646 volunteer 8th-grade students (female = 435, male = 281) selected by random sampling method, who continue their education in 20 different secondary schools in the city of Uşak, located in the inner west of Turkey, in the 2020-2021 academic year. Research data were collected in two stages. 105 Data from the study were collected in person from students, and 541 of them were collected via "Google Forms" due to the suspension of schools because of the pandemic. While collecting face-to-face data, necessary reminders are made for filling in each question, and the "required to be filled" option is activated for each question so that the questions transferred to Google Form are not left blank. Thus, loss of data is prevented.

2.3. Scales

The research data were collected through scales named "Empathy Scale, Benevolence Scale, Responsibility Scale, and Justice Scale," developed by the authors. All the items in the scale were scored as "Not suitable to me=1, Somewhat suitable to me=2, Quite suitable to me=3, Completely suitable to me=4" Getting 1 point from any item on the scale means that the relevant value is low, and getting 4 points means that it is high. In addition, no reverse items were used in any of the scales. Data regarding the scales' reliability, validity, and structure are given below.

Empathy Scale: It consists of seven items with a single factor structure. (Sample item: When I see a child who has no friends, I can put myself in their shoes and understand how they feel). It was found that it explained 44.085% of the total variance. Its Cronbach's alpha value was calculated to be .79. Model fit indices of the scale are as follows: $\chi^2 = 24.456$, $df = 14$, $p < .05$, $\chi^2/df = 1.75$, RMSEA = .04, IFI = .98, AGFI=.96, GFI = .98, TLI= .97, CFI=.98, SRMR=.033.

Justice Scale: It has a single factor structure and consists of five items. (Sample item: Even if the right person is someone I do not like, I will be there for them). It was found that it explained 47.560% of the total variance. Its Cronbach's alpha value was calculated to be .72. Model fit indices of the scale are as follows: $\chi^2 = 8.337$, $df = 5$, $p > .05$, $\chi^2/df = 1.670$, RMSEA = .04, IFI = .99, AGFI=.97, GFI = .99, TLI= .98, CFI=.99, SRMR=.025.

Benevolence Scale: It consists of seven items with a single factor structure. (Sample item: I help out when I see an old person wanting to cross the road). It was found that it explained 49.853% of the total variance. Its Cronbach's alpha value was calculated to be .83. Model fit indices of the scale are as follows: $\chi^2 = 19.692$, $df = 14$, $p < .05$, $\chi^2/df = 1.40$, RMSEA = .03, IFI = .99, AGFI=.97, GFI = .98, TLI= .97, CFI=.99, SRMR=.026.

Responsibility Scale: It consists of seven items, and has a single factor structure. (Sample item: I do the tasks that I think I am obliged to do without needing to be reminded by anyone). It was found that it explained 48.035% of the total variance. Its Cronbach's alpha value was calculated to be .82. Model fit indices of the scale are as follows: $\chi^2 = 18.149$, $df = 14$, $p < .05$, $\chi^2/df = 1.29$, RMSEA = .03, IFI = .99, AGFI=.97, GFI = .99, TLI= .99, CFI=.99, SRMR=.026.

As can be seen, all of the scales are in a single factor structure, and the total variances explained in each scale are over 30%. According to Büyüköztürk (2005), it is sufficient to explain the total variance of 30% or more in scales consisting of a single factor. In addition, Cronbach's alpha values of the scales are in the range of $0.7 \leq \alpha < 0.9$, indicating good internal consistency coefficients (George & Mallery, 2010).

Finally, for the general fit of the models, the χ^2/sd parameter being below 2, the RMSEA and SRMR values below .05, and the others above IFI, AGFI, GFI, TLI, and CFI $> .90$ indicate that the models are well-fitted (Kline, 2011; Schumacker & Lomax, 2010). It is seen that the fit values of the scales are also included in the criteria values given.

2.4. Data Analysis

Path analyzes were used in this study. The mediating role of responsibility and justice values together between the empathy skills of secondary school eighth-grade students and the value of justice were tested. The study's data analysis was carried out in two (2) stages as "preparatory phase and mediation analysis."

Preparatory phase: First of all, the correlation values between the research variables were examined. To explain the existence of an effect, the correlations between the variables are examined to know whether there is a relationship between the assumed structures and whether the relationship is worth examining (Fraenkel & Wallen, 2006; Neuman, 2009). The "Pearson Product Moments" correlation analysis was performed to examine the relationships between the related variables. If the correlation coefficient is less than .30, it indicates that the relationship is weak, between .30 and .70 it is medium, and if it is greater than .70, it indicates a high level (Köklü et al., 2007).

Then, skewness and kurtosis values were checked to know whether the data showed a normal distribution. There are different opinions about the ranges of skewness and kurtosis values. Tabachnick & Fidell (2012) recommend that the skewness and kurtosis values should be in the range of +1.5, -1.5; on the other hand, George & Mallery (2010) suggest that it should be in the range of +2, -2. The skewness and kurtosis values preferred in the study are +1.5, -1.5.

Finally, we reviewed the variance inflation factor (VIF) values of the models used to determine multicollinearity among the independent variables that Licht (1995) recommended investigating between empathy, responsibility, and benevolence. There are different opinions as to whether the VIF value should not be 4 and above (Hair et al., 2010) or 2.5 and below (Allison, 1999). The VIF value was taken according to the 2.5 and below criteria in the study. Thus, with all these analyzes carried out using the SPSS vol. 22 package program, the research model was made ready for mediation analysis.

Mediation analysis: The mediation effect of responsibility and benevolence between the empathy skills of eighth-grade middle school students and the value of justice was tested with path analyses. The significance of the determined indirect effect coefficient was tested with the bias-corrected percentile method. The bias-corrected bootstrap method provides strong evidence for the effect of the mediating variable with bias-corrected confidence intervals (Shrout & Bolger, 2002). In the bias-corrected bootstrap method, it is suggested that the 95% confidence interval and the sample be increased to 2000 or 5000, or the bootstrap number should be greater than the valid number of observations in the data set. The indirect effect should not be zero in the confidence intervals, that is, none of the lower and upper values should have a negative value (Davidson & MacKinnon, 2000; Efron & Tibshirani, 1986; Hair et al., 2014). In the study, the significance of the indirect effect was tested with 5000 samples at a 95% confidence interval, and then the fit indices of the final model were given. The AMOS vol.24 package program was also used for mediation analysis.

2.5. Ethical

In this study, all rules that must be followed under the Higher Education Institutions Scientific Research and Publication Ethics Directive were followed. Name of the ethical review committee: Uşak University Ethics Committee Date of ethical evaluation decision: 29.09.2020 number of the ethical evaluation document: E.28914

3. Results

3.1. Descriptive Statistics and Correlation

Descriptive statistics and correlation values related to VIF values of variables (empathy, responsibility, and benevolence) are presented in Table 1.

Table 1. *Descriptive Statistics and Correlations*

Variable	M	SD	Skewness	Kurtosis	VIF	(1)	(2)	(3)	(4)
1 Empathy	2.91	.66	-.32	-.42	1.61	-			
2 Responsibility	3.28	.60	-.76	.25	1.90	.57**	-		
3 Benevolence	3.35	.60	-1.0	.73	1.80	.54**	.63**	-	
4 Justice	3.19	.65	-.82	.41	-	.59**	.61**	.53**	-

Note: ** $p < .01$, $N = 646$

Examining Table 1, the fact that the skewness and kurtosis values range from -1.5 to +1.5 indicates that the variables have a normal distribution. A VIF value of < 2.5 indicates that there is no multicollinearity problem between empathy, responsibility, and benevolence. Moreover, it is seen that there are moderately significant positive correlations between the variables.

3.2. Mediation Analyses

To test whether responsibility and benevolence have a mediating role in the relationship between empathy and justice, a direct path between empathy and justice was first established in line with the conditions of Baron & Kenny (1986) (path 1), the independent variable (empathy) predicted the dependent variable (justice) in a significant positive direction and the H1 hypothesis was confirmed ($\beta = .731$, $SE = .069$, $t = 10.343$, $p < .001$). Empathy explained 53% of the total changes in justice ($R^2 = .534$).

Then, H2, H3, H4 ve H5 hypotheses were tested by including responsibility and benevolence as mediator variables in the model. Empathy predicted responsibility significantly positively and H2 was confirmed ($\beta = .712$, $SE = .055$, $t = 10.331$, $p < .001$). Empathy significantly positively predicted helpfulness and H3 was confirmed ($\beta = .688$, $SE = .059$, $t = 11.575$, $p < .001$). Moreover, empathy accounted for 51% of responsibility ($R^2 = .506$) of responsibility and 47% ($R^2 = .473$) of benevolence.

Responsibility and benevolence, on the other hand, predicted justice significantly and positively, respectively, and H4 and H5 were confirmed ($\beta = .410, SE = .079, t = 6.144, p < .001; \beta = .166, SE = .053, t = 2.937, p < .01$). Finally, hypotheses H1, H2, H3, H4, and H5 were confirmed, research hypothesis H6, testing the mediating role of responsibility and benevolence between empathy and justice, was tested, and the final model shown in Figure 2 was obtained.

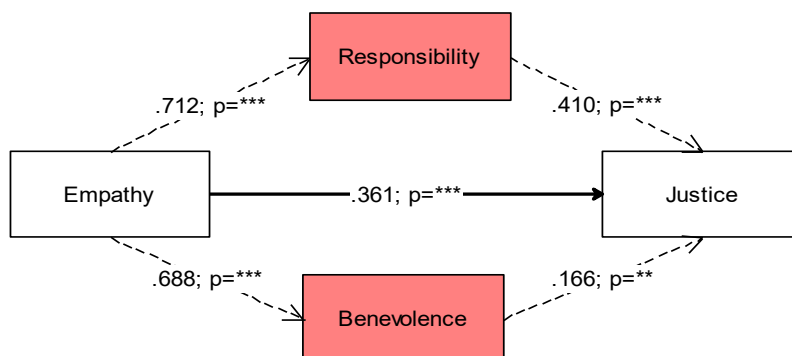


Figure 2. Path analysis results of the effects of empathy on justice mediating responsibility and benevolence, N = 646. *** $p < .001$; ** $p < .01$

When Figure 2 is examined, as a result of adding mediator variables (responsibility and helpfulness) to the model, the effect of empathy on justice has decreased, but it has remained significant ($\beta = .361 < \beta = .731; p < .01$). This finding shows that responsibility and benevolence play a “partial mediator” role together (Baron & Kenny, 1986; Şimşek, 2007). The findings regarding the significance of the detected partial indirect effect are given in Table 2.

Table 2. The Bootstrapping for the Partial Mediation Model (N = 646)

	Model Path	β	SE	R ²	%95 CI	
					Lower	Upper
Standardized Indirect Effect	2→4+ 3→5	.406**	.066	.686	.282	.538

Note: ** $p < .01$

Findings show that hypothesis H6 “There is a mediating role between empathy and justice, together with the value of responsibility and benevolence” is accepted. According to Table 2, the indirect effect coefficient of the indicated road is significant ($\beta = .406, p < .01$) and there is no zero between the lower and upper values of the 95% confidence interval (95% CI= .282, .538). In addition, while empathy directly explains 53% of justice ($R^2 = .534$), it is seen that the total variance explained increased to 69% with the introduction of mediating variables (responsibility and benevolence) ($R^2 = .686$).

Finally, it was determined that the fit indices of the final model were also within acceptable criterion value ranges $\chi^2 = 773.920, df = 294, p < .01, \chi^2/df = 2.632, RMSEA = .050, SRMR = .047, CFI = .92, IFI = .92, TLI = .92, GFI = .91$ (Byrne, 2016; Kline, 2011).

4. Discussion

In the study, the mediating role of responsibility and benevolence between the empathy skills of middle school eighth-grade students and the value of justice was tested. First of all, it was found that students' average scores on the scales were close to 3 (empathy = 2.91) and above 3 (responsibility = 3.28, benevolence = 3.35, justice = 3.19). Considering that the highest average score that can be obtained on each scale is 4, it can be said that students' empathy, responsibility, benevolence, and justice scores are relatively high. However, the empathy score of the students is relatively low compared to the others. The age of the students in the study group (13 to 14 years old) coincides with the adolescence period. In this period, students are more engaged with themselves since they have an adolescent egocentric thinking structure. In addition, it may also be difficult to distinguish one's thoughts from the thoughts of others and get perspective (Berk, 2012). Students' empathy scores are lower than the scores on other scales can be explained by the situation mentioned above. In addition, it has been determined that empathy is a skill that is related to the values of justice, responsibility, and benevolence and predicts these values positively. Studies with similar findings were found in the literature

(Büyükbodur & Kayma, 2020; Erken, 2009; Sanmartín et al., 2011; Sarmusak, 2011; Segal & Wagaman, 2017; Yontar & Yel, 2018). In addition to the studies, Elbir & Bağcı (2013), who examined the studies based on values education in Turkey based on document analysis, reported that empathy is a skill that should be emphasized in values education in the studies they examined. Baş & Beyhan (2012), who also conducted a similar study, concluded that attitudes and opinions are generally taken in studies on values and suggested that empathy be included in studies to understand values better. In fact, it is seen that empathy is also included in the values education program applied in Viadero's (2003) study. Bailey (2000), on the other hand, states that empathetic thinking must be included in the value education process of democratic societies; that empathy will help to think reflectively and be tolerant before reaching a decision, and thus the reasoning process will be supported. When the findings obtained so far are evaluated together with the relevant literature, it can be said that empathy is an effective skill in understanding the values of justice, responsibility, and benevolence among students. As students' empathy skills increase, their values will increase positively.

A striking finding of the study is also the significant partial mediating role of responsibility and benevolence between empathy ability and justice value. In other words, eighth graders' empathy ability affects justice scores both directly and indirectly through responsibility and benevolence. While empathy skill directly explained 53% of the total changes in the value of justice, the rate increased to 69% due to adding responsibility and benevolence to the model. Findings show that empathy is a prerequisite skill in seeking justice on behalf of others (Miller & Eisenberg, 1988). However, responsibility and benevolence have a significant effect in explaining the complex relationships between empathy and justice. In the related literature, in the study in which the students of a fourth grade of an elementary primary school constituted the study group and in which, in contrast to the study, the behavior of respect instead of the value of responsibility was determined as the mediating variable (Sever & Bayır, 2020), it was found that the variables of benevolence and respect had a significant mediating role between the empathy ability and the behavior of being fair. From this point of view, it can be said that the findings of the studies overlap with each other and that the values of respect, responsibility, and benevolence are effective variables together with the empathy skill in explaining the justice value of the students.

5. Implications, Limitations, and Future Direction

Justice, which is among the basic building blocks of democracy (Cılga, 2001), is one of the democratic values such as respect, responsibility, equality, freedom, etc. (Kıncal & Işık, 2003; Tanilli, 1995). Dinç & Üztemur (2016), pointing out that the quality of values education provided in schools serves as a mortar for shaping the future of society, adding that democratic values occupy an important place among the values that should be taught in schools. In addition, it is aimed to raise citizens who can think critically, freely, and empathize in democratic societies (Büyükkaragöz & Üre, 1994). Democratic education aims to raise individuals who use these thinking skills, stand up against injustice, defend equality and justice, and serve society's welfare by using their social participation skills (Moller, 2006). In studies (Dinç & Üztemur, 2016; Üztemur et al., 2018), it is seen that justice is perceived by most the students as an important value that prevents conflicts between individuals by providing welfare and peace in society.

The variables (empathy, justice, responsibility) of this study, which is handled in the context of social studies, are some of the basic skills and values that democratic individuals should have. It is seen that the justice value of the eighth-grade students in the study can be explained both directly through empathy skills and indirectly through the value of responsibility and benevolence. Nevertheless, it is possible to mention that social studies are a discipline that serves the purpose of democratic education beyond being a subject closely related to values. Social study is a course that aims to develop working, thinking, and interpersonal group skills necessary for effective democratic citizenship (Öztürk, 2007, p. 29). On the other hand, the national standards developed by the National Council of Social Studies for social studies teachers state that social studies teaching and learning is strong when it is based on values (National Council for the Social Studies [NCSS], 2002, p. 13). In that case, it is recommended that social studies teachers consider the value of responsibility and benevolence along with empathy skills while teaching students justice, which is a democratic value. However, it was mentioned that the relations between empathy skills and justice are complex, and a partial indirect effect was determined in the study. In cases of partial mediation, it is suggested that there may be different variables between the independent variable and the dependent variable (Baron & Kenny, 1986). Considering these,

social studies researchers can determine other mediator variables and test the indirect effects of the variables between empathy and justice.

6. Conclusion

In the study, a structural model has been proposed regarding the mediating role of responsibility and benevolence between the empathy skills of secondary school eighth-grade students and the value of justice. The model is supported by theoretical knowledge and related research. Empathy positively predicted justice, responsibility, and benevolence. Similarly, a positive effect of responsibility and benevolence on justice was observed, and a significant indirect effect of responsibility and benevolence was found in the relationship between empathy and justice scores. It has been concluded that empathy and responsibility and benevolence have an important role in teaching the value of justice in social studies courses.

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The Relationship Between Teachers' Perceived Power Distance and Organizational Silence in School Management

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ABSTRACT

Within an organizational structure, there are many sources of power that feed and run the influence action of the manager. The source and use of power in the hands of the manager has significant effects on employees' attitudes and behaviors such as morale, motivation, loyalty, trust, organizational citizenship, job satisfaction, job stress, alienation from work and organization and organizational silence. Organizational silence behaviors are considered to be one of the employee behaviors in which the effects of power use and power distance will be felt the most. In this study, it is aimed to determine the perceptions of teachers about the relationship between power distance and organizational silence behaviors. The research was carried out by using the correlational survey model. The sample of this research was determined by simple random sampling method and it consisted of 552 teachers working in primary, secondary and high schools in central districts of Samsun during the 2019-2020 academic year. As data collection tools, "Power Distance Scale" developed by Dorfman and Howell (1988) and adapted to Turkish by Akyol (2009), and the "Organizational Silence Scale" developed by Dyne, Ang and Botero (2003) were used. As a result of the research, it was determined that there is a significant relationship between the general power distance total score variable and the teachers' organizational silence scores. And power distance variable is a significant predictor on the organizational silence variable. In that regard, it can be argued that one of the reasons for silence in the organization is the perceived power distance perception of the behavior of the manager.

Keywords:

Power distance, organizational silence, teacher, school management, principal.

1. Introduction

Subordinate-superior relations in organizations and the factors affecting these relationships constitute one of the focus topics of management and organizational behavior science. The essence of management is based on influencing employees in the process of achieving goals. Within an organizational structure, there are many sources of power that feed and run the influence action of the manager. Power constitutes a distance among the individuals in the society in line with social values. It gives information about the process of using and distancing power, the nature, characteristics, structure of the organization and the prevailing cultural background because organizations are affected by the cultural values of the society in which they exist (Hofstede, 2001; Terzi, 2004). The distance created could be interiorized in time as it's accepted by the society. In different countries, coming from specific families or having education from specific schools add distinction to the individual regardless of their ability and experience. Distribution of power in different cultures and societies occurs in regard to different criterias. In these circumstances, the manager is expected to behave in line with the power distance perception of the culture he/she comes from (Varoğlu, Basım and Ercil, 2000). Many sorts of power are used in organisations such as physical, economic, knowledge, performance, personality, position and ideological. Since the power comprises when the individual has relations with other people, the distant use of power is

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also affected by the personal qualities of those in managerial positions. The source and use of power in the hands of the manager has significant effects on employees' attitudes and behaviors such as morale, motivation, loyalty, trust, organizational citizenship, job satisfaction, job stress, alienation from work and organization. Organizational silence behaviors are considered to be one of the employee behaviors in which the effects of power use and power distance will be felt the most (Bayrak, 2000; Hicks and Gullet, 1981). In this study, the relationship between power distance and organizational silence was examined.

1.1. Power Distance

Power is the capacity and potential found in every person (Robbins and Judge, 2013). In this sense, power is related to the individual's influence on other entities other than himself. Since power is realized through economic superiority or force, it is realized by material means (Eren, 2006). The distribution of power is realized by different criteria in different cultures and societies (Varoğlu, Basım and Ercil, 2000). On the other hand, power creates a distance between individuals in the society, in proportion to the values of the society. According to Ertürk (2014), power distance is defined as the degree to which people perceive whether they are mutually equal or not. Power distance refers to a relative distance that occurs when individuals who seem relatively weak in a work environment believe that power is not distributed equally (Altay, 2004; Çakıcı, 2007). Hofstede (2001) conceptualized power distance as the degree to which members of a society who see themselves as relatively less powerful accept power that is unequally distributed and regard it as normal. In other words, power distance refers to the extent to which inequalities in society are adopted by relatively less powerful segments as well as by the powerful (Hofstede, 2011). In short, power distance is the perception of the members of an organization that the power is not equally distributed. Power distance is a situation that occurs with the power relationship. There are many studies revealing that the power relationship differs in social and cultural aspects (Hofstede, Hofstede and Kinkov, 2010; Brockner et al., 2001; Akyol, 2009).

Power distance consists of two dimensions as high and low power distance. In societies with high power distance, the value given to the status and title is high, the equality of opportunity and power distribution is unbalanced, and the distance between superior and subordinate is visibly high. In societies with low power distance, responsibility is distributed to all units, equal opportunities and distribution of power are balanced, the value given to status and title, and the distance between superior and subordinate is less (Akyol, 2009). In cultures with low power distance, subordinates' participation levels in the decision-making process are high, whereas in cultures with high power distance, subordinates have less participation in the decision process with their voices (Brockner et al., 2001).

Within the power range, unlike many forms of organizational behavior, it does not differ according to the leader, and individuals have fixed beliefs on any subject. Employees think that if they have a perception of high power distance, managers have a great influence on them and they will not be able to express their problems comfortably. Employees who perceive the power distance as low, on the other hand, think that they can easily express their problems and that they are at a certain level with the managers (Botero and Van Dyne, 2009). It can be said that individuals who are thought to have low power levels will generally be dependent on individuals with high power levels (Magee and Smith, 2013).

In an organization, in order to speak of low power distance, the hierarchical power must be equal or meet the expectation of being equal. However, there is a belief that there should be a visible difference between individuals in organizations with high power distance (Durak, 2012). In organizations where high power distance prevails, superiors and subordinates are in an unequal position against each other. In this context, it is possible to say that hierarchical structures are built on this positioning. In these structures created with a centralist understanding, it is known who has authority over whom, and subordinates expect their superiors to be told when and what to do. In these structures, the direction of communication follows a top-down path (Acaray and Şevik, 2016).

In cultures with high power distance, decision-making power of superiors is adopted more easily than subordinates. On the other hand, in low power distance cultures, norms reduce the power differences between individuals due to status. While multiplism is emphasized in the regulations by taking democracy concept as a basis in societies with low power distance, approaches highlighting the elite group are emphasized taking the control concept as a basis because of the centralised structure in societies with high power distance. Since managers are believed to be powerful ones in high power distance cases, subordinates do not see themselves

equal to the superiors and carry out the instructions they receive without questioning (Dörtyol, 2012). Powerful people are trusted regardless of the legality of the power and power ensures the individuals to be in a better position in societies with high power distance (Yalçın and Erçen, 2004). In low-power distance societies, superiors with decision-making power are more likely to share power with subordinates with less power (Brockner et al., 2001).

In societies where the power distance is high, each individual has a legally determined place in the hierarchical structure. The statuses attained in these structures are formed in a way that the relatively weak show respect to the strong (De Mooji and Hofstede, 2010). In high power distant societies where the centralization of power is accepted, employees act in the structure created by the administration and fulfill the orders of the managers without questioning (Altay, 2004).

The concept of power distance changes the social structure of the society, with equality and power sharing on one side and the desire to be seen as superior and an effort to retain power on the other.

While in societies which the power distance is low, the concept of democracy is based on the concept of pluralism, in societies which it is high, the concept of control is based on the centralist structure and the approaches that highlight the elite class are highlighted (Dörtyol, 2012). In societies which power distance is high, it ensures that power is trusted to powerful people and power individuals are in a better position, regardless of whether power is legal or not. Therefore, individuals in the society want to have power (Yalçın and Erçen, 2004).

Inequality is accepted by individuals and society has been formed according to this order. The vast majority of people depends on a small number of individuals who hold power. Power holders pose a danger to others, as the legality of power is disregarded. In organizations with low power distance, by minimizing the inequality between subordinate and superior. It shares the opportunities of the subordinate and the upper organization equally. Efforts are made to reduce the factors that cause power (Köksal, 2007; Turan, Durceylan and Şişman, 2005). The high distance of power also causes silence to occur and develop in organizations. Since inequality is at the forefront in such cultures, individuals avoid speaking publicly in order to get away from the conflict situation, even if they are encouraged by the administration and an environment of participation is created (Çakıcı, 2007).

The superiors in such organizations will not want subordinates to think independently and critically, as the high distance of power leads to obedience and dependency behaviors. Subordinates are asked to act in accordance with the instructions given to them rather than take the initiative. Due to the obvious hierarchical structure, those who have power tend to mobbing others. Rather than share their power, superiors put pressure on subordinates (Özen, 2009; Sevi and Karanfil, 2016). A similar situation shows itself in educational organizations. In schools, the type of power that administrators use to influence employees and the way it is used can positively or negatively affect employees' perception and success of the school (Altınkurt, Yılmaz, Erol and Salalı, 2014). It can be said that in school organizations where traditional management approach is dominant, administrators mostly use the high power distance. This situation may naturally lead to a culture and climate that reduces teachers' commitment to the school and the sense of belonging to the school.

By taking it naturally, poor school culture may negatively affect teachers' performance and motivation, and communication between students and teachers may weaken. High power distance at school causes the relationship between school administrators and teachers to become formal and weaken communication. This causes unhealthy and unreliable relationships at school, lowering morale and motivation, and weakening the sense of unity. As a result, love, respect and acceptance among school stakeholders are also weakened. The use of high power distance in schools may also cause a decrease in the sense of belonging of teachers and other employees and alienation (Çavdar, 2021). In addition, the way school principals use power and the power distance they use can prepare the environment for teachers' organizational silence behaviors.

1.2. Organizational Silence

Organizational silence means employees' reluctance to contribute to their organization; It refers to the deliberate tendency to keep their thoughts, ideas and information about their duties and organizations (Morrison and Milliken, 2000: 707; Pinder and Harlos, 2001: 334; Tangirala and Ramanujam, 2008: 38). Many factors are determinant in the formation of employees' silence behavior in the organization.

Managerial understanding in the organization, subordinate-superior relations, cooperation between employees, solidarity and trust can be counted among the foremost factors. In general, as we move away from democracy within the organization in management, employee reactions, which have negative consequences for institutions such as organizational silence, may emerge. The negative situation and conditions within the organization cause the employees to remain indifferent and silent towards their organizations (Morrison and Milliken, 2000; Edmonson, 2003; Ruçlar, 2013). This behavior prevents the emergence of new ideas and thoughts, creativity and organizational synergy within the organization (Gül and Özcan, 2011: 114).

The concept of organizational silence has an important place in terms of educational organizations. Creating an environment with a sincere and democratic atmosphere in which teachers who take charge and take responsibility for the realization of these goals can feel comfortable and safe in schools established to achieve the goals of education contributes to the increase of their performance levels (Şişman, 2012). In institutions where employees are subjected to repressive attitudes and mobbing behaviors, employees show self-protection and fear-based silence behaviors. This causes the organizational performance to be negatively affected (Gül and Özcan, 2011; Özcan, 2011; Sarioğlu, 2013; Yüceler, Şahin, Şahin, and Demirsel, 2013).

Employees generally avoid informing the senior management about the problems and wrong practices that arise in the organization or, as Bursalioğlu (2013) stated, they soften them and try to convey them with explanations that reduce the intensity of the possible manager response. The factors behind the types of behavior of employees also vary. Employees will be perceived as problematic, mediator, gossip and complainant within the organization; Therefore, they exhibit such behaviors with the fear that their relations with the organization will be damaged and that they will get reaction from the senior management (Edmonson, 2003; Morrison and Hewlin, 2003; Bildik, 2009; Brinsfield, Edwards and Greenberg, 2009; Kahveci, 2010; Afşar, 2013; Milliken, Morrison and Hewlin, 2003). Employees who act with such a point of view are faced with the inability to show sufficient performance, to reveal the requirements of open communication, and to express their ideas and thoughts clearly (Scheufele and Moy, 2000; Shoemaker, Breen and Stamper, 2000). This situation faced by the employees creates an effect that reinforces and strengthens the organizational silence. However, managers should create environments where their employees express themselves in order to maintain the existence of the organization, to ensure effectiveness and to adapt to changing environmental conditions (Vakola and Boudoras, 2005; Bildik, 2009).

In organizations which organizational silence prevails, the intellectual contribution of employees to the organization decreases (Bowen and Blackmon, 2003), they adopt a distant stance in demonstrating expected behaviors in contributing to information sharing, being sensitive to organizational problems, supporting innovation and change, and developing creative ideas (Morrison and Milliken, 2000; Bowen and Blackmon, 2003; Huang, Van de Vliert and Van der Vegt, 2005; Tangirala and Ramanujam, 2008; Çakıcı, 2007; Ellis and Dyne, 2009; Perlow and Repenning, 2009; Bayram, 2010; Gül and Özcan, 2011; Yangın and Elma, 2017).

The silence of the individual prevents him from expressing his problems, thoughts and concerns clearly; This situation causes the sense of commitment, trust, appreciation and support to the organization to decrease (Detert and Edmondson, 2005; Çakıcı, 2008; Bayram, 2010). The aforementioned factors damage the individual's job satisfaction, motivation and trust in the organization, causing a decrease in the excitement about the job and the loss of creativity (Afşar, 2013: 172). For this reason, creative ideas and thoughts should be cared for and rewarded in order to eliminate employee silence in organizations. Managers have important responsibilities in this regard (Kahveci and Demirtaş, 2013a: 52). In this context, managers should create environments where employees can easily express their opinions, intensify collaborative work, and raise awareness of employees on organizational learning. This study was conducted to determine the effect of the power distance school administrators use in the school administration process on teachers' organizational silence. Power distance of the manager is considered to be effective on the silence behaviours of the employees. Acquiescent, prosocial and quiescent silence behaviours of the employees are affected in a negative way as the power distance increases. High power distance causes silence to comprise in organisations. Even if the individuals are encouraged and participation environments are created in high power distance cultures, since inequality is in the foreground, they avoid from public speaking to stand aside conflict situation. Cultural norms like education and gender also affect the individuals' expressing their opinions and thoughts about the organisation (Çakıcı, 2007). As high power distance elicits subservience and dependence behaviours, superiors will not want subordinates to think independently and critically in those societies. Subordinates are desired

to act in line with the instructions given them more than acting by taking initiative from superiors. Due to the evident hierarchical structure, power holders' tendency to impose mobbing to others is pretty much. Superiors generate pressure on subordinates instead of sharing their power. There exists an autocratic management in such organisations and surplus status difference causes mobbing behaviour to come into existence (Özen, 2009; Aktaş and Can, 2012; Sevi and Karanfil, 2016). Since the more power distance of the manager the more his tendency to be authoritarian or it's assumed employees to perceive in this way, their silence behaviours will show an increase. Teachers' perceptions on power distance will reflect on their attitudes and behaviours. Especially in schools whose informal aspects are strong, the communication between the manager and teacher will be adversely affected from this. In this case, the employees will be less eager to transmit their ideas and remarks and therefore, it will create an effect to strengthen silence behaviour. The findings gained as a result of this study, in which the relations between power distance and organisational silence are examined and the problems it created are discussed, are anticipated to contribute to the body of literature, teachers and managers.

The purpose of this study is to determine the perceptions of teachers about the relationship between power distance and organizational silence behaviors. For this purpose, answers to the following questions were sought:

- Which level do teachers perceive power distance and organizational silence in their organizations?
- Do teachers' perceptions regarding power distance and organizational silence differ significantly in terms of the variables of gender, marital status, professional seniority and subject area?
- Is there a significant relationship between teachers' power distance perceptions and organizational silence behaviors?
- Is teachers' power distance a significant predictor of teachers' organizational silence behaviors?

2. Method

2.1. Research Model

Correlational survey model is applied in studies with two or more variables. The model is a descriptive one that aims to examine the relationship between the determined variables and, if any, the distribution and change of this relationship (Karasar, 1995). The dependent variable of the study is teachers' organizational silence behavior levels. The independent variable of the research is the level of power distance perceived by teachers.

2.2. Population and Sample

The research population consists of 9824 teachers working in primary, secondary and high schools in central districts of Samsun such as Atakum, Canik, İlkadım and Tekkeköy during the 2019-2020 academic year. Data on the number of teachers were obtained from Samsun Provincial Directorate of National Education. The sample of this research was determined by simple random sampling method. The sample of the study consists of 552 teachers working in primary, secondary and high schools in the population. Considering the fact that the maximum number of samples to be selected over 25000 populations should be 378 (Yazıcıoğlu and Erdoğan, 2004), it was seen that the sample determined for the study represented the population and was sufficient.

2.3. Distributions Regarding Demographic Variables

The frequency and percentage distribution of the personal information of the teachers participating in the research is given in the following Table 1.

As seen in Table 1, 61.2% of the sample group is female and 38.8% is male. Considering the distribution of the participants according to their marital status, it is seen that married teachers take the first place (80.4%). In the last place are single teachers with 19.6%. Considering the distribution of professional seniority of the participants, those with a seniority of 16 years or more took the first place (34.4%), followed by those with a seniority of 6-10 years with 31.0%, followed by senior teachers of 11-15 years with 23%. In this study, senior teachers of 1-5 years were represented with 11.6%. 68.1% of the study group is branch teachers. Classroom teachers were represented with 31.9% in this study.

Table 1. *Personal Information of the Teachers Participating in the Research*

Variable		Frequency (n)	Percentage (%)
Gender	Female	338	61,2
	Male	214	38,8
MaritalStatus	Married	444	80,4
	Single	108	19,6
Subjectarea	Class teacher	176	68,1
	Branchteacher	376	31,9
Professional seniority	1- 5	64	11,6
	6- 10	171	31
	11-15	127	23
	16-20	190	34,4
	Total	552	100

2.4. Data Collection Tools

As data collection tool, two different tools were used in this study. These are "Power Distance Scale" developed by Dorfman and Howell (1988) and adapted to Turkish by Akyol (2009), and the "Organizational Silence Scale" developed by Dyne, Ang and Botero (2003) and adapted to Turkish by Taşkıran (2010). In the 5-item "General Power Distance Scale", the range of values has been calculated with the formula of "(Maximum value-Smallest value) / Number of degrees" and found as 0.80. In the evaluation of the findings of the problems, 1.00-1.79: "Very low", 1.80-2.59: "Low", 2.60-3.39: "Medium", 3.40-4.19: "High", 4.20-5.00: "Very high" arithmetic mean ranges are based. High scores demonstrate highness of power distance. The scale is one dimensional. Within the scope of this research, the reliability analyzes of the General Power Distance Scale were repeated. The total internal consistency coefficient of the scale was calculated as .689. Organisational silence scale consists of three dimensions called acquiescent silence, prosocial silence and quisecent silence and 15 items. In Organizational Silence Scale the teachers were asked to answer the statements on a 5-point Likert. When factor loads of the adapted Organisational Silence Scale's determined factors are examined, the factor loads are seen to differ between 0,77-0,88. Total variance that the scale evidences is %68,57. The total cronbach's alpha coeeficient for organisational silence was detected as (α)= 0,850. This rating was formed as Strongly Agree (5), Agree (4), Neither Agree, Neither Disagree (3), Disagree (2), Strongly Disagree (1). The reliability of these scales was tested. Cronbach's alpha coefficient (α) = 0.748 for organizational silence, and cronbach's alpha coefficient for personality traits was found as α 0.747. As a result of the analysis, the fact that the reliability coefficients are over 0.70 shows that the scale used in the research is reliable. Within the scope of this research, the reliability analyzes of the Organizational Silence Scale were repeated. The total internal consistency coefficient of the scale was calculated as 840. The scale has three dimensions called 'acquiescent silence', 'prosocial silence' and quisecent silence. The Cronbach's alpha coefficient of the acquiescent silence subscale of the scale was found to be α 0.812, .906 for prosocialsilence and 828 for the quisecent silence subscale.

2.5. Data Collection Process

The scales were implemented by the researcher to the teachers face to face at the schools located in Samsun central district after receiving necessary permissions. After necessary explanations, teachers requested to fill in the scales voluntarily. In the first stage, all scales answered were examined one by one by the researcher and the scales that were not filled in were canceled. Later, a code (ID) number was given to the data that was understood to be filled in properly - all measurement tools collected. Data entries were made in the SPSS program, respectively. After all data was entered, it was investigated whether the data was properly entered. After it was understood that there was no problem in data entry, data analysis processes were started.

2.6. Data Analysis

In the data analysis section of the study, the frequency and percentage distributions of the answers given to the questionnaire were found first. Then it was examined whether the data showed normal distribution or not. In the present study, it was determined whether the groups showed normal distribution or not. Skewness and Kurtosis values were checked for normality test. Skewness value was found as .485 in the power distance test and .227 in the organizational silence test. Kurtosis value was -.497 and 1.095, respectively. When Kurtosis and Skewness values are between -1.5 and +1.5, it is accepted to be a normal distribution (Tabachnick and

Fidell, 2013). For this reason, it was understood that the total scores of the two scales showed normal distribution. Descriptive statistical values of general power distance and organizational silence scales were found to answer the first and third research questions of the study. In order to answer the second and fourth research questions, independent group t-test, One-Way Analysis of Variance (ANOVA) were carried out to test whether there was a significant difference according to the variables of teachers' power distance and organizational silence according to the demographic variables of the research group. When significant differences were obtained with ANOVA, Scheffe test was used as a post-hoc technique for pairwise comparisons. Because the scale distributions were normal, it was decided to use parametric statistical techniques. In cases where the categorical independent variable consists of two categories, the parametric independent group t-test was used when the "n" numbers were above 30. In cases where the categorical independent variable consists of more than two categories, the parametric One-Way Analysis of Variance (ANOVA) test was used when the "n" numbers were above 30. In cases where significant difference was obtained in ANOVA, scheffe test was used as post-hoc technique for paired comparisons. In order to answer the fourth question of the research, Pearson product-moments correlation technique was used to determine the relationship between continuous variables. Finally, simple regression analysis procedures were carried out to test the predictive purpose of the research. The percentage of independent variable affecting the dependent variable was calculated by Cohen's f^2 . According to Cohen, those $f^2 \geq 0.02$ indicate small effect share, those $f^2 \geq 0.15$ show medium impact share, and $f^2 \geq 0.35$ ones show high effect share. In this study, these values were taken as basis.

$$f^2 = \frac{R^2}{1 - R^2}$$

According to Cohen (1988), $f^2 \geq 0.02$, $f^2 \geq 0.15$ and $f^2 \geq 0.35$ represent small, medium and large effect sizes, respectively. In the study, all results were tested bilaterally and the level of significance was accepted as at least 0.05. Significance levels are included in the relevant tables with their exact values. All statistical analyzes of the research were carried out with the SPSS 14.0 program.

2.5. Ethical

In this study, all rules stated to be followed within the scope of "Higher Education Institutions Scientific Research and Publication Ethics Directive" were followed. Ethical Review Board Name: Ondokuz Mayıs University Ethics Committee. Date of Ethics Evaluation Decision: 30.10.2020 Ethics Assessment Document Issue Number: 2020/676

3. Findings

The findings related to the analysis of the research data are presented below in accordance with the sub-problems of the research. The first sub-problem of the research is expressed as "Which level do teachers perceive power distance and organizational silence in their organizations? The mean and standard deviation values of teachers' perceptions regarding the sub-dimensions of organizational silence and their perception levels of power distance are given in Table 2.

Table 2. Descriptive Statistical Values of the Scales Used in the Study

Variables	N	Minimum	Maximum	Mean	sd
Power Distance total	552	1,00	4,20	2,02	,73
Organizational silence total	552	1,00	4,47	2,60	,55
Acquiscent silence	552	1,00	5,00	2,07	,72
Prosocial Silence	552	1,00	5,00	1,76	,77
Quisecent Silence	552	1,00	5,00	3,96	,85

Once Table 2 is examined, it is revealed that the general power distance perception level of the teachers is $X = 2.03$ and standard deviation is .73. This result (1.80-2.59) is within the limits of the "Low" rating and low power distance means minimizing inequality between people. The teachers' level of perception of organizational silence is $X = 2.60$ and its standard deviation is .55. This result (2.60-3.40) can be explained as teachers perceive organizational silence at a medium level. The average of the "Acquiscent silence" sub-dimension of the Organizational Silence Scale was 2.07 and the average of the "Prosocial Silence" sub-dimension was 1.76. Both

of these averages are within the limits of "I do not agree" and "I do not agree at all". However, the mean of the "Quisecent Silence" sub-dimension of the scale was 3.96 and in the evaluation system of the scale, this value corresponds to "I agree". In other words, teachers stated that organizational silence is at a very high level in the quisecent silence dimension.

The second sub-problem of the research is expressed as "Do teachers' perceptions regarding power distance and organizational silence differ significantly in terms of the variables of gender, marital status, subject area and professional seniority?" According to the gender variable, the unrelated group t-test was performed to test the significant difference between the teachers' total and sub-dimensions of all scales used in the research, and the results are given in Table 3.

Table 3. *The Differences Between the Overall and Sub-Dimensional Total Scores According to the Marital Status Variable*

The scale	Gender	n	X	ss	t	sd	p
General power distance total	Female	338	1,95	,72	-2,66	550	,008**
	Male	214	2,13	,75			
Organizational silence total	Female	338	2,60	,53	,18	550	,855
	Male	214	2,59	,58			
Acquiscent silence	Female	338	2,05	,70	-,68	550	,493
	Male	214	2,10	,76			
Prosocial Silence	Female	338	1,78	,78	,92	550	,354
	Male	214	1,72	,76			
Quisecent Silence	Female	338	3,97	,81	,10	550	,921
	Male	214	3,96	,91			

*p<.05 **p<.01 ***p<.001

As seen in Table 3, a statistically significant difference was found in the independent group t-test for the Overall Power Distance Scale total scores according to the gender variable ($p<.01$) and gender variable corresponded %13 of the "Overall Power Distance Scale's" total score variance. It was revealed that male teachers' general power distance perceptions were significantly higher than female teachers. According to the gender variable, no statistically significant difference was found in the independent group t-test for the total and all sub-dimension scores of the organizational silence scale ($p>.05$). The mean of organizational silence levels of male teachers are similar to female teachers.

According to the marital status variable, the unrelated group t-test was performed to determine the significant difference between the total and sub-dimensions of all scales used in the study of the teachers in the study group, and the results are given in Table 4.

Table 4. *The Differences Between the Overall and Sub-Dimensional Total Scores According to the Marital Status Variable*

Scale	Marital Status	n	X	ss	t	sd	p
General power distance total	Married	444	2,01	,74	-,954	550	,340
	Single	108	2,08	,71			
Organizational silence total	Married	444	2,59	,56	-,473	550	,636
	Single	108	2,62	,52			
Acquiscent silence	Married	444	2,07	,72	-,204	550	,839
	Single	108	2,08	,74			
Prosocial Silence	Married	444	1,76	,78	-,182	550	,856
	Single	108	1,77	,73			
Quisecent Silence	Married	444	3,95	,86	-,583	550	,560
	Single	108	4,01	,80			

*p<.05 **p<.01 ***p<.001

According to the marital status variable, no statistically significant difference was found in the independent group t-test for the total scores of the general power distance scale ($p>.05$). The general power distance levels of single teachers and the averages of married teachers are at a similar level.

According to the marital status variable, no statistically significant difference was found in the independent group t-test for the total and sub-dimension scores of the organizational silence scale. The characteristics of married and single teachers towards organizational silence are close to each other ($p>.05$).

According to the subject area variable, the unrelated group t-test was conducted to test the significant difference between the total and sub-dimensions of all scales used in the study by the teachers in the study group, and the results are given in Table 5.

Table 5. The Differences Between the Overall and Sub-Dimensional Total Scores According to the Subject Area Variable

Scale	Subject area	n	X	ss	t	sd	p
General power distance total	Class teacher	176	2,11	,78	1,857	550	,064
	Branch teacher	376	1,98	,71			
Organizational silence total	Class teacher	176	2,59	,56	-1,149	550	,881
	Branch teacher	376	2,60	,55			
Acquiscent silence	Class teacher	176	1,99	,69	-1,708	550	,088
	Branch teacher	376	2,11	,74			
Prosocial Silence	Class teacher	176	1,77	,75	,242	550	,809
	Branch teacher	376	1,76	,78			
Quisecent Silence	Class teacher	176	4,01	,87	,942	550	,347
	Branch teacher	376	3,94	,84			

*p<.05 **p<.01 ***p<.001

No statistically significant differences were found in the independent group t-test performed for the total power distance scale total, organizational silence scale total and all sub-dimension scores according to the subject area variable (p>.05). General power distance, general characteristics of organizational silence and levels of acquiscent silence, prosocial silence and quisecent silence of classroom and branch teachers are similar to each other.

One-way analysis of variance (ANOVA) was performed in order to test the significant difference between the total and sub-dimensions of all scales used in the study group teachers according to the professional seniority variable, and the results are given in Table 6.

Table 6. The Differences Between the Overall and Sub-Dimensional Total Scores According to the Professional Seniority Variable (ANOVA)

Scale	Professional Seniority	n	X	ss	sd	F	p
General power distance total	1-5 years	64	2,12	,64	3-548	1,355	,256
	6-10 years	171	2,07	,77			
	11-15 years	127	2,04	,71			
	16 years +	190	1,94	,74			
	Total	552	2,02	,73			
Organizational Silence	1-5 years	64	2,63	,54	3-548	,818	,484
	6-10 years	171	2,64	,56			
	11-15 years	127	2,60	,54			
	16 years +	190	2,55	,55			
	Total	552	2,60	,55			
Acquiscent silence	1-5 years	64	2,17	,79	3-548	1,150	,328
	6-10 years	171	2,12	,76			
	11-15 years	127	2,01	,69			
	16 years +	190	2,03	,69			
	Total	552	2,07	,72			
Prosocial Silence	1-5 years	64	1,77	,80	3-548	1,146	,330
	6-10 years	171	1,82	,76			
	11-15 years	127	1,80	,77			
	16 years +	190	1,68	,77			
	Total	552	1,76	,77			
Quisecent Silence	1-5 years	64	3,94	,86	3-548	,102	,959
	6-10 years	171	3,98	,78			
	11-15 years	127	3,98	,85			
	16 years +	190	3,94	,91			
	Total	552	3,96	,85			

*p<.05 **p<.01 ***p<.001

According to the variable of seniority, no statistically significant difference was found as a result of one-way analysis of variance (ANOVA) to test the significant difference between the total and sub-dimensions of all

scales used in the study group teachers ($p>.05$). The opinions of teachers with different seniority years on the overall power distance and organizational silence on the total and sub-dimensions are close to each other.

The third sub-problem of the research is expressed as "Is there a significant relationship between teachers' power distance perceptions and organizational silence behaviors?". The relationships between the overall and sub-dimensional total scores of the whole scale applied to the study group is given in the following table 7:

Table 7. *The Relationships Between the Overall and Sub-Dimensional Total Scores of the Whole Scale Applied to the Study Group*

The Scale	General Power Distance Scale	Organizational Silence Scale			
		Total	Acquiscent Silence	Prosocial Silence	Quisecent Silence
General Power Distance Scale	1				
Organizational Silence Scale	.273***	1			
Acquiscent silence	.217***	.787***	1		
Prosocial Silence	.231***	.801***	.710***	1	
Quisecent Silence	.136**	.551***	.036	.048	1

* $p<.05$ ** $p<.01$ *** $p<.001$

The correlation coefficient calculated between the total scores collected by the "general power distance" scale applied to the teachers and the total scores collected by the "organizational silence" scale is .273. There is a statistically low-level significant positive correlation at the level of .001 between the two scales. Correlation coefficients were calculated between general power distance and organizational silence scale sub-dimensions.

Correlation coefficients of .217 ($p<.001$) between general power distance total scores and acquiscent silence, .231 ($p<.001$) between prosocial silence and .136 ($p<.01$) between quisecent silence were calculated. All correlation coefficients are positive. Other correlation coefficients are between total and sub-dimensions of organizational silence scale. As these are the results related to the construct validity of the aforementioned scale, it has not been interpreted separately here.

In order to identify whether the teachers' power distance is a significant predictor of teachers' organizational silence behaviors, the simple linear regression analysis was carried out and the results are presented in Table 8.

Table 8. *Simple Regression Analysis Results on the Prediction of Overall Power Distance Total Scores on Organizational Silence Scale Total Scores*

Model	Unstandardized Coefficients		Standardized Coefficients		t	P
	B	Std. Error	Beta			
(Content)	2,189	,066			32,986	.000***
General Power Distance Scale	,205	,031	.273		6,647	.000***

R: .273 R²: .074 F: 44,183***

As seen in Table 8, the general power distance variable significantly predicted the total scores of organizational silence; explaining 7.4% of the total variance [$R = .273$, $R^2 = .074$, $F = 44,183$, $p < .001$]. Considering the significance tests of the regression coefficient, it is revealed that the variable of power distance is a significant predictor of organizational silence total scores. In addition, Cohen's f^2 value was calculated to determine the effect size and $f^2 = .08$ for the total variable of organizational silence. In terms of Cohen (1988) criteria, it can be said that the effect size in the current study is small.

Simple regression analysis results on the prediction of overall power distance total scores on organizational silence scale acquiscent silence sub-dimension total scores are given in the following Table 9.

Table 9. Simple Regression Analysis Results on the Prediction of Overall Power Distance Total Scores on Organizational Silence Scale Acquiescent Silence Sub-Dimension Total Scores

Model	Unstandardized Coefficients		Standardized Coefficients	t	p
	B	Std. Error	Beta		
(Content)	1,643	,088		18,600	.000***
General Power Distance	,214	,041	.217	5,218	.000***

R: .217 R²: .047 F: 27,228***

As seen in Table 9, the variable of general power distance significantly predicts organizational silence scale acquiescent silence sub-dimension total scores and explains 4.7% of the total variance [R= .217, R²= .047, F= 27.228, p < .001]

Considering the significance tests of the regression coefficient, the variable of power distance is a significant predictor of acquiescent silence sub-dimension total scores. In addition, Cohen's f² value was calculated to determine the effect size and f² = .05 for the total variable of organizational silence. In terms of Cohen (1988) criteria, it can be said that the effect size is low in the current study.

Table 10. Simple Regression Analysis Results on the Prediction of Overall Power Distance Total Scores on Organizational Silence Scale Prosocial Silence Sub-Dimension Total Scores

Model	Unstandardized Coefficients		Standardized Coefficients	t	p
	B	Std. Error	Beta		
(Content)	1,274	,094		13,578	.000***
General Power Distance	,243	,043	.231	5,581	.000***

R: .231 R²: .054 F: 31,144***

As seen in Table 10, the general power distance variable significantly predicted the total scores of the organizational silence scale prosocial silence sub-dimension; [R= .231, R²= .054, F= 31.144, p < .001] explained 5.4% of the total variance. Considering the significance tests of the regression coefficient, the variable of power distance is a significant predictor of the organizational silence scale, prosocial silence sub-dimension total scores. In addition, Cohen's f² value was calculated to determine the effect size and f² = .057 for the total variable of organizational silence. In terms of Cohen (1988) criteria, it can be said that the effect size in the current study is small.

Table 11. Simple Regression Analysis Results on the Prediction of Overall Power Distance Total Scores on Organizational Silence Scale Quiescent Silence Sub-Dimension Total Scores

Model	Unstandardized Coefficients		Standardized Coefficients	t	p
	B	Std. Error	Beta		
(Content)	3,650	,105		34,705	.000***
General Power Distance	,157	,049	.136	3,221	.001***

R: .136 R²: .019 F: 10,376***

As seen in Table 11, the general power distance variable significantly predicted the total scores of the organizational silence scale's quiescent silence sub-dimension; [R= .136, R²= .019, F= 10,376, p < .001] explained 5.4% of the total variance. Considering the significance tests of the regression coefficient, the variable of power distance is a significant predictor of organizational silence scale quiescent silence sub-dimension total scores. In addition, Cohen's f² value was calculated to determine the effect size and it was found as f² = .019 for the total variable of organizational silence. In terms of Cohen (1988) criteria, it can be said that the effect size in the current study is small.

4. Discussion, Conclusion and Recommendations

As a result of this research, it was revealed that the general power distance perception levels of the teachers were low. This result of the study is similar to the results of different studies on power distance perception levels (Uzun & Tamimi, 2007; Erdoğan et al., 2008). Unlike this research, the researches conducted by Terzi (2004), Çalışkan (2009), Deniz (2013), Gül (2019) and Akyol (2009) found that the power distance perceptions of the participants were at a moderate level. Similarly, the researches carried out by Basım (2000), Gürbüz and Bingöl (2007), Aktaş and Can (2012) and Uslu and Ardiç (2013) revealed that the perceived power distance is

above the medium level. Also, Yaman and Irmak (2010) found a high level of power distance between school principals and teachers in their research.

As a result of this research, it was found that teachers' organizational silence perception levels were medium. This result of the research is in line with the results of different studies on organizational silence (Morrison and Milliken, 2000; Milliken and Morrison, 2003; Tangirala and Ramanujam, 2008; Kahveci, 2010; Batmunkh, 2011; Arılı, 2013; Cemaloğlu et al, 2013; Daşçı, 2014; Dinçer, 2017; Burulday, 2018). They gained the evidence that the teachers experience moderate level organisational silence in these studies. As for some studies which differ from the research results (Morrison and Milliken, 2000; Milliken and Morrison, 2003; Tangirala and Ramanujam, 2008; Kahveci, 2010; Batmunkh, 2011; Cemaloğlu et al, 2013; Arılı, 2013; Daşçı, 2014; Dinçer, 2017; Burulday, 2018) silence levels of the teachers were detected to be high. When sub-dimensions of the silence variable were examined, teachers within the study are seen to internalise prosocial silence by much more staying at prosocial sub-dimension with 3,96 average score. Milliken and Morrison (2000-2003) stated in their research that the ability of the employees of the organization to express their ideas continuously and openly can create an extremely confused environment and stated that the issue of when silence is functional or not should be well determined. It was also emphasized that silence is a beneficial situation for the organization. According to the research, the high level of organizational silence, that is, the silence of teachers, is actually a beneficial situation when it comes before the chaotic environment that Milliken and Morrison (2003) mentioned in their research. Milliken and Morrison (2003) stated that individuals are prone to show silence behavior in the face of power, and that the authority and power of the manager is very effective on the subordinate. He stated the authority of the manager to be very effective on the employees working under his power and the individuals to be inclined to exhibit silence behaviour against power. Since the authority power of the manager is perceived prominently in the societies with high compliance to the authority, high silence levels of the individuals are considered to be significant in terms of research findings. Owing to the fact that inequality is in the foreground in autocratic cultures, the employees may prefer to stay silent not believing in this situation so much by avoiding public speaking in order not to recounter with the manager even if they are encouraged by the management and participatory work environment is formed (Çakıcı, 2007). Due to the fact that the teachers think the school managers to have mostly autocratic mentality, in other words, since the perception of teachers that managers have high power distance creates the thoughts such as subservience, criticism will harm themselves and also nothing will change at the end, their silence behaviours may come into prominence. The employees may asked mostly to act as to the orders given them in this situation. Besides, the power hierarchical structure gives to the manager and the manager's keeping the autocratic power will increase their tendency to apply mobbing on employees and their silence behaviors will also increase (Özen, 2009; Aktaş and Can, 2012; Sevi and Karanfil, 2016). In addition, there exists unity and solidarity thoughts and sustaining the relationships with the other partners belief in collectivistic culture's core (Hofstede, 2001). In school organisations, both the managers and the teachers and also the other employees are in a position to act in interaction, solidarity and as a team in matters such as teachers' board, branch meetings, educational branches, guard duties, recruitment and usage of lesson tools. In this sense, silence might be a significant reason in employees with respect to their not wishing to break down their relations both among themselves and with the managers. Besides, the teachers show silence behaviour in order not to be perceived as troublemaker at school or with the fear of exclusion. Furthermore, beliefs such as decisions are taken by unilateral managers and the result will not change even if they object to may cause silence behaviours among teachers when it's considered that the school managers are selected in regard to an authoritative perspective in educating and election processes in Turkey, in other words when the power distance is considered to be high. This might be commented as an individual grew up in Turkish culture may choose prosocial silence in order to protect his colleagues and the school organisation he belongs to, not to damage his friend relationships and not to be excluded from the group. High level of prosocial silence found in the study conducted is similar to some reserach results (Eroğlu, Adıgüzel and Öztürk, 2011; Tülübaş and Celep, 2014; Ballı and Çakıcı, 2016). Unlike these studies, Yangın (2015), Dönmez (2016), Karahan-Çidem (2019) and Moçoşoğlu (2019) found that teachers experience moderate organizational silence in their studies.

4.1. Results of Teachers' Power Distance Perceptions on Demographic Variables

As a result of the research, it was found that the power distance perceptions of the teachers according to the gender variable showed a statistically significant difference, and it was determined that the general power

distance characteristics of male teachers were significantly higher than female teachers. This result of the research is similar to the results of different researches on power distance perception levels (Gül, 2019; Karaçelebi, 2016; Ulus, 2018). Unlike this research, Turan, Durceylan and Şişman (2005), Akyol (2009), Macit (2010), Altınkurt and Yılmaz (2012), Jahangirov (2012), Yıldırım and Deniz (2014), Ateş (2019), Ersoy (2019), Can, Kaptanoğlu and Halo (2018), and Zıblım (2020) concluded that the perception of power distance does not differ according to gender.

A great majority of school managers in Turkey consists of males. Social and cultural codes envisage male managers to prefer a politer attitude in communication and interaction with female employees on a basis of courtesy and their attitudes and behaviours to correspond with this code. The managers also may be told to behave accordingly to this code at schools. The managers can be told to make power distance more intensely felt in their relations with male employees. This may emerge as a stricter, distanced and authoritative behaviour to male employees.

In terms of the teachers' marital status, branch, seniority variables, a significant difference was not found among total scores of Overall Power Distance Scale and remarks of the teachers were similar to each other with regards to these variables. This might be because the effect of manager on these variables are perceived close by the participants. Males teachers perceive the manager to use more power and females less in this situation. This indicates the manager or the administrator to behave more politely to females. Or females may not feel power distance as they are not on management duties much. Power distance is perceived differently based on intersocial cultural differences. The supreme significant difference between the societies with high and low power distance is about in which level is this power distributed more than unequal distribution of it (Kemikkıran, 2015).

According to the marital status variable, it was found that the power distance perceptions of the teachers did not show a statistically significant difference. The general power distance levels of single teachers and the averages of married teachers are at a similar level. Similar results have revealed as a result of research conducted by Turan, Durceylan, and Şişman (2005), Deniz (2013) and Kocabıyık (2017). As a result of the research, the averages of married teachers were found to be at the same level with the averages of single teachers. As a result of the research, it was found that the power distance perceptions of the teachers did not show a statistically significant difference according to the subject area variable. It was revealed that general power distance, general characteristics of organizational silence and levels of acquiescent silence, prosocial silence and quiescent silence of class and branch teachers are similar to each other. Similar results have revealed as a result of the researches carried out by Macit (2010), Deniz (2013) and Ateş (2019).

According to the variable of professional seniority, it was found that the power distance perceptions of the teachers did not show a statistically significant difference. The opinions of teachers with different seniority years on the overall power distance and organizational silence on the total and sub-dimensions are close to each other. This result of the study is similar to the results of different studies (Akyol, 2009; Deniz, 2013; Ateş, 2019; Güven, 2018) on power distance perception levels. Unlike these studies, Altınkurt, Yılmaz, Erol and Salalı (2014) and Kocabıyık (2017) concluded in their studies that teachers' opinions differ in all dimensions according to the variable of professional seniority. Kocabıyık (2017) stated that the difference is between teachers with 6-15 years of professional seniority and teachers with more than 26 years of professional seniority, in favor of teachers with more than 26 years of professional seniority; Altınkurt, Yılmaz, Erol and Salalı (2014), on the other hand, found that the difference in question is that teachers with 11-20 years of seniority are of the opinion that school administrators use their power resources more than teachers with 10 years or less of experience.

4.2. Results of Teachers' Perceptions of Organizational Silence on Demographic Variables

No statistically significant difference was found for the gender variable. According to the results of the research, female teachers and male teachers exhibit similar silence behaviors. While this result of the study is similar to some research results (Morrison and Milliken, 2000; Ünlü, Hamedoğlu and Yaman, 2015; Dal, 2017; Önder, 2017; Demir and Cömert, 2018), it also differs with some research results (Brisfield, 2009; Çakıcı, 2010; Kahveci and Demirtaş, 2013; Tülübaş and Celep, 2014; Çiçek-Sağlam and Yüksel, 2015; Demirtaş and Nacar, 2018; Tulunay and Önder, 2019). In studies that differed from the results of the research, it was found that

female teachers were more silent than male teachers. The reasons for this situation can be explained as the gender perspective and the fact that the majority of the managers are male.

As a result of the research, it was concluded that the organizational silence perceptions of the teachers did not show a statistically significant difference according to the marital status variable. In other words, it was concluded that teachers' being married or single does not make any difference on silence. This result of the research is similar to the results of different studies on organizational silence (Özdemir, 2015; Sevgin, 2015; Aydın, 2016; Aktaş 2019; Gülenç, 2019; Varol, 2021). Unlike these studies, according to the meta-analysis study conducted by Tulunay Ateş and Önder (2019), it was concluded that marital status had a weak effect on organizational silence. In some studies, it has been found that married teachers are more silent than single teachers (Tulunay and Önder, 2019). In that regard, it can be argued that the fact that married teachers have more responsibilities than single teachers has an effect on their silence.

As a result of the research, it was found that teachers' perceptions of organizational silence did not show a statistically significant difference according to the subject area variable. The general characteristics of organizational silence and the levels of acquiescent silence, prosocial silence and quiescent silence of classroom and branch teachers are similar to each other. This result of the research is in line with the results of different studies on organizational silence (Alpaslan, 2010; Ruçlar, 2013; Sevgin, 2015; Çavuş, Develi and Sarioğlu, 2015; Ünlü, Hamedoğlu and Yaman, 2015, Balkan-Akan and Oran, 2017; Uçar, 2017; Bağ and Ekinci, 2018; Dal and Atanur Baskan, 2018). Unlike these studies, in the study conducted by Çiçek-Sağlam and Yüksel (2015), it was concluded that classroom teachers' perceptions of organizational silence were higher than other branches.

As a result of the research, it was found that teachers' perceptions of organizational silence did not show a statistically significant difference according to the variable of professional seniority. The opinions of teachers with different seniority years on the overall power distance and organizational silence on the total and sub-dimensions are close to each other. This result of the research is similar to the results of different studies on organizational silence (Özdemir, 2015, Burulday, 2018; Aktaş, 2019). Unlike these studies, Özdemir and Sarioğlu Uğur (2013), Dal (2017), Doğan (2017) and Uçar (2017) have concluded that the organizational silence scale scores of teachers differ according to the variable of professional seniority. While Gülenç (2019) found that teachers with 1-10 years of seniority had higher organizational silence scale scores than teachers with 11-20 years of seniority, Özdemir (2015) and Yüksel (2015) found that younger teachers showed more organizational silence behavior.

4.3. The Relationships Between Teachers' Perceived Power Distance in School Management and Their Organizational Silence Perceptions

As a result of the research, it was found that there is a statistically significant positive relationship between teachers' perception of organizational power distance and their perception of organizational silence. This result can be interpreted as the organizational silence of teachers increases as the power distance of administrators increases. Similar findings were reported by Yalçınsoy (2017) and Sarı-Aytekin, et al. (2017). According to their findings, employees feel themselves under the pressure of workload and exhibit silence behavior to protect the institution and/or their friends. Alqarni (2020) states in her research that there is a strong relationship between the behavior of school administrators and the silence of teachers. Similarly, Vakola and Bouradas (2005) emphasized that the state of silence is related to the behavior of managers and the opportunities they create in communication. Dankoski, Bickel and Gusic (2014) argued that communication disorders that cause silence in the organization can stop the progress in organizations, and that it is essential for managers to communicate correctly with employees in order to prevent this. In this sense, it can be asserted that administrators with high power distance generally maintain communication in an official dimension, while teachers react to this situation by being silent.

Once the results of the research are compared with other studies, the effects of managerial behaviors on silence are supported by many studies. Accordingly, Sargut (2010) argued in his research that silence can be prevented as a result of the transformational leadership supporting and listening to the employee, while in interactional leadership, the punishment-reward method silences the employee, Güçlü, Çoban, and Atasoy (2017) identified the positive effect of strategic leadership on organizational silence, Işık and Paşa (2017) found the positive effect of ethical leadership on silence, Demirtaş and Küçük (2019) investigated the negative effect of toxic leadership

on employee silence and they drew attention to what positive or negative the power distances used by the administrators can cause on the teachers with their researches. These studies show that the power distance that administrators use in the school management process has a very important effect on organizational silence. Teachers who perceive that the power distance is high can retreat into silence in order not to get negative reactions from the administrators despite knowing the deficiencies of the administrators (Bildik, 2009), to be alienated from the work environment by receiving negative feedback from their administrators and colleagues (Afşar, 2013; Üçok and Torun, 2015; Aydın, 2016) with the perceptions that something will not change even if I say it (Morrison and Milliken, 2000; Arlı, 2013; Tülibaş and Celep, 2014; Idowu, 2019). In conclusion, it is determined that there is a significant relationship between the general power distance total score variable and the teachers' organizational silence scores. It is identified that power distance variable is a significant predictor on the organizational silence variable. This means that one of the reasons for silence in the organization is the perceived power distance perception of the behavior of the manager. The general power distance variable significantly predicts the total scores of the prosocial silence sub-dimension of the organizational silence scale and explains 5.4% of the total variance.

Consequently, a significant relation is seen between Overall Power Distance total score variable and organisational silence scores of the teachers. Power distance variable is seen to be a significant precursor on organisational silence variable. Overall Power Distance variable significantly predicts organisational silence scale prosocial silence sub-dimension's total scores and clarifies %5.4 of total variance. This consequence shows that one of the main reasons of the silence perceived by the teachers is the way of manager's to use power. The schools are the leading organisations where communication and interaction is the most intense. If the school managers wish to effect the teachers, increase their productivity and performances, they are in a position to create a more participatory and transparent environment which supports creativity. Undoubtedly, there may be lots of underlying psychosocial factors in teachers' organisational silence. Most especially, qualitative or mixed studies will reveal the depth of these factors and implementation of these studies will clarify the confusion in the aspects of perception and action in the field.

5. References

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Underlying Dimensions of Lifestyle and Their Relation with Creative Ideation Among Undergraduate Students

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ABSTRACT

In higher education, a limited number of studies have been conducted on the relationship between lifestyle and creativity and dating back to more than 50 years ago. This study investigates the up-to-date results of the relationship between university students' lifestyles and their creative ideation. The data was collected two times in order to perform Exploratory Factor Analysis (EFA) and Hierarchical Regression Analysis. The participants consisted of 233 students for EFA, whereas regression analysis consisted of 239 students from five public universities across Thailand. The data was analyzed using 'R Programming Language' to obtain the results. The study revealed that in a collectivist culture society like Thailand, student lifestyles consist of five dimensions, i.e., family-oriented, community consciousness, modern, family concern, and traditional lifestyle. The correlation results showed that community consciousness and a modern lifestyle were significantly associated with creative ideation after controlling for gender and age variables. In contrast, family concern, family-oriented, and a traditional lifestyle were not. These findings suggest that undergraduate students who endorse modern and community consciousness lifestyles were likely to perform better in generating creative ideas.

Keywords:

Creativity, creative ideation, higher education, lifestyle

1. Introduction

Numerous reports claim that creative thinking is vital to future employment. For instance, the American Management Association's survey reported that critical thinking, communication, collaboration, and creativity were soft skills required for entry-level jobs (AMA, 2019). The reports of International Business Machines Corporation (IBM, 2012) and Adobe (2012) also supported the claim, indicating that creative thinking is the qualification employers are searching for in their recruitment. The conception of creativity is pretty broad, whereas creative ideation falls into a small part of it. Even though creative ideation is minor, all creativity seems certainly need it (Runco, Plucker, & Lim, 2001). Creative ideation can be elucidated in terms of thinking disposition or ideational behavior. Simply, it is referred to as an original idea development process where the idea is considered a creative and useful outcome (Plucker et al., 2006; Runco et al., 2001). In other words, it is the cognitive ability to produce or coming up with creative ideas (Pannells & Claxton, 2008).

In numerous studies, creative ideation is the focus and center of attention that is structurally interpretable in various terms. For instance, it is considered everyday creativity (Benedek, Franz, et al., 2012; Benedek, Könen,

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et al., 2012; Cohen & Ferrari, 2010), interpreted as creative ideation (Hao et al., 2016; Pannells & Claxton, 2008; Tyagi et al., 2017), referred to creative behavior (An et al., 2016; Smith Ronda et al., 2016), and ideational behavior (Batey et al., 2010; Paek & Runco, 2018). Much research has been conducted on different factors affecting creativity, e.g., educational settings, parental and individual factors (see also Tep et al., 2018, p. 86), yet research regarding the notion of creative ideation and its association with university students' lifestyles are understudied. According to Florida (2002), a society that offers a stimulating lifestyle, a rich culture, amusement, recreation, and educational opportunities may produce and attract more creative individuals; thus, regions with economies that rely strongly on creativity become more prosperous. Csikszentmihalyi (1996) interviewed 100 practical knowledge people and demonstrated that when lifestyle operated at an appropriate moment and a precise place, it constitutes a significant part in creativity. Therefore, it seems lifestyle likely affects individual creativity.

Through the lens of psychological analysis, lifestyle as the style of thought is a mixture of personality dimensions such as attitudes, opinions, interests and values, cognitive processes, and overt behavior patterns (Anderson & Golden, 1984; Horley et al., 1988). At the Stanford Research Institute, Mitchell and Spengler assessed the lives of Americans and investigated the relationship between their actions, beliefs, and values. They found that perceived value predicted and explained human behavior (Mitchell, 1983; Mitchell, 1994). Additionally, perceived values are a combination of human beliefs, attitudes, and demands. Style is strongly linked to actions and operations and how individuals respond to conditions, objects, or stimuli (Ansbacher, 1967). Cultural factors seem to play an important and profound role in an individual's lifestyle. In recent years, many researchers have explored the topic of the impact of culture on lifestyle. Physical exercise, sedentary behavior, bad eating habits, cigarette usage, physical wellness (obesity, hypertension, and other non-communicable diseases), life quality, and psychological well-being were all found to be highly influenced by the socio-cultural environment (Cerin et al., 2016; Joh et al., 2017; Van Dyck et al., 2012).

In addition, Wells and Tigert (1971) originally studied people's lifestyles regarding their activities, interests, and opinions (AIO). They created AIO statements to measure individual lifestyles. Table 1 shows the major lifestyle dimensions. Actual individual external behaviors explain activities, interests are defined by how individuals continue to be concerned with specific objects, events, or topics. Place concerns the immediate surroundings, and opinions are the attitudes of individuals in response to certain events, their views, or beliefs (Plummer, 1974; Wells & Tigert, 1971).

Table 1: *Lifestyle dimensions*

Activities	Interests	Opinions
Work	Family	Themselves
Hobbies	Home	Social issues
Social events	Job	Politics
Vacations	Community	Business
Entertainment	Recreation	Economics
Club membership	Fashion	Education
Community	Food	Products
Shopping	Media	Future
Sports	Achievements	Culture

Adopted from Plummer (1974)

Besides AIO studies, many studies have been conducted to measure lifestyle and interpreted within the different theoretical perspectives. For instance, Thorne (1975) measured lifestyle in relation to the need system and extracted five factors, i.e., aggressive-domineering, conforming, defensive-withdrawal, amoral sociopathy, and resistive-defiant. O'Phelan and Louise (1977) suggested that lifestyle can be divided into six distinct categories: achievement, social proprieties, interpersonal mechanics, right-wrong, posture, and gender. Kern (1982) assessed lifestyle based on individuals' personality characteristics and classified them into five themes: control, perfectionist, need to please, victim, and martyr. This study attempted to explore students' lifestyles using AIO statements.

Through the notion above, value is considered one of the vital variables defining lifestyle (Rokeach, 1979). A lifestyle guided by values may reflect motivational goals and assist individuals' decisions in their life, whereas human values are likely to offer a strong stimulus toward creative behavior (Dollinger et al., 2007).

Simultaneously, Dollinger et al. (2007) further stated that creativity could be a function of the values an individual holds. The association between creativity and human value was also proposed in the values theory of Schwartz (1992). The creative individual seems to endorse self-direction, universalism, and stimulation values (Schwartz, 1992). Therefore, this logic may explain that lifestyle tends to be associated with creative ideation.

Few studies have also been conducted to assess the relationship between lifestyle and creativity within an individualist culture in higher education. Mackler and Shontz (1965) conducted empirical research on style of life and creativity focusing on students' college majors. The authors used sensory modes, i.e., visual, kinesthetic, auditory, tactile, or ol-factory interchanged with life style, which narrowly focused on personality. Winter and Russell (1973) studied creative people's perspectives towards psychographics. The authors emphasized the values that are attributed to psychographics. These studies, which were published in the 1970s or 1980s, are over 50 years old. This prompts interest in the context of the up-to-date lifestyle-creativity relation findings from current research. Further, previous studies did not precisely demonstrate the intimate association between lifestyle and creativity. Therefore, this study's main goal is to grasp the tenable association between university students' lifestyle and their creative ideation. The specific research questions were as follows:

- What are the underlying lifestyle dimensions of undergraduate students?
- What is the relationship between lifestyle dimensions and creative ideation?

2. Method

2.1. Method and Participants

The convenient sampling method was employed in the current research. This method offers considerable benefits in terms of professional networks and assures a high response rate. All participants voluntarily took part in the study. The data was collected two times from five public universities across Thailand in order to perform Exploratory Factor Analysis (EFA) and Hierarchical Regression Analysis. Participants were freshman, sophomore, junior, and senior students majoring in Educational Communication and Technology. The majority of participants were from universities located in central Thailand.

Regarding the EFA part, 234 students completed the survey. One response was excluded from the analysis due to outliers. Mahalanobis distance method was conducted using a critical point of 59.70. The final participants consisted of 233 students, 160 (68%) females and 73 (32%) males with an average age of 21.04 years and a standard deviation of 1.39. Hair et al. (2019) suggested that a sample size of 200 is recommended to estimate the factor loading of .40 in EFA.

In the regression analysis part, 256 students completed the survey. Seventeen students were omitted from the analysis as a result of outliers. Mahalanobis distance method was conducted using a critical point of 90.57. The final participants comprised 239 students, 170 (71%) females and 69 (29%) males, with a mean age of 20.72 years and a standard deviation of 1.41. In the current study, 30.5% of the sample were freshmen, 26.8% sophomore, 25% junior, and 17.7% senior. An adequate sample size was also estimated to perform regression analysis. The pre-power analysis was done with G*Power 3.1 (Faul et al., 2009) by setting the power value to 0.95 and the significance level to 0.05. The result indicated that estimating a medium effect of $f^2 = .15$ with seven independent variables in multiple linear regression, 153 participants would be needed.

2.2. Measures

Two questionnaires were designed and developed to collect the data. The first consisted only of lifestyle measurements based on AIO statements. The second is divided into three sections. Section one collected demographic information, e.g., gender, age, year level, subject area, and academic achievement. Section two collected lifestyle information. The final section of the survey assessed creative ideation. The summary of instruments is shown in Table 2.

Lifestyle measurement. Lifestyle was measured through 30 activities, interests, and opinions (AIO) statements obtained from the literature (Anderson & Golden, 1984; Mitchell, 1983; Wells, 1975; Wells & Tigert, 1971). It was constructed based on lifestyle dimensions (see table 1) suggested by Plummer (1974). Ten activity statements were developed and represented vocation, shopping, entertainment, hobbies, social events, and community dimension. Responses to the questions "How often do you take part in these activities?" are categorized on a 5-point Likert-type scale ranging from "1" being "Never" and "5" being "Always." Ten interest statements were constructed and represented family, home, community, recreation, food, education, and social issues. Responses to the question "How would you rate your interest in these matters?" are categorized on a 5-point Likert-type scale, ranging from "1" being "Not at all" and "5" being "Very much." Moreover, ten opinion statements were created and represented family, economics, education, the future, and culture. Responses to the questions "Rate your agreement with the below statements." are categorized on a 5-point Likert-type scale ranging from "1" being "Not at all" and "5" being "Very much."

Table 2. Summary of instruments

Construct	Instrument	No. of items	Respond to Question	5-point Likert-type 1 (2 3 4) 5	Cronbach's alpha (α)
Lifestyle (AIO statements)	Activity	10	How often do you take part in these activities?		.80
	Interest	10	How would you rate your interest on these matters?	Not at all → Very Much	.87
	Opinion	10	Rate your agreement		.85
Creative Ideation	RIBS	23	Rate your agreement	Never → Always	.95

Note(s): AIO = activities; interests and opinions, RIBS = Runco Ideational Behavior Scale

Creative Ideation. Creative ideation was measured using the Runco Ideational Behavior Scale (RIBS; Runco et al., 2001). This scale assessed various aspects of ideas, e.g., a different way of utilizing ideas, appreciation, and individuals' capability of ideas initiating everyday behavior without covert activities or actions. This inventory comprised 23 self-report items that were designed and developed to measure on a 5-point Likert-type scale ranging from "1" being "Never" and "5" being "Always" (For reliability and validity procedures, see Tep, Maneewan, Chuathong, et al., 2021).

Control Variables. Baer and Kaufman (2008) indicated there were inconsistent results of gender differences in creativity; consequently, they found that females outperformed males in creativity tests. Dacey et al. (1998) demonstrated that the more years students spent in formal education, the more their creativity attenuated. Thus, gender and age were included as a control variable to partial out their effect on creative ideation.

2.3. Procedures

The study was undertaken after receiving approval and granting the University Institute Research Board (IRB) consent. Data collection was conducted by following human subjects' guidelines and principles. Before participants started filling out the questionnaire survey, they were informed that all their answers were treated as anonymous and confidential. Their participation in this study was considered a volunteer and received no educational benefits, e.g., extra credit. These details were also notified on the survey document. According to the discretion of participants, they can completely or partially fill the questionnaire. They can also reserve the right not to undertake the survey, thus, they can return the blank sheet. First, all items in the questionnaire survey were translated into English. Next, they were back-translated into the Thai language. In the current study, the translation process was adopted and followed the procedure developed by Brislin (1980). The author proposed the translation-back-translation procedure. All items were verified and valid.

2.4. Data analysis

All data analysis in this study were performed using R programming language (R Core Team, 2020). All required packages were loaded into R. First, data screening was conducted to search for missing value. Normality and multicollinearity assumptions were also tested. For normality, skewness and kurtosis measures were run. Multicollinearity was checked via the correlation value of observed variables. It manifested when $r > .80$ (Gana and Broc, 2019). Second, to answer research question one, lifestyle was analyzed using EFA. Before conducting EFA, assumptions, e.g., sampling adequacy and intercorrelation among variables, were assessed. A principal axis factoring (PAF) was run utilizing Promax oblique rotation. PAF was used in this study due to its function in obtaining the underlying factors. The nature and number of these factors were exacted due to participants' responses (Hatcher, 1994). Oblique rotation was applied because of the theoretical factor correlation expectation. A total number of factors was defined using parallel analysis and scree plot. Each factor was retained when the eigenvalues is higher than one (Kaiser, 1960). The significance of a loading, according to Stevens (2002), gives little indication of the substantive importance of a variable to a factor. In that respect, items were retained only if they displayed factor loadings greater than 0.4 in absolute value (which explains around 16% of the variance in the variable). We considered the one-dimensional factor of creative ideation due to empirical suggestion regarding a lack of theoretical support made by Runco et al. (2001). Thus, EFA was not performed on RIBS. Cronbach's alpha (α) was calculated separately for each scale and subscale to check the reliability of measure scales.

Factor scores of lifestyle and creative ideation were obtained to use for further correlation and regression analysis. Finally, hierarchical regression analysis (sequential regression) was undertaken to answer research question two. Hierarchical regression has offered researchers initially partial out a set of controlled variables variance before examining the contribution of major predictors (Denis, 2020). Diagnostic tests, such as discrepancy, leverage, and influence case, and assumptions, such as normality, multicollinearity, homoscedasticity, and error independence, were conducted before doing a regression analysis to ensure that the regression model fitted the data.

3. Results

3.1. Preliminary and Exploratory Factor Analysis

Data screening exhibited no missing values. The all-item skewness value varied between .53 and -1.23, whereas the kurtosis value ranged from .40 to -1.32. Based on Hahs-Vaughn & Lomax (2013), skewness and kurtosis values less than 1.5 demonstrated normal distribution. Thus, missing data and normality assumptions caused no concerns toward the analysis. In order to test the multicollinearity assumption, Pearson's correlation coefficient among all items was run. All-item correlation value ranging from -.04 to .72 was less than .80. Therefore, multicollinearity also did not exist in the analysis. Regarding lifestyle EFA, the Kaiser-Meyer-Olkin measure (KMO) confirmed that the sample was adequate for performing the analysis. The overall KMO value equaled .89, and each item's KMO value was greater than .71, which is higher than the sufficient value of .5. Further, Bartlett's test of sphericity, $\chi^2(435) = 3290.04$, $p < .001$, demonstrated that all-item correlation was sufficiently abundant for PAF. Parallel analysis and scree plot proposed a five-factor solution that is most appropriate. However, five items (OP01, OP02, OP07, OP08, and OP09), e.g., businesses should expect profit and benefit society, were omitted from the lifestyle scale because of their cut-off point cross-loading values. Loaded values of all-item in each factor were higher than .4. The final five factors represented 53% variance.

As shown in table 3, Factor 1 is comprised of 5 items. They are all related to family activities; thus, this factor was labeled as a "family-oriented lifestyle: FOLS." Factor 2 held six items, e.g., "I am interested in providing assistance to communities or charity organizations." Hence, it was labeled as "community consciousness lifestyle: CCLS." Factor 3 incorporated six items, e.g., "I shop for brand products based on popular trends." Therefore, it was labeled as "modern lifestyle: MOLS." Factor 4 consisted of five items, e.g., "I am interested in

minding all family members' problems." As a result, it was labeled as "family concern lifestyle: FCLS." Factor 5 had three items, e.g., "I participate in religious activities." Consequently, it is labeled as "traditional lifestyle: TDLS." The subscale Cronbach's alpha values for family-oriented lifestyle, community consciousness lifestyle, modern lifestyle, family concern lifestyle, and traditional lifestyle respectively were .88, .84, .77, .83, and .77.

Table 3. Summary of EFA results for lifestyle (N = 233)

Item	FOLS	CCLS	MOLS	FCLS	TDLS
(OP) Family is the most important thing	.92	-.14	-.11	.02	.02
(OP) Relaxing on holidays, a person should spend more time on family rather than anything else	.77	.03	-.03	.09	-.04
(OP) People should help disadvantaged person every time they have a chance	.77	.21	.02	-.23	-.02
(OP) Spending free time on holidays with family is considered as the best activity	.70	-.03	-.07	.21	.02
(OP) People should enjoy life and fill it with happiness whenever possible	.68	-.01	.18	-.04	.01
(IN) Supplying the help to communities or charity organizations	-.06	.77	-.06	.03	.13
(IN) Ecotourism and conservation tourism which supplying benefit to communities or charity organizations	-.05	.74	-.04	.03	.12
(IN) Social or environmental problems	.15	.73	-.09	-.09	-.03
(IN) Biography of important person	-.02	.66	.05	.04	-.12
(IN) Learning religious doctrine and put it into practice	.02	.57	-.02	-.03	.15
(IN) Exhibition of history, art, and culture	-.01	.55	.16	.17	-.19
(AC) Visiting entertainment places, e.g., movie theatre, concerts, or nightclubs	.05	-.02	.75	-.01	-.06
(AC) Shopping for brand products based on popular trends	.00	.00	.73	-.03	-.02
(AC) Eating outdoor or socializing after work	-.09	-.06	.66	.07	.03
(AC) Buying the latest model of technological products, e.g., smart phone, notebook, and camera	.05	.01	.65	-.11	-.07
(AC) Recommending or persuading friends to go to new-opening entertaining places	-.14	.11	.62	-.03	.08
(AC) Traveling domestically on holidays	.13	-.06	.49	.09	.07
(IN) Thinking about or finding the activities to do with the family on holidays	-.11	.01	-.01	.91	-.05
(IN) Daily necessities and food for all family members which must have at home all the time	-.06	.11	.00	.81	-.07
(IN) Minding all family members' problems	.24	.01	-.17	.69	-.09
(IN) Saving money and keeping financial stability	.05	.16	.02	.51	.09
(AC) Activities with family members on holidays, e.g., doing sports, shopping, playing game etc.	.13	-.11	.12	.41	.14
(AC) Taking part in religious activities	-.06	.05	-.08	-.08	.89
(AC) Taking part in traditional activities on important days	.05	.01	.02	-.11	.85
(AC) Paying a visit to relatives on important days or festival holidays	.01	.00	.06	.13	.51
Eigenvalues	3.22	3.00	2.64	2.63	1.88
% of variance	13	12	11	11	.08
Cronbach's α	.88	.84	.77	.83	.77

Note(s): AC = I do, OP = In my opinion, IN = I am interested in, FOLS = Family-Oriented Lifestyle, CCLS = Community Consciousness Lifestyle, MOLS = Modern Lifestyle, FCLS = Family Concern Lifestyle, TDLS = Traditional Lifestyle, Factor loadings over .40 appear in bold.

3.2. Hierarchical Regression Analysis

Two regression models, one with control variables and one with five lifestyles after controlling for students' gender and age with creative ideation as the outcome, were assessed. A total of seven predictors, two from demographics as control variables (gender and age) and five from lifestyle (family-oriented, community consciousness, modern, family concern, and traditional lifestyle), were loaded into the two models using the Enter method. Diagnostics for both models noted no concerns with influential cases (Cook's values < 1), and

assumption testing found no concerns normality (a Shapiro-Wilk normality test; $w = .99, p = .17$), homoskedasticity (Breusch-Pagan test; $BP(7) = .10, p = 0.18$), and independence of the error (the Durbin-Watson statistic value = 1.16). The values lower than one or higher than three caused concerns, it should be close to 2 (Field et al., 2012). The variance inflation factor (VIF) was also investigated to test the model's multicollinearity assumption. Field et al. (2012) suggested that VIF values higher than 10 presented a violation of assumption and caused concerns. Table 4 shows the VIF values of each independent variable. Thus, multicollinearity has not violated the model.

Table 4: The Mean, Standard Deviations, and Correlation Among All Constructs

	1	2	3	4	5	6	Mean	SD	skewness	kurtosis	VIF
1. FOLS							4.03	1.08	-1.18	.57	1.86
2. CCLS	.38***						3.09	1.13	-.16	-.97	1.52
3. MOLS	.24***	.18**					2.73	.72	.30	-.43	1.42
4. FCLS	.60***	.50***	.44***				3.64	1.02	-.75	-.24	2.90
5. TDLS	.24***	.30***	.33***	.43***			3.19	.82	.18	-.65	1.38
6. CI	.27***	.39***	.41***	.30***	.20**		3.14	.71	.06	-.18	-

Notes: FOLS = Family-Oriented Lifestyle; CCLS = Community Consciousness Lifestyle; MOLS = Modern Lifestyle; FCLS = Family Concern Lifestyle; TDLS = Traditional Lifestyle; CI = Creative Ideation; VIF: variance inflation factor, *** $p < .001$; ** $p < .01$.

Based on Table 5, regression model 1 showed the effects of the control variables, gender and age represented as dummy variables, on creative ideation, adding unique variance ($R^2 = .061, R^2_{Adj} = .053, p < .001$). For the regression model 2 predicting students' creative ideation, 31% of the sample outcome variance ($R^2 = .316, R^2_{Adj} = .295, p < .001$) was accounted for, was found to significantly predict the outcome, $F(7, 231) = 15.27, p < .001$ after controlling for gender represented as dummy variable and age. Two of the lifestyle predictor variables significantly contributed to the model. Community consciousness lifestyle ($\beta = .37, t = 5.17, p < .001$) and modern lifestyle ($\beta = .41, t = 5.90, p < .001$) had significant and positive influence on creative ideation. Three other lifestyle predictor variables, family concern ($\beta = -.16, t = -1.67, p = .09$), family-oriented ($\beta = .12, t = 1.57, p = .12$) and traditional lifestyle ($\beta = -.03, t = -.46, p = .64$) did not significantly contribute to the model.

Table 5. Hierarchical Regression Analysis

Predictors	Outcome: Creative Ideation					
	Model 1			Model 2		
	β	t	p	β	t	p
Control variables						
Gender	-.18	-1.32	.18	-.08	-.71	.48
Age	.16	3.63	.000***	.11	2.99	.003**
Lifestyle						
FOLS				.12	1.57	.12
CCLS				.37	5.17	.000***
MOLS				.41	5.90	.000***
FCLS				-.16	-1.67	.09
TDLS				-.03	-.46	.64

Note(s): Gender was coded 1 = female, 2 = male; FOLS = Family-Oriented Lifestyle; CCLS = Community Consciousness Lifestyle; MOLS = Modern Lifestyle; FCLS = Family Concern Lifestyle; TDLS = Traditional Lifestyle; Model 1, $R^2 = .061, Adj. R^2 = .053, p < .001$. Model 2, $R^2 = .316, Adj. R^2 = .295, p < .001$. *** $p < .001$; ** $p < .01$.

4. Conclusion and Discussion

The results of the exploratory factor showed that five main lifestyle dimensions existed among undergraduate students in Thailand, which were considered moderately intercorrelated with each other. The first dimension, family-oriented, demonstrated a lifestyle that gives priority to the family. In a collectivist culture, mostly in Asia, collectivism emphasizes family over the individual (Lyu et al., 2017). The second dimension, community consciousness, demonstrated a lifestyle that raises awareness of local inheritance, including natural and cultural. This consciousness led to the conservation movement and broadened its perspective and knowledge through learning among people in the community (Murphy, 1988). The third dimension, modern lifestyle,

demonstrates a lifestyle that values the pursuit of pleasant excitement and trying something new. Fariza Md et al. (2015) indicated that the new generation is closely involved with information technology and desires the modern, novel, and the experiences such as an adventure. Typically, the modern lifestyle was most practiced by adolescents. The fourth dimension, family concern, demonstrated a lifestyle that values caring about family and close friends and providing them with both practical and emotional needs. A point to notice is that female participants in the current study were more than males due to the Thai population and feminine culture. Fakhruddin (2016) demonstrated that in Thailand, "Women are a particularly good resource in mobilizing their peers, caring for family members with special needs, organizing food preparation and distribution, and knowledge of household needs in the community" (p. 662).

The final dimension, traditional lifestyle, demonstrates a lifestyle that values following the cultural or religious traditions. The traditional life, individuals live their life "based on the historical experience of indigenous people and their ancestors in the sphere of land and natural resources use, a traditional social organization of their communities, unique ancient culture, continuous practice of the traditions, religions and beliefs" (Xanthaki, 2004, as cited in Åhsberg, 2020, p. 2). Schwartz (2012) suggested that as youth move from late adolescence to early adulthood, their development patterns in value priorities affecting lifestyle were also changed. These findings illustrated the different lifestyle dimensions from the studies of O'Phelan and Louise (1977); Thorne (1975) and Kern (1982) perceived lifestyle based on Adler's lifestyle theory (Adler, 1956).

According to the literature review cited above, there are few research that look into the relationship between undergraduate students' lifestyle and their creative ideation. The current study's findings filled in the gaps, indicating a positive relationship between lifestyle dimensions and creative ideation in higher education (see Table 4). The results demonstrated that a community consciousness lifestyle positively affected creative ideation in the university context. The current finding may be explained by Schwartz's value theory. It is likely that the community consciousness lifestyle endorsed universalism value. According to Kasof et al. (2007), universalism values are positively correlated with creative performance. It has also been found that the modern lifestyle has a positive influence on creative ideation. This finding suggested that students who have lifestyle endorsed travelling, shopping for technological or trend products, and try something new, were likely to generate more ideas. Students who possess these lifestyles construct perceptions of value in self-direction and stimulation. This result concurred with the study of Tep, Maneewan, Chuathong, et al. (2021), who conducted a study regarding the relationship between value, creative self-efficacy, and creative ideation. The authors found that stimulation value significantly affected creative ideation. This finding was consistent with Dollinger et al. (2007), Kasof et al. (2007), and Taylor and Kaufman (2020). Their research findings demonstrated a direct association between self-directed value and creativity. Schwartz's values theory plays a part in supporting the finding. It proposed that self-direction and stimulation were characterized by creativity.

However, family concern, family-oriented, and traditional lifestyles found non significantly associated with creative ideation. Using Schwartz's value theory, family concern lifestyle is likely endorsed with benevolence value, which was negatively correlated with creative accomplishments (Dollinger et al., 2007). Family-oriented was plausible endorsed benevolence and conformity values, whereas traditional lifestyle was likely to endorse tradition value. Benevolence, conformity, and traditional values were found to be negatively correlated with creativity (Dollinger et al., 2007; Kasof et al., 2007).

5. Recommendations

In this study, the results are still limited in some points. First, data collection was conducted using self-report. It was regarded as a descriptive research design, not an explanatory one. Therefore, all the results shown in this study did not present a cause-and-effect relationship between lifestyle and creative ideation in a higher education context. Future studies should consider deploying different research designs, e.g., qualitative, mix-method, or third-party observation, compared with self-rating. Second, the factor analysis of the lifestyle survey obtained five reasonable factors, but there are likely additional dimensions of lifestyles that should be considered.

This study highlighted the important implications for education. First, understanding the type of lifestyle influencing creative ideation may help educators design settings to enhance it. For example, the community consciousness and modern lifestyle likely influenced students' creative ideation. Therefore, finding

appropriate ways to design the learning environments by adapting the community consciousness and modern students' lifestyle into the classroom context or considering policies for preferences for tasks may contribute significantly to foster their creative thinking.

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The Adaptation of Adult Interpersonal Acceptance-Rejection Scale into Turkish and the Examination of its Psychometric Properties

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ABSTRACT

This study aims to adapt the Adult Interpersonal Acceptance Rejection Scale to Turkish culture and examine the validity and reliability of the Turkish version of this scale. 653 university students selected by the convenience sampling method constitute the study sample. The original factor structure of the scale was examined by confirmatory factor analysis. The results revealed that the original factor structure of the Adult Interpersonal Acceptance-Rejection Scale was confirmed in the Turkish sample. The internal consistency of the scale items was associated with the Cronbach's alpha reliability coefficient and was calculated as .908. In addition, Cronbach's alpha values were .915 for the mother acceptance sub-dimension, .909 for best friend acceptance sub-dimension, and .911 for the romantic partner acceptance sub-dimension. Correlation coefficients were calculated between the Adult Interpersonal Acceptance Rejection Scale and the Two-Dimensional Self-Esteem Scale, the Interdependent Happiness Scale, and the Life Satisfaction Scale to prove the validity of the criterion. The results showed that the sub-dimensions of the scales were significantly related. These results show that the Turkish version of the Adult Interpersonal Acceptance Rejection Scale is a valid and reliable measurement tool that can be used for research purposes to determine the levels of interpersonal acceptance and rejection of adult individuals.

Keywords:

Adult Interpersonal acceptance-rejection, validity, reliability, confirmatory factor analysis.

1. Introduction

The need to belong is universally defined as the innate need of individuals to establish and maintain permanent, positive, and meaningful interpersonal relationships at a certain level (Baumeister & Leary, 1995). For maintaining their lives, people need the presence of other people and relationships to be established with them in many aspects of life (Hendrick, 2009). All relationships with family members, romantic partners and friends are of great importance for life (Hendrick, 2009). The existence of social support, social integration, and positive interaction in social relationships is important for individuals to remain healthy in their lives (Cohen, 2004; House et al., 1988). Social relationships benefit not only mental health, but also emotional and physical health. It is stated that individuals with strong social relationships live longer and have lower mortality rates (Holt-Lunstad & Smith, 2012). Social relationships that provide love, closeness, and value influence people's psychological selves (Lansford et al., 2005). Studies have shown that people with positive social relationships also have high psychological well-being (Fitzpatrick et al., 1988; Goswami, 2012; Lucas & Dyrenforth, 2006). Social exclusion, a negative experience in social relationships, negatively affects happiness and well-being by creating a generalized expectation of rejection and non-belonging in the future (Sjåstad et al., 2021).

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On the other hand, individuals experiencing social rejection experience high levels of social distress and even physical pain (Eisenberger et al., 2006). In this context, while it is well known that research on interpersonal acceptance focuses primarily on relationships between children and their parents, it is also noted that acceptance in other close adult relationships is also very important (Rohner, 2016; Rohner & Khaleque, 2002). Examining the relationships with the perceived parent (mother), best friend, and romantic partner in different dimensions and contexts in addressing the acceptance and rejection of individuals in interpersonal relationships during adulthood seems important (Lac & Luk, 2019). Individuals have emotional needs to receive positive reactions and acceptance from the people they consider important in their lives. In the early years of life, children expect to see positive reactions and acceptance from their parents, and they need to feel parental love, care, comfort, support, and acceptance (Rohner & Khaleque, 2005). It is expressed that if important people do not meet the need for positive response, individuals tend to develop socio-emotional and cognitive problems such as aggression, addiction, lack of self-confidence, low self-efficacy, emotional unresponsiveness, and emotional instability (Rohner, 1999). Especially children feel anxious and insecure when they cannot adequately meet that need with their attachment figures (Khaleque & Rohner, 2002). In this sense, there is a relationship between perceived parental acceptance and children's psychological adjustment, and it seems to be important for the individual in whole life in all cultures (Khaleque & Rohner, 2012; Rohner, 2014).

Peer acceptance, another important point in interpersonal relations, expresses how individuals are accepted or rejected by their peer groups (Slaughter et al., 2002). Social scientists have been considering positive peer relationships and acceptance among peers as important developmental achievements for a long time (Mostow et al., 2002). It is observed that popular (accepted) individuals have a high level of social-cognitive functionality and exhibit higher levels of social behavior compared to rejected individuals (Dekovic & Gerris, 1994) and have high self-esteem (Bishop & Inderbitzen, 1995). Peer acceptance-rejection experiences in childhood cause some effects in adolescence and adulthood (Hymel et al., 2002). Various studies have revealed that low peer acceptance in childhood and adolescence predicts individuals' maladjustment and psychopathological patterns in adulthood (Bagwell et al., 1998; Parker & Asher, 1987). It is expressed that exposure to peer rejection at an early age is related to internalizing problems (loneliness, low self-esteem, and depression), academic difficulties, and externalizing problems (aggression, guilt, acting out behaviors) (McDougall et al., 2001). In addition to positive peer relationships, attachment to a best (close) friend is found to be associated with psychological health and adjustment (Doyle et al., 2009; Weimer et al., 2004; Wilkinson, 2010) and quality of life is high for individuals who have positive communication with their best friend (Marsa-Sambola et al., 2017).

Another dimension of acceptance in interpersonal relationships is the experiences of acceptance and rejection in romantic relationships (Lac & Luk, 2019). Romantic acceptance and rejection are powerful clues that affect adults' emotional state, well-being, and reproductive success (Hsu et al., 2020). Romantic rejection is one of the most stressful life events in adults compared to chronic stress and failures, which are more strongly associated with distinct depressive symptom patterns (eg., loss of appetite, guilt), and other symptoms (fatigue, hypersomnia) (Keller et al., 2007). It is stated that close and romantic ties that include positive evaluations can provide individuals with a strong self-affirmation tool (Murray et al., 2001). Partner acceptance is a factor that increases relationship satisfaction in both partners of a romantic couple (Kappen et al., 2018). It is expressed that individuals with a high need for approval in a romantic relationship have high self-esteem and relationship satisfaction (Cramer, 2003). At this point, being accepted by the partner in a romantic relationship seems to be related to positive characteristics.

Scales evaluating acceptance and rejection in two or more relationship categories are on a quite limited level. In the literature, there are various scales that can be related to the assessment of interpersonal acceptance and rejection, such as Adult Parental Acceptance Rejection Scale (Rohner, 2005a), Parental Attachment Scale (Parker, Tupling & Brown, 1979), Parent and Peer Attachment Inventory (Armsden & Greenberg, 1987), Intimate Bond Scale (Wilhelm & Parker, 1988), Partner Behavior Inventory (Doss & Christensen, 2006), Attachment to Parents and Friends Inventory Short Form (Günaydın et al., 2005) and Teacher Acceptance-Rejection/Control Questionnaire (Rohner, 2005b). The scales in the literature generally focus on a kind of close relationship acceptance and those scales mostly include parental acceptance. In the Turkish literature, it is seen that no research has examined interpersonal acceptance in adulthood among mothers, close friends, and

romantic partners at the same time. Thus, this research aims to adapt the Adult Interpersonal Acceptance-Rejection Scale, which examines mother, best friend, and romantic partner acceptance together, to Turkish culture and examine the psychometric properties of the scale developed by Lac and Luk (2019).

2. Methodology

2.1. Research Sample

The research sample included 653 university students who voluntarily participated in the study and were selected using the convenience sampling method. Analyses were conducted with different participants at each step, as the adaptation phases of the scale included different steps. Accordingly, the study group consists of participants in four different groups. The first group consists of 42 university students who speak English. Data for linguistic equivalence of the Adult Interpersonal Acceptance-Rejection Scale were collected from this first group.

The second group consists of 566 university students from two different universities in two different metropolitan cities of Turkey. Data collected from the second group were used for the construct validity of the Adult Interpersonal Acceptance-Rejection Scale. As a result of the evaluation of the data collected at the beginning, it was determined that the data of 59 students were missing, inaccurate, damaged the normality of the data, and removed from the data set. So, the final size of the data set decreased to 507. Of the total 507 participants, 269 (53.1%) were female, and 238 (46.9%) were male. The ages of the participants ranged from 18 to 37, with a mean age of 21.05 and a standard deviation of 2.218. Also, the third group of participants was included in the study for criterion-related validity. There were 62 university students in that group. Finally, the test-retest reliability was examined with the data collected from the fourth group of 42 students. Data were collected two weeks apart from the fourth group of participants.

2.2. Process

For the Adult Interpersonal Acceptance-Rejection Scale adaptation study into Turkish, the authors who developed the scale were contacted via e-mail, and necessary permissions were obtained. In adapting the scale to Turkish, a 5-stage model suggested by Brislin et al. (1973) includes the steps of "translating into the target language, evaluating the translation, translating back to the original language, evaluating the back-translation and getting expert opinion" was followed. The 24-item English form of the scale was sent to 10 experts (one English Teacher, one an expert in English translation and interpreting, one psychologist, and seven psychological counsellors) in the field and they were asked to translate it into Turkish. All the experts, two of whom are particularly familiar with the English language and culture, conduct various scientific researches in their fields and have experience in working with different cultures.. During the adaptation process, the experts were informed about the psychological structure of the items they were asked to translate, what the concepts meant, and what features it was a scale to measure. Then translations were compared, and a common Turkish form was decided. Back-translation from Turkish to English was carried out by four experts, apart from the ten experts at the beginning. After examining the Turkish and English forms, the final version of the scale was decided, and applications were started.

During the application process, the English and Turkish forms of the Adult Interpersonal Acceptance-Rejection Scale were first applied to the language group consisting of 42 students, with an interval of 3 weeks, and the results regarding linguistic equivalence were obtained. Then, Confirmatory Factor Analysis (CFA) was conducted to examine the construct validity of the Turkish version of the Adult Interpersonal Acceptance-Rejection Scale. To determine the criterion validity of the scale, the Adult Interpersonal Acceptance and Rejection Scale was applied along with the Two-Dimensional Self-Esteem Scale, the Dependent Happiness Scale, and the Life Satisfaction Scale to 62 undergraduates, and the correlation values between the scores obtained from the subdimensions of the four scales were examined. To investigate the reliability of the scale, the Turkish form of the scale was applied to 42 students at 2-week intervals, and Cronbach's alpha values and test-retest reliability coefficients were calculated.

2.3. Data Collection Tools

Adult Interpersonal Acceptance-Rejection Scale: This scale was developed by Lac and Luk (2019). It assesses perceived social acceptance by three important types of close relationships in adulthood. The scale consists of

24 items in a 6-point Likert type. The scale has three sub-dimensions: mother, best friend, and romantic partner. The fit indices of the scale's construct validity ($\chi^2=742.75$, $sd=249$, CFI= .96, NNFI= .95, RMSEA= .069) are at an acceptable level. Cronbach Alpha values for the sub-dimensions of the scale were calculated as .97 for mother acceptance, .96 for best friend acceptance, and .97 for romantic partner acceptance, respectively. As a result of the CFA performed during the adaptation process, which is the main purpose of this study, it was discovered that the fit indices ($\chi^2/df= 3.35$, RMSEA= .068, CFI= .920, TLI= .911, SRMR= .042) were at an acceptable level. Also, in the current study, the Cronbach Alpha internal consistency reliability coefficient of the scale was calculated as .915 for the mother acceptance dimension, .909 for the best friend acceptance dimension, .911 for the romantic partner acceptance dimension and .908 for the whole scale.

Two-Dimensional Self-Esteem Scale: Developed by Tafarodi and Swan (2001) the scale was adapted to Turkish culture by Doğan (2011). The scale consists of 16 items in a 5-point Likert type and has two sub-dimensions called self-love and self-efficacy. Fit indices of the scale's construct validity ($\chi^2=258.93$, $sd=98$, CFI= .97, NFI= .95, RMSEA= .049, RMR= .049, AGFI= .91, IFI= .97, GFI= .94) are at an acceptable level. As a result of the analyses performed for the scale's reliability, the Cronbach Alpha internal consistency reliability coefficient was found to be .83 for the self-love sub-dimension and .74 for the self-efficacy sub-dimension. The test-retest reliability coefficient was calculated as .72 for the self-love and self-efficacy dimensions. In the current study, the Cronbach Alpha internal consistency reliability coefficient was calculated as .87 for the self-love sub-dimension and .73 for the self-efficacy sub-dimension.

Interdependent Happiness Scale: Developed by Hitokoto and Uchida (2015) the scale was adapted into Turkish by Ekşi et al. (2018). The scale, which was developed to determine how people perceive their environment and how their environment evaluates them, consists of 9 items prepared in a 5-point Likert type. Item-total test correlations were found to be over .30. The internal consistency reliability coefficient of the scale was calculated as .82. In the current study, the Cronbach Alpha internal consistency reliability coefficient of the scale was calculated as .74.

Life Satisfaction Scale: Developed by Diener et al. (1985) to measure the life satisfaction of individuals, the scale was adapted into Turkish by Köker (1991). The scale consists of 5 items prepared in a 7-point Likert type. The Cronbach Alpha internal consistency reliability coefficient of the scale was found to be .76, and the test-retest reliability coefficient was found to be .85. In the current study, the Cronbach Alpha internal consistency reliability coefficient of the scale was calculated as .84.

2.4. Data analysis

To determine the construct validity of the scale, it was first examined whether the factor loads and sub-dimensions in the study in which it was developed were similar to the scale we adapted. For this purpose, Exploratory Factor Analysis (EFA) was performed. Confirmatory Factor Analysis (CFA) was conducted to examine the construct validity of the Adult Interpersonal Acceptance-Rejection Scale. CFA is an analysis that examines whether the measurement tool created based on a predetermined theoretical structure, based on testing theories about latent variables, is confirmed by the data obtained (Kline, 2016; Tabachnick & Fidell, 2013). Accordingly, CFA was preferred during the Adult Interpersonal Acceptance-Rejection Scale adaptation process into Turkish. Mplus 7.3 program was used to perform DFA. Comparative Fit Index (CFI), Chi-Square Goodness Test, Tucker-Lewis Index (TLI), the Root Mean Square Errors of Approximate (RMSEA), and Standardized Root Mean Square Residual (SRMR) were used to determine the goodness of fit of the model tested in confirmatory factor analysis. Acceptable fit values were considered as <5 for χ^2/sd , .08 for RMSEA, .010 for SRMR, .90 for CFI and TLI indices (Kline, 2016; Sümer, 2000; Tabachnick & Fidell, 2001). For linguistic equivalence, paired-sample t-test and Pearson product-moment correlation analysis were performed; for criterion validity, Pearson correlation analysis was performed; for discriminant validity, average variance extracted (AVE) was performed; and for reliability, Cronbach's alpha reliability coefficient, composite reliability (CR), item analysis, paired-sample t-test, and Pearson correlation analysis were performed. Those analyzes were carried out using the SPSS 23 Package Program.

2.5. Ethical

Ethical approvals and permissions required to carry out this study were obtained by Fatih Sultan Mehmet Vakıf University Research and Publication Ethics Committee (Approval date and number: 18.11.2020 and

protocol number 02/12/2020-45). Confidentiality principles were followed in data collection and data analysis processes. The privacy of all participants was protected. This research was conducted in line with research ethics and publication principles. There is no conflict of interest between the authors.

3. Findings

3.1. Findings Regarding Linguistic Equivalence

Applications regarding the linguistic equivalence of the Adult Interpersonal Acceptance-Rejection Scale were carried out with 42 English Language Teaching students who are fluent in both Turkish and English. First, the English form of the scale was applied to the students, and then the Turkish form of the scale was applied to the same students 3 weeks later. During the application, feedback was received from the participants about whether the items were understandable or not. It was stated that the items in the scale were clear and understandable, and all participants answered the items in about 10-15 minutes. Paired Sample t-test was used to examine whether there was a significant difference between the sub-dimensions of the scale, and Pearson correlation analyzes were performed to determine the relationships between the scores of the sub-dimensions. The results of the statistical analyzes of linguistic equivalence are presented in Table 1.

Table 1. Findings to Determine Linguistic Equivalence

Sub-Dimensions	Practice	\bar{x}	SD	t	df	p	r
Mother Acceptance	Turkish Form	39.0238	7.59489	-.747	41	.460	.895*
	English Form	39.4286	7.73066				
Best Friend Acceptance	Turkish Form	41.9524	5.22635	-1.507	41	.139	.485*
	English Form	43.1429	4.84175				
Romantic Partner Acceptance	Turkish Form	42.5238	6.26737	-.664	41	.511	.575*
	English Form	43.5476	12.19197				

* $p < .001$

Table 1 shows the Paired Sample t-test and Pearson correlation results between the sub-dimensions of the Turkish and English forms of the scale applied at 3-week intervals. According to the results, in the mother acceptance dimension ($t = -.747$; $p > .05$), best friend acceptance dimension ($t = -1.507$; $p > .05$), and romantic partner acceptance dimension ($t = -.664$; $p > .05$), it was determined that the mean score of the Turkish and English forms of the scale did not differ significantly. Between Turkish and English forms of mother acceptance dimension ($r = .895$; $p < .001$), between Turkish and English forms of best friend acceptance dimension ($r = .485$; $p < .001$), and between Turkish and English forms of romantic partner acceptance dimension ($r = .575$; $p < .001$) a significant positive relationship was determined. According to the findings obtained, it can be said that the scale gives similar results in both languages and has linguistic equivalence.

3.2. Findings Regarding the Construct Validity

To determine the construct validity of the scale, it was first examined whether the factor loads and sub-dimensions in the study in which it was developed were similar to the scale we adapted. For this purpose, Exploratory Factor Analysis (EFA) was performed. Then, whether the scale items were appropriate in Turkish culture was examined by Confirmatory Factor Analysis (CFA). Before starting the analysis, the appropriateness of the number of EFA data to the factor analysis was tested with the Kaiser-Meyer-Olkin (KMO) sampling adequacy criterion. The KMO coefficient because of the analysis was found to be .92 (Table 2). For the data set to be suitable for factor analysis, the KMO value should be above .50 and KMO values above .90 indicate a perfect fit (Çokluk et al., 2018).

Table 2. Kaiser-Meyer-Olkin and Bartlett's Values

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.916
Bartlett's Test of Sphericity	Approx. Chi-Square (χ^2)	7452.936
	df	276
	Sig. (p)	.000

Table 2 shows that Bartlett's sphericity test was performed for 507 data and the result was $p < .001$. This result means that the data come from a multivariate normal distribution and another assumption is met to perform the factor analysis (Çokluk et al., 2018).

An EFA was conducted to determine how many subdimensions the scale was divided into, the construct validity of the items, and the factor loadings of the items. The factor loading scores of the adult interpersonal acceptance and rejection scale are shown in Table 3.

Table 3. EFA Results for the Turkish Version of the Adult Interpersonal Acceptance-Rejection Scale

Item Number	Factor Loadings		
	Factor 1 Mother Acceptance	Factor 2 Best Friend Acceptance	Factor 3 Romantic Partner Acceptance
Item 1	.843		
Item 2	.802		
Item 3	.779		
Item 4	.787		
Item 5	.791		
Item 6	.678		
Item 7	.807		
Item 8	.776		
Item 9		.788	
Item 10		.782	
Item 11		.769	
Item 12		.821	
Item 13		.726	
Item 14		.686	
Item 15		.756	
Item 16		.767	
Item 17			.776
Item 18			.786
Item 19			.750
Item 20			.776
Item 21			.733
Item 22			.701
Item 23			.818
Item 24			.809

Table 3 shows a three-factor structure in the Turkish version of the Adult Interpersonal Acceptance-Rejection Scale, just like the original form. The distribution of the items to the factors also overlaps to the original form of the scale. The first factor includes 8 items and explains 33.03% of the total variance. The factor loadings of the items in this dimension range from .67 to .84. The second factor includes 8 items and contributes 12.57% to the explained variance. The factor loadings of the items in this dimension vary between .68 and .82. The third factor comprises 8 items and contributes 16.99% to the explained variance. The factor loadings of the items in this dimension vary between .70 and .82. It can be seen that the scale for interpersonal acceptance and rejection in adults explains 62.59% of the total variance. The scale consists of a total of 24 items and 3 sub-dimensions. The scale items can obtain the lowest 1 and the highest 6 points. Considering the descriptive statistics of the scale items; the mean of the scale items ranged from 4.82 to 5.35, and the standard deviation values ranged from .814 to 1.232. Skewness and kurtosis values are between -1.5 and +1.5. When the skewness and kurtosis values are examined, it is seen that normality, which is one of the CFA assumptions, is provided. Before CFA, we checked for outliers and started the analyzes in this way. Another assumption is that the sample size is sufficient and this study consists of 507 data. These data also meet the assumption that the sample size should be at least 10 times the number of parameters. In order to examine the validity of the original structure of the Adult Interpersonal Acceptance-Rejection Scale in Turkish culture, CFA was conducted. In the original form, there are 8 items in the mother acceptance (1, 2, 3, 4, 5, 6, 7, 8) dimension, 8 items in the best friend (9, 10, 11, 12, 13, 14, 15, 16) acceptance dimension, and 8 items in the romantic partner (17, 18, 19, 20, 21, 22, 23, 24) acceptance dimension. As a result of the CFA performed on the Turkish version of the 24-item 3-dimensional measurement model in the original form, the model fit indices (Model value $\chi^2/df= 3.35$, RMSEA= .068, CFI=

.920, TLI= .911, SRMR= .042) were found to be at an acceptable level. The model fit indices obtained according to the confirmatory factor analysis results are given in Table 4.

Table 4. Fit Indices and Threshold Values Used in Confirmatory Factor Analysis

Fit Indices	Model Fit	Good Fit	Acceptable Fit
χ^2/df	3.35	$0 \leq \chi^2/df \leq 2$	$2 \leq \chi^2/df \leq 5$
CFI	.920	$0.95 \leq CFI \leq 1.00$	$0.90 \leq CFI \leq 0.95$
RMSEA	.068	$0 \leq RMSEA \leq 0.05$	$0.05 \leq RMSEA \leq 0.08$
TLI	.911	$0.95 \leq TLI \leq 1.00$	$0.90 \leq TLI \leq 0.95$
SRMR	.042	$0 \leq SRMR \leq 0.05$	$0.05 < SRMR \leq 0.10$

As seen in Table 4, as a result of Confirmatory Factor Analysis (CFA), fit indices (Model value $\chi^2/df= 3.35$, RMSEA= .068, CFI= .920, TLI= .911, SRMR= .042) were found to be at an acceptable level (Hu & Bentler, 1999; Marsh et al., 2006; Schermelleh-Engel et al., 2003; Sümer, 2000; Tabachnick & Fidell, 2001).

The three-dimensional factor structure of the scale in the Turkish sample and the factor loadings of the items are given in Figure 1.

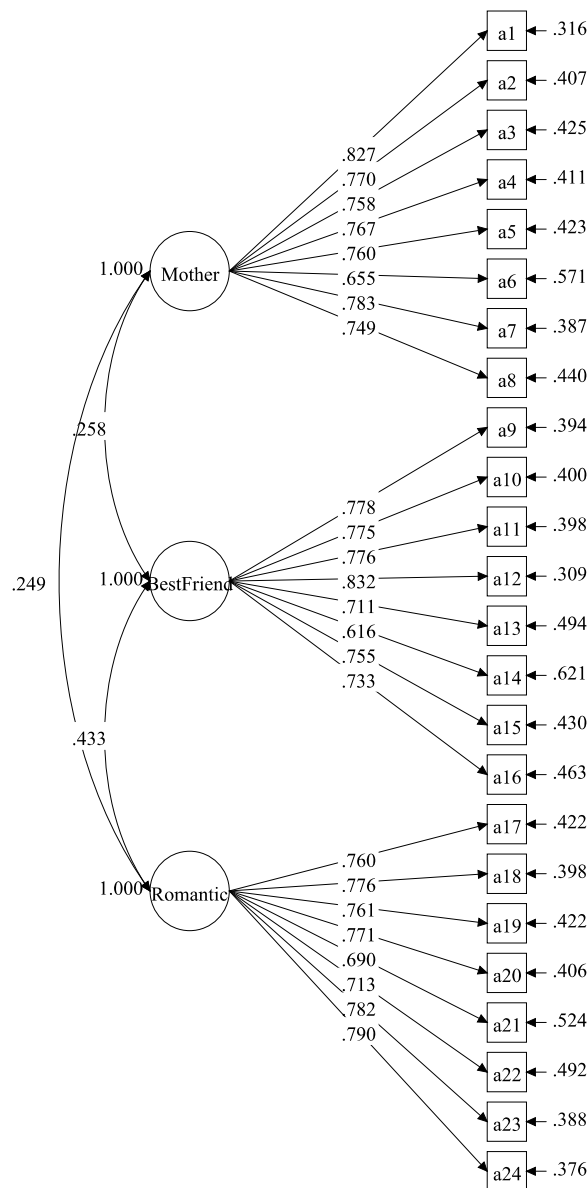


Figure 1. Path Diagram of Adult Interpersonal Acceptance-Rejection Scale and Factor Loadings
(Mother: Mother acceptance, BestFriend: Best friend acceptance, Romantic: Romantic partner acceptance)

As seen in Figure 1, the factor loads vary between .655 and .827 in the mother acceptance dimension. They vary between .616 and .832 in the best friend acceptance dimension and vary between .690 and .790 in the

romantic partner acceptance dimension. All factor loadings proved to be significant at the level of $p < .001$. These results show that each item is sufficiently loaded by the subdimension to which it belongs. In a general evaluation, it can be said that the model was confirmed and the original version of the Adult Interpersonal Acceptance and Rejection Scale was valid for the Turkish version as well.

3.3. Findings Regarding Criterion Validity

To examine the criterion validity of the Adult Interpersonal Acceptance-Rejection Scale, the two-dimensional Self-Esteem Scale, Interdependent Happiness Scale, and Life Satisfaction Scale were applied to 62 students. Pearson product-moment correlation analysis was performed to examine the relationships between the scores of the four scales and the subdimensions. The statistical results for criterion validity can be found in Table 5.

Table 5. Relationships Between Scales

	Two-dimensional Self-Esteem Scale		Interdependent Happiness Scale	Life Satisfaction Scale
	Self-Liking	Self-Competence		
Mother Acceptance	.38**	.29***	.40**	.39*
Best Friend Acceptance	.10	.18	.33**	.22
Romantic Partner Acceptance	.08	.03	.35**	.27***

* $p < .001$ ** $p < .01$ *** $p < .05$

According to the findings in Table 5, the mother acceptance dimension was found to be statistically and moderately correlated with interdependent happiness ($r = .40, p < .01$) and life satisfaction ($r = .39, p < .001$), as well as self-liking ($r = .38, p < .01$) and self-competence ($r = .29, p < .05$) sub-dimensions of the two-dimensional self-esteem scale. While there was a positive significant relationship between the best friend acceptance dimension and the interdependent happiness scale ($r = .33, p < .01$), it was concluded that there was also a positive significant relationship between the romantic partner acceptance dimension and interdependent happiness ($r = .35, p < .01$) and life satisfaction ($r = .27, p < .05$). There was no significant relationship between other dimensions. These results show that the criterion validity of the scale was provided.

3.4. Findings Regarding the Reliability

For the scale's reliability, item analysis was carried out in the first stage. Item analysis was performed to determine the predictive power and distinctiveness of the scale items to the total score of the scale. Corrected item-total score correlations of items in the sub-dimensions of the scale; It ranges from .62 to .78 for mother acceptance, .59 to .78 for best friend acceptance, and .66 to .75 for romantic partner acceptance. The item analysis is presented in table 6.

Table 6. Item Analysis

Sub-dimension	Item No	X	SD	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Mother Acceptance	Item 1	5.17	.991	.786	.898
	Item 2	5.11	.988	.734	.902
	Item 3	5.17	.998	.715	.904
	Item 4	5.18	.949	.734	.903
	Item 5	4.88	1.135	.721	.904
	Item 6	5.31	.908	.623	.911
	Item 7	4.92	1.194	.746	.902
	Item 8	5.07	1.027	.715	.904
Best Friend Acceptance	Item 9	5.35	.836	.722	.896
	Item 10	5.26	.838	.728	.896
	Item 11	5.27	.895	.724	.896
	Item 12	5.35	.814	.781	.891
	Item 13	5.34	.841	.674	.900
	Item 14	5.30	.918	.598	.907
	Item 15	5.27	.897	.725	.896
	Item 16	5.30	.861	.713	.897
	Item 17	5.06	1.010	.722	.898
	Item 18	5.18	.973	.733	.897

	Item 19	5.29	.941	.711	.899
	Item 20	5.33	.863	.725	.899
Romantic Partner Acceptance	Item 21	4.86	1.190	.660	.905
	Item 22	5.25	.949	.671	.903
	Item 23	4.82	1.232	.757	.896
	Item 24	5.13	.962	.755	.896

Table 6 show that item analysis results. This result the corrected item-total score correlation coefficients of the scale vary between .59 and .78. Suppose the item-total score correlation coefficients are positive .30 or above. In that case, it indicates that the items in the scale distinguish individuals well, exemplify similar behaviors, and the internal consistency of the scale is high (Büyüköztürk, 2020). Considering this criterion, it can be stated that the item discrimination of the Adult Interpersonal Acceptance-Rejection Scale is quite high.

Cronbach alpha reliability coefficients and test-retest reliability coefficients were calculated for the reliability sub-dimensions of the Adult Interpersonal Acceptance-Rejection Scale. The findings are presented in Table 7 and Table 8. In addition, the composite reliability (CR) value for the construct reliability and the average variance extracted (AVE) value were calculated for the discriminant validity. CR and AVE results are presented in Table 7.

Table 7. Internal Consistency Reliability, CR and AVE Values

Sub-dimensions	Item Number	Cronbach α	CR	AVE
Mother Acceptance	8	.915	.915	.577
Best Friend Acceptance	8	.909	.910	.561
Romantic Partner Acceptance	8	.911	.914	.571
Total	24	.908		

When Table 7 is examined, Cronbach's alpha values were gained as .915 for the mother acceptance dimension, .909 for the best friend acceptance dimension, .911 for the romantic partner acceptance dimension and .908 for the whole scale. For the scale to be reliable at an acceptable level, the Cronbach alpha coefficient should be .70 and above. In addition, when the sample is large enough, values below .70 can be tolerated because of the small number of items in some sub-dimensions (Kline, 2016). Based on these statements, it can be said that the level of .70 was provided for the whole scale and for each sub-dimension, and it has reliable values. In addition, AVE values were found above .56 and CR values above .90. A composite reliability (CR) value of ≥ 0.70 indicates that construct reliability is achieved, while an AVE value of ≥ 0.50 indicates that convergent validity is provided (Fornell ve Larcker, 1981).

For test-retest reliability, the Turkish form was applied to 42 university students at 2-week intervals. Paired Sample t-test was applied to examine if there was a significant difference between the sub-dimensions in the first and last application of the scale. Pearson Product-Moment correlation analysis was done to determine the relationships between the scores of the scores sub-dimensions. See Table 8 for the results of the analyzes.

Table 8. Test-Retest Reliability

Sub-Dimensions	Practice	\bar{x}	SD	t	df	p	r
Mother Acceptance	Pre-Test	36.6190	8.90040	-.560	41	.579	.838*
	Post Test	37.0714	9.41559				
Best Friend Acceptance	Pre-Test	41.7143	5.14798	.271	41	.787	.622*
	Post Test	41.5238	5.31100				
Romantic Partner Acceptance	Pre-Test	39.1905	6.43253	-.426	41	.673	.817*
	Post Test	39.4524	6.71439				

* $p < .001$

As seen in Table 8, the pre-test and post-test mean scores of the scale do not differ significantly in the mother acceptance dimension ($t = -.560$; $p > .05$), the closest friend acceptance dimension ($t = .271$; $p > .05$), and the romantic partner acceptance dimension ($t = -.426$; $p > .05$). It was determined that there is a positive and significant relationship between the pre-test and post-test scores in terms of the mother acceptance dimension ($r = .838$; $p < .001$), the best friend acceptance dimension ($r = .622$; $p < .001$), and the romantic partner acceptance dimension ($r = .817$; $p < .001$). According to the findings obtained, it can be said that the scale gave similar results in both applications and had reliability.

4. Discussion and Conclusion

The aim of this study is to adapt the Adult Interpersonal Acceptance-Rejection Scale into Turkish. After the backward and forward translation phase of the scale was carried out, the final version of the Turkish form was developed and the main application of the scale was started. Analysing the data obtained in the main application, it was concluded that the English and Turkish forms of the scale measure similar structures, i.e. they are linguistically equivalent. Then, in the construct validity study, Confirmatory Factor Analysis (CFA) was carried out to examine whether the original structure of the scale was confirmed by the data obtained. As a result of Confirmatory Factor Analysis (CFA), it was found that model fit indices (Model value $\chi^2/df= 3.35$, RMSEA= .068, CFI= .920, TLI= .911, SRMR= .042) were at an acceptable level and factor loads of all items were significant at the $p<.001$ level. To determine criterion validity, another component of validity, the Two-Dimensional Self-Esteem Scale, the Interdependent Happiness Scale, and the Life Satisfaction Scale, which are thought to be related to the Adult Interpersonal Acceptance Rejection Scale, were administered simultaneously to a group of 62 students. As a result of the application, it was observed that the sub-dimensions of the four scales had a positive and significant relationship and it was determined that the Adult Interpersonal Acceptance-Rejection Scale had criterion validity. Cronbach Alpha internal consistency coefficients and test-retest reliability values were calculated to determine the Adult Interpersonal Acceptance-Rejection Scale reliability. Cronbach Alpha values were calculated as .915 for the mother acceptance dimension, .909 for the best friend acceptance dimension, .911 for the romantic partner acceptance dimension, and .908 for the whole scale. For the test-retest application, the scale was applied to the same 42 students with an interval of 2 weeks. It was seen that test-retest correlation values were .838 for the mother acceptance dimension, .622 for the best friend acceptance dimension, and .817 for the romantic partner dimension. These results indicate that the scores between the applications show stability and the scale has a reliable structure. The results of all validity and reliability analyzes indicate that the Adult Interpersonal Acceptance and Rejection Scale, which measures adult levels of interpersonal acceptance and rejection with the dimensions of mother acceptance, best friend acceptance, and romantic partner acceptance, is a valid and reliable measurement instrument.

It is observed that acceptance-rejection studies and scales in the literature generally examine the relations of children with their parents, and it is noteworthy that there is a need for studies investigating acceptance in close interpersonal relationships of individuals in adulthood. In the literature, there is the Adult Parental Acceptance Rejection Scale developed by Rohner (2005a) and adapted to Turkish by Dedeler et al. (2017). There is also the Teacher Acceptance Rejection/Control Questionnaire developed by Rohner (2005b) and adapted to Turkish by Yıldırım (2006). However, it turns out that there is no measurement tool in the Turkish literature that assesses three types of basic relationships in interpersonal relationships and measures the acceptance of mother, best friend, and romantic partner together. In this direction, it is thought that the Adult Interpersonal Acceptance-Rejection Scale, which was brought to the Turkish literature within the scope of this study, will make significant contributions to the field and is an important measurement tool that can be used for future scientific studies.

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Adaptation of The Triarchic Model of Grit Scale and Perceived Academic Underachievement Scale into Turkish

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ABSTRACT

This study aimed to adapt the Triarchic Model of Grit Scale (TMGS) and Perceived Academic Underachievement Scale (PAUS) to a Turkish state university context and provide evidence of its validity.. The relationships between the scales were also examined. The data of this study was obtained from three different study groups consisting of college students attending a state university located in the Middle Black Sea Region of Turkey. The psychometric properties of the PAUS were examined with the first study group, the psychometric properties of the TMGS were examined with the second study group, and the relationships between both scales and their relations to academic self-efficacy were examined with the third study group. Exploratory Factor Analysis, Confirmatory Factor Analysis, and Pearson's product-moment correlation coefficient were used to analyze data. Results showed that both scales have sufficient validity and reliability. Furthermore, there was a negative relationship between grit and perceived underachievement, a positive relationship between grit and academic self-efficacy, and a negative relationship between perceived underachievement and academic self-efficacy. These findings suggest that adapted scales are valid and reliable measurement tools that can be used to determine perceived academic underachievement and grit levels among adults and teacher candidates.

Keywords:

Perceived academic underachievement, grit, academic self-efficacy, validity and reliability.

1. Introduction

Academic success is always important to get into good universities both in Turkey and in the world or for a good career. The academic success of students has an important role in determining whether they will continue their school or career (Bacanlı, 2012; Emiroğlu, Murat & Bindak, 2011). Considering the factors effective in perceiving oneself as academically successful or being successful, Bandura (1994) stated that the nature of learning has shown that one's self-efficacy beliefs have a significant impact on academic achievement. One's self-perception of themselves as successful or unsuccessful plays an important role in starting and completing tasks. According to Peker et al. (2012), individuals' happiness and self-confidence increase when they are academically successful; however, they feel sad and disappointed when they fail. It can be argued that this sadness and disappointment state may cause individuals to perceive themselves as academically underachieving.

Underachievement is not just a situation experienced by students when they don't study to complete a task but also emerges with the lack of belief in completing a task or with a feeling of weariness, exhaustion, and

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tiredness for certain reasons (Balkis et al., 2011; Çapulcuoğlu & Gündüz, 2013). This does not imply that one's perceived underachievement is due to their incapacity to finish a task, but rather that they do not feel prepared to complete a task and believe that their performance is insufficient, despite the fact that they know they can. This relates to a person's impression of himself as a low achiever in school. Academic underachievement is a barrier to success, and in its most broad meaning, it is a perception that an individual's accomplishment is below their recognized potential, or that they perform below their capacity. Perceived academic underachievement emerges when one perceives their academic success regarding a course or all courses they took as poor (Snyder & Adelson, 2017). The concepts of perceived success (Yaşar et al., 2014) and perceived academic underachievement (Snyder & Adelson, 2017) are associated with the completion of the challenging tasks or responsibilities faced by an individual, and studies have shown that these concepts play a decisive role in one's self-efficacy, motivation, burnout, performance, and attitude towards a course (Balkis et al., 2011; Çapulcuoğlu & Gündüz, 2013; Duckworth et al., 2007; Duckworth & Quinn, 2009; Jiang et al., 2019; Kahraman & Sungur, 2016; Kutsal, 2009; Snyder & Adelson, 2017; Strayhorn, 2013; Yaşar et al., 2014; Yılmaz et al., 2007). One of the distinguishing features of successful and unsuccessful individuals is the grit. While some studies claim there is a relationship between grit and achievement (Jiang et al., 2019; Strayhorn, 2013; Tang et al., 2021), others claim there isn't (MacCann & Roberts, 2010), some are contradictory (Wolter & Hussain, 2015), and others claim the relationship is reciprocal (Wolter & Hussain, 2015). (Duckworth et al., 2007; Duckworth & Quinn, 2009). In their study with elementary school pupils, Wolter and Hussain (2015) identified a relationship between grit and success in the initial analysis; further analyses did not detect this relationship. While MacCann and Roberts (2010) determined in their study that there is no relationship between grit and success; Strayhorn (2013) found that grittier individuals show higher achievement. Although there are studies that do not find a relationship between grit and success, theoretically, grit appears as a personality trait that plays a role in perception and tendency to be successful (Wolter & Hussain, 2015). In this regard, as grit increases, perceived achievement increases; and as perceived achievement increases, grit increases.

Grit plays an important role in one's life in being success-oriented and achieving success (Duckworth et al., 2007; Duckworth & Quinn, 2009; Rojas et al., 2012). Many reports indicated that grit is related to academic performance (Christopoulou, et al., 2018; Pate et al., 2017). Furthermore, grit is an important factor in achieving success and progressing towards goals and it also helps get rid of negative emotions such as hopelessness (Özhan & Boyacı, 2018). Although grit is sometimes used to mean concepts of determination and persistence, they are not the same (Duckworth et al., 2007; Shechtman et al., 2013). Because while grit is a cognitive process that comprises beliefs in achieving success, determination and persistence refer to enduring difficulties faced while pursuing success. In this regard, a determination is a cognitive and emotional dimension of grit (Sarıçam et al., 2016); grit refers to a non-cognitive process of one's continued striving for challenging long-term goals with passion and persistence (Christopoulou et al., 2018; Pate et al., 2017). A literature survey on the term 'grit' revealed that the terms determination and persistence are also used to mean grit. However, using the term grit in psycho-educational applications is considered more appropriate (Ekinçi & Hamarta, 2020a).

Grit is defined as the efforts made to overcome challenges while doing a task (Duckworth et al., 2007). Grit can also be defined as determination and a strong willingness to achieve goals and success. In this sense, grit requires being ready to face challenging efforts while fighting with difficulties and maintaining effort and interest accordingly. From this point of view, grit is an important indicator of success (Duckworth et al., 2007; Duckworth & Quinn, 2009). Grit also receives attention as an effective factor in educational processes. Since education is the process of changing and developing one's own thoughts and behaviors with their own interests, efforts, and experiences, effort plays an important role in achieving the intended success. In this regard, the effort put forward to achieve success emerges with an individual's grit (Ekinçi & Hamarta, 2020b). Therefore, grit is an important factor for displaying effort and effective in achieving success (SRI International, 2018). So, it can be argued that effort is an important factor affecting grit. In this sense, grit has a psychological aspect and includes the motivational dimension of self-regulation in achieving goals. Thus, grit accompanied by effort, persistence, and determination is an important factor for overcoming challenges faced while achieving academic success (Sağkal et al., 2020).

There are many studies examining the relationship with different variables in the literature on grit. In the study of Ekinçi and Hamarta (2020), one of these studies related to the subject, the effect of a psycho-education program developed to increase the levels of grit and motivational determination of secondary school students.

The authors found that the grit psycho-education program yielded a significant increase in the secondary school students' grit and motivational determination levels in the experimental group. In a similar study, (Sarıçam et al., 2016) a significant correlation was found between grit and motivational determination. In another study conducted by Özhan and Boyacı (2018), the authors found a negative correlation between grit and psychological symptoms which consists of depression, anxiety, and stress; the authors stated that programs to strengthen grit can be used in the prevention of psychological symptoms. In addition to studies mentioned above, it was determined that grit (Rojas et al., 2012) and academic achievement (Yılmaz, et al., 2007) were related to self-efficacy. In line with this result, the relationship between two variables and self-efficacy was examined in this study.

Self-efficacy belief a variable related to perceived academic underachievement and grit, is an indicator of one's determination to achieve a task or course, such as motivation and belief in personal success (Yılmaz et al., 2007). It is known that self-efficacy is important for starting a task with grit and emotional responses to a task (Bandura, 1986, 1997). Many studies highlighted that grit in students is associated with self-efficacy (Britner & Pajares, 2006; Rojas et al., 2012). Accordingly, it can be argued that students or adults with high self-efficacy beliefs may have grit for starting and/or completing tasks. Failure of performance is one's beliefs about what might happen when one fails. Failure of performance also explains one's belief in fear of failure. While this fear, especially on hardworking individuals, has a motivating effect, in some individuals it causes a feeling of doing nothing, loss of motivation, and an inability to reflect on their potential for that task (Kahraman & Sungur, 2016). This underachievement leads to burnout and thus affects attitude towards a task. In this sense, Alkan (2009) pointed out that students with a positive attitude towards the math course are more successful. Burnout levels increase as an individual fails, and this situation is accompanied by a decrease in self-efficacy (Maslach et al., 2001). Külekçi (2011) examined the relationship between students' self-efficacy beliefs and perceived academic success and found that students with lower self-efficacy beliefs perceive themselves as unsuccessful. Çapulcuoğlu and Gündüz (2013) stated that students with high perceived academic success had lower levels of burnout and higher self-efficacy. According to another study, high-school students who perceived their academic success as moderate suffer more from burnout than those who perceived their academic success as high (Kutsal, 2009). Considering the perceived academic success, Balkıs et al. (2011) emphasized that burnout may lead to low motivation for completing a course assignment. The authors suggested low levels of self-efficacy or environmental factors as reasons.

Although studies on self-efficacy are available in the Turkish literature, no conceptual and assessment studies exist on perceived academic success and only a limited number of scales (Bozgün & Başgöl, 2018; Sağkal et al., 2020; Sarıçam et al., 2016) are presented for grit. To fill this gap, reliable and valid measurement tools are needed on perceived academic underachievement among adults (Snyder & Adelson, 2017) and for multidimensional evaluation of students' levels of grit due to the increased interest in success factors except for cognitive ones in recent years (Christopoulou et al., 2018). A review of the literature revealed that some measurement tools exist, such as the Academic Self-efficacy Scale (Yılmaz et al., 2007), the Performance Failure Appraisal Inventory (Kahraman & Sungur, 2016), and the mathematics attitude scale (Yaşar et al., 2014); however, no measurement tool exists that directly evaluates perceived academic underachievement.. A sub-scale of the mathematics attitude scale developed by Yaşar et al. (2014) is about perceived academic success. The items of that sub-scale are similar to the items of the scale adapted in the current study. Some of the measurement tools for grit available in the Turkish literature are the Short Grit Scale adapted by Sarıçam et al. (2016), the Academic Grit Scale for secondary and high school students adapted by Sağkal et al. (2020), Academic Grit Scale for primary and secondary school students adapted by Bozgün and Başgöl (2018).

As indicated by the above studies, grit and perceived academic underachievement of students play an important role in achieving academic success. Using the Turkish versions of the Triarchic Model Grit Scale and the Perceived Academic Underachievement Scale will help to make a general judgment about Turkish students' academic success. When the relevant literature is examined, it is seen that there is a reciprocal relationship between grit and perceived academic success. For this reason, examining a theoretical relationship between different samples in this study will provide a broader perspective on the subject. Such reasons give importance to this study from different aspects. Since success is an important phenomenon in having a profession and taking high grades in Turkey, students' and individuals' perception of themselves as successful enables them to be more successful and determined. The studies mentioned above generally show that as grit

increases, perceived achievement; As perceived achievement increases, so will grit. In addition, since it is stated in social learning theory that there is a reciprocal relationship between self-efficacy and performance (Bandura, 1986), it is considered important to examine the relationship between perseverance, perceived academic success and self-efficacy. This study adapts the perceived academic underachievement scale (PAUS), which measures the feeling that a student's accomplishments fall below perceived capability and is associated with adults' academic self-efficacy (Snyder & Adelson, 2017), as well as the Triarchic Model of Grit Scale (TMGS), which is effective in achieving success in Turkish (Datu et al., 2017).. Also, the relationships between academic self-efficacy, which has a critical role in students' academic success, and grit, and perceived academic underachievement were also examined.

2. Methodology

2.1. Research Model

This section provides information about the study group, data collection tools, scale adaptation process, and data analysis. A correlational survey model was also used to examine the relationships between variables (Fraenkel et al., 2012).

2.2. Research Sample

Three different studies were conducted in this research. The data for this study was obtained from three different study groups consisting of college students studying at a university located in the Middle Black Sea Region during the spring and fall semesters. The sample was selected using the convenience sampling strategy. In the study groups of this research, female students took place much more than male students. This is because the students in the education faculties for which data are collected are distributed in these ratios. The data for the PAUS was obtained from the first study group and TMGS data is from the second study group. To examine the relationships between scale scores and academic self-efficacy, the data obtained from the third study group was used. Descriptive statistics of the study groups are given in Table 1.

Table 1. Descriptive Statistics of the Study Groups

Variables	Categories	Study 1	Study 2	Study 3
Gender	Male	30	56	58
	Female	122	117	197
Age	Age range	18-21	18-30	18-31
	Mean	19.81	20.92	20.71
	Sd	.67	1.98	1.82
	Range	3	12	13
Education year	1	-	45	64
	2	81	30	61
	3	71	51	73
	4	-	47	57
Department	Pre-school Teacher Education	26	31	94
	Elementary Mathematics Teacher Education	39	11	16
	Science Teacher Education	-	55	-
	Turkish Language Education	35	-	145
	Social Studies Teacher Education	28	13	-
	Primary Teacher Education	40	63	-
	Psychological counseling and guidance	24	-	-
Total Number of Students	<i>n</i>	152	173	255

Statistics regarding students' demographic characteristics are presented in Table 1. This data was collected with Personal Information Form which is placed above the data collection form. Data for this study were gathered from three different study groups, classes, and departments in each application. Because the mean age of these three groups was close to each other (19.81 for the first group, 20.92 for the second group, and 20.71 for the third group) and all of the students in the sample were university students, data were collected from different grade levels using convenient sampling. Kline (2016) suggests a sample-size to parameter ratio of 20:1 or at least 10:1 for the factor analysis.2.3. Data Collection Tools

Perceived Academic Underachievement Scale (PAUS) was developed by Snyder and Adelson (2017) to measure perceived academic underachievement among adults aged 18 and over regarding a course or overall courses. The validity of the scale was examined by Exploratory Factor Analysis (EFA) using data from 184 college students. The EFA results showed that item-factor loadings varied between .74 and .90 and 65.90% of the total variance was explained. EFA indicated that the one-factor model of scale with 6 items can be used as a valid measurement tool according to the variance explained by item-factor loadings. Confirmatory Factor Analysis (CFA) was conducted with a different study group and the one-factor model of the scale was confirmed, and goodness-of-indexes were found to be excellent (CFI: .99; TLI: .98; SRMR: .02). This measurement tool is a 5-point Likert-type scale with grades; 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree. The score that can be obtained from the scale varies between 6 and 30. While lower scores indicate that one perceives no or low academic underachievement, higher scores indicate that one perceives themselves as academically unsuccessful. The second item of the scale was reverse coded. For internal consistency analysis, Cronbach's alpha for the original scale was calculated as 0.91. While this scale can be used for a course (e.g., perceived academic underachievement for mathematics course) it can be applied to obtain information about one's overall success.

Triarchic Model Of Grit Scale (TMGS) was developed by Datu et al. (2017) to evaluate grit levels in adults and college students. Following intense attention on grit studies, three-factor grit measurement tools were tested in the literature. Construct validity of the scale was examined by EFA using data obtained from 350 college students. In EFA results, item-factor loadings were above 0.30 and explained 57.63% of the total variance. According to the variance explained by factor loadings, EFA indicated that the three-factor model of the 10-item scale can be used as a valid measurement tool. Confirmatory Factor Analysis (CFA) was conducted with a different study group and the three-factor model of the scale was confirmed and model-fit values were found to be acceptable, good, and excellent (CFI: .94; TLI: .938; RMSEA: .051). TMGS consists of *perseverance of effort*, *consistency of interests*, and *adaptability to new situations* sub-scales. According to the reliability tests conducted with three different study groups, Cronbach's alpha coefficients of *perseverance of effort*, *consistency of interests*, and *adaptability to new situations* sub-scales were varied from .60 to .84, .75 to .84, and .88, respectively. In the current study, Cronbach's alpha and McDonald's omega coefficients for internal consistency of the sub-scales were calculated as .71, .7, and .92, respectively. The scale items have 5-point Likert-type responses from 1 = strongly disagree to 5 = strongly agree. While the highest score that can be obtained from the scale is 100, the lowest score is 10. Higher scores indicate higher levels of grit.

Academic Self-Efficacy Scale was developed by Jerusalem and Schwarzer (1981) to measure college students' academic self-efficacy regarding academic learning was adapted into Turkish by Yılmaz et al. (2007). The scale's construct validity was examined with EFA using the data obtained from 672 college students. According to the analysis results, Kaiser-Meyer-Olkin (KMO) value of .83; and Bartlett test $\chi^2= 1230.09$ were found to be significant. Item-factor loadings varied from .50 to .83 and explained 45% of the total variance. The EFA results showed that the one-factor model of the seven-item scale is a valid measurement tool according to the variance explained by factor loadings. The seventh item of the scale was reverse-coded. A 4-point Likert-type grading was used for responses (1-does not correspond at all, 2-corresponds a little, 3- corresponds moderately, 4-corresponds exactly). While the highest score that can be obtained from the scale is 28, the lowest score is 7. Lower scores indicate lower academic self-efficacy belief, and higher scores indicate higher academic self-efficacy. For internal consistency, while the Cronbach's alpha coefficient of the original scale was calculated as .79, in our study, it was calculated as .87.

2.4. Adaptation Procedure

Since this paper is about scale adaptation, scale adaptation steps are followed for both scales (DeVellis, 2017). Prior to the adaptation of the PAUS and TMGS into Turkish, permissions were received from the developers. Three educational science experts with high English translation proficiency were assisted during the adaptation process. After determining the most appropriate expressions by the researchers, back translations were performed into the original language (English) (DeVellis, 2017). Following the translation process of the scales, two field experts in the field of Guidance and Psychological counseling were asked to review the translated scales in terms of conceptual, semantic, and theoretical integrity. The scales were then finalized based on the expert opinions and evaluations. To prevent any mistakes and to obtain semantic integrity, a pilot implementation study was conducted with 15 teacher candidates. The original version of the TMGS is a

5-point Likert-type scale that measures the level of participation from 1 = not like me at all and 5 = completely like me.

2.5. Data Analysis

The data were obtained from volunteer participants face-to-face in a classroom. The completion of the survey took approximately 10 minutes. SPSS 22.0 and LISREL 8.8 software packages were used for the validity and reliability assessment of the scales. To test the construct validity of the three-factor model of TMGS and the one-factor model of PAUS, Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were performed using different datasets. CFA is an analysis technique used to confirm a theoretical structure (Hair et al., 2014). It is known that According to (Hooper et al., 2008; Hu & Bentler, 1999; Kline, 2016; Tabachnick & Fidell, 2014), goodness-of-fit indexes, CFI, IFI, NFI, GFI, and AGFI below .95 are acceptable; .95 and above indicate perfect fit. Similarly, RMSEA and SRMR indexes .05 and below perfect; above .05 indicate a good fit. To examine relationships between scale scores, Pearson's Product-Moment Correlation Coefficients were evaluated and the assessment of internal consistency was done through Cronbach's alpha and McDonald's omega coefficients and item analysis.

2.6. Ethical

Ethical Committee Approval is required by applying to Amasya University Social Sciences Ethical Committee in the present study. Ethical Committee Approval's information is presented below:

- Date of decision: 02.04.2021
- The number of the approval document: E-30640013-108.01-13219

3. Findings

3.1. Validity and Reliability of PAUS

3.1.1. Construct validity

To assess the construct validity of the PAUS, firstly, EFA was performed with 255 data to examine whether the scale consisted of similar factors as in its original forms. Kaiser-Meyer-Olkin (KMO) and Bartlett sphericity test results were examined to examine the suitability of the data structure for factorization and whether the collected data represents the universe. Table 2 shows the factors under which the items were collected and the total differences that can be explained by the items' factor loading values.

Table 2. EFA Results for PAUS

Items	Factor loadings
1	.827
2	.796
3	.790
4	.770
5	.715
6	.615
Total varianced	%57.07
Kaiser-Meyer value	.83
Bartlett sphericity test	($\chi^2/sd = 618.91/15; p < .01$)

N= 255

As seen in Table 2, as a result of the EFA analysis of the one-dimensional PAUS, the KMO value was found to be high, and the Bartlett test results were found to be significant. The fact that the KMO value is greater than .80 and the Bartlett sphericity test is significant indicates that factor analysis can be performed on the data (Hair et al., 2014). Six items of the scale were collected in a single factor, and the item factor load values took values between .61 and .83. It was observed that the total explained variance of the scale was around 57%. For a scale to be usable, it is known that it must explain at least 60% of the variance (Hair et al., 2014). Another analysis, the Scree-Plot test, checked the factor structure. As a result, it was observed that the single-factor structure of the PAUS was also confirmed in this graph. Scree plot test graphics are given in Figure 1.

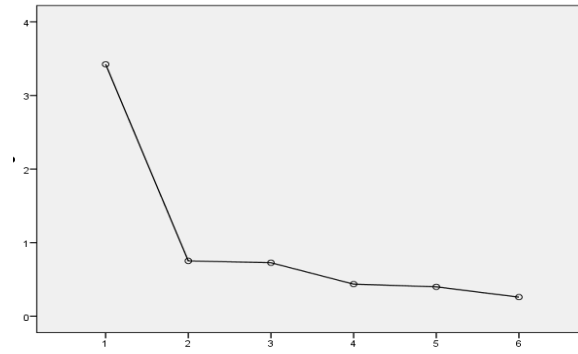


Figure 1. Scree-plot Test for PAUS

CFA was performed for six items included in the original scale using the data obtained from 152 teacher candidates. The fit indices for PAUS are presented in Table 3 and the results of CFA for PAUS are given in Figure 2.

Table 3. CFA Results for PAUS

Goodness-of-fit indexes	Index values
χ^2	15.85
df	9
χ^2/df	1.76
p	.069
RMSEA	.076
CFI	.98
IFI	.98
NFI	.96
RMR	.048
GFI	.96
AGFI	.91

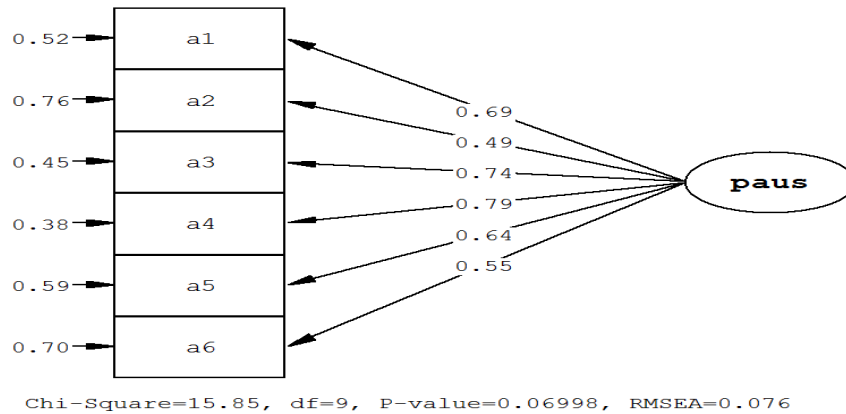


Figure 2. CFA Results for PAUS

As seen in Figure 2, item-factor loadings varied from .49 to .79, and t-values varied from 5.48 to 9.94 and were found to be significant. Furthermore, the AGFI index value indicated an acceptable fit, but all other indexes indicated a perfect fit. Consequently, it was decided that the Turkish version of the PAUS has construct validity.

3.1.2. Reliability

For reliability evaluation, Cronbach’s alpha and McDonald’s omega coefficients were calculated to assess the internal consistency of the PAUS, and Cronbach’s alpha and McDonald’s omega coefficients were found to be .80. According to a widely accepted rule, a Cronbach’s alpha coefficient above .70 indicates scale can be used as a reliable measurement tool (Çokluk et al., 2016). For the second reliability evaluation, items were analyzed.

In this regard, corrected item-total correlations for 6 items were examined and the obtained results are given in Table 4.

Table 4. PAUS Reliability Analysis Findings

No	Items	Item total correlations	Cronbach's alpha (α)	McDonald's Omega (Ω)
1	I am performing below my capability in course.	.56		
2	I am achieving to the maximum of my capability in course.*	.42		
3	To be honest, I feel that I am underachieving in course.	.61		
4	I am performing below my ability in course.	.64	.80	.80
5	I could perform much better in course than I am currently performing.	.59		
6	My achievement in course does not reflect how well I am capable of achieving in that course.	.52		

* This item is reverse-coded.

As seen in Table 4, corrected item-total correlations for PAUS varied between .42 and .64. In reliability assessment, item-total correlations higher than .30 indicates scale has a high distinctiveness (Büyüköztürk, 2012). Based on the high corrected item-total correlation values and Cronbach's alpha and McDonald's omega coefficients calculated in the current study showed that PAUS is a reliable measurement tool.

3.2. Validity and Reliability of TMGS

3.2.1. Construct validity

For the assessment of the construct validity of TMGS, firstly EFA was performed with 255 data to examine whether the scale consisted of similar factors as in its original forms. Kaiser-Meyer-Olkin (KMO) and Bartlett sphericity test results were examined to examine the suitability of the data structure for factorization and whether the collected data represents the universe. Table 5 shows the factors under which the items were collected and the total differences that can be explained by the items' factor loading values.

Table 5. EFA Results for TMGS

Items	1 st Factor Perseverance of effort	2 nd Factor Consistency of interests	3 rd Factor Adaptability to new situations
1	.832		
2	.772		
3	.828		
4		.864	
5		.860	
6		.752	
7			.763
8			.836
9			.754
10			.710
Total varianced	%57.07		
Kaiser-Meyer value	.83		
Bartlett sphericity test	$(\chi^2/sd = 618.91/15; p < .01)$		

N= 255

As seen in Table 5, the KMO value was found to be high, and the Bartlett test results were found to be significant for the TMGS. The fact that the KMO value is greater than .80 and the Bartlett sphericity test is significant indicates that factor analysis can be performed on the data (Hair et al., 2014). The first three items of the TMGS are in the *perseverance of effort* sub-scale, the next three items are in the *consistency of interest* sub-scale, and the last four items are in the *adaptability to new situations* sub-scale. It is seen that factor loading values have high values between .71 and .86. It was determined that the total explained variance of the scale was approximately 71%. Another analysis, the Scree-Plot test, checked the factor structure. As a result, it was found that the one-factor structure of the TGMS scale was also confirmed in this graph. The graphs of the scree plot test are shown in Figure 3. Confirmatory Factor analysis (CFA) was performed for 10 items and three sub-

scales of the original scale using the data obtained from 173 teacher candidates. The obtained goodness-of-fit indexes of TMGS are presented in Table 6.

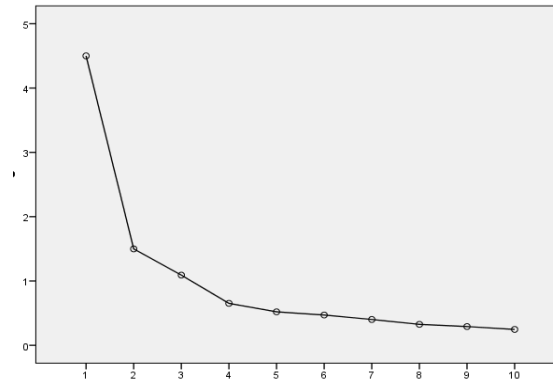


Figure 3. Scree-plot Test for TMGS

Table 6. CFA Results for TMGS

Goodness-of-fit indexes	Index values
χ^2	54.36
<i>df</i>	32
χ^2/df	1.70
<i>p</i>	.008
RMSEA	.063
CFI	.98
IFI	.98
NFI	.96
SRMR	.036
GFI	.94
AGFI	.90

As seen in Table 6, according to the CFA results, whereas AGFI and GFI indexes indicate acceptable model fit, other indexes indicate perfect fit. CFA results are also given in Figure 4.

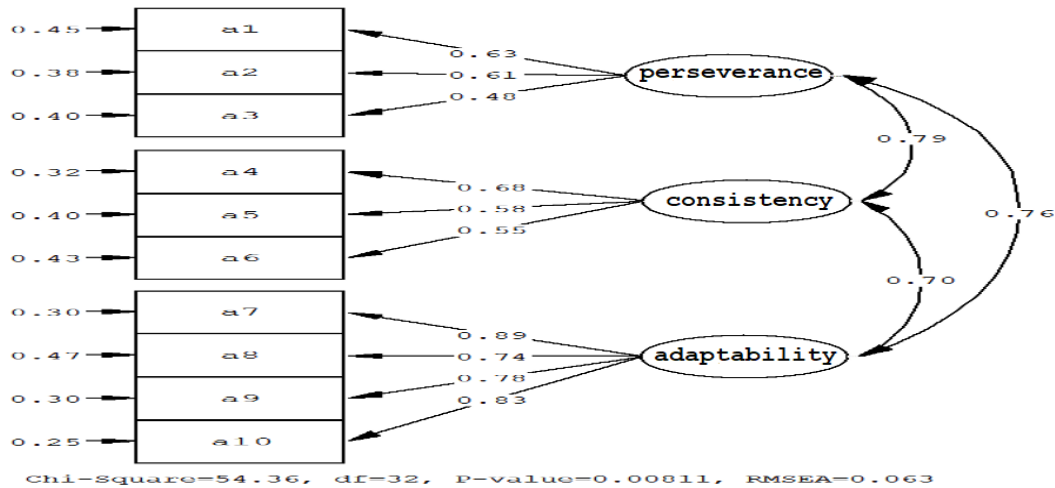


Figure 4. CFA Results for TMGS

According to the model results shown in Figure 4, factor loadings varied from .48 to .89; t-values from 7.90 to 13.69 and found to be significant. Consequently, based on these results and model-fit-index values, the 10-item TMGS scale with the *perseverance of effort*, *consistency of interests*, and *adaptability to new situations* sub-scales was found to be have construct validity.

3.2.2. Reliability

For reliability evaluation of the TMGS, Cronbach’s alpha and McDonald’s omega coefficients were calculated. McDonald’s omega is another internal reliability coefficient (McDonald, 1970). Kline (2016) stated that a

Cronbach’s alpha coefficient greater than .90 is perfect; .80-.90 is good, and .70-.80 is acceptable. Items were analyzed as another reliability assessment. Accordingly, corrected item-total correlations were examined for 10 items and three sub-scales of the scale, and the obtained results are presented in Table 7.

Table 7. TMGS Reliability Analysis Findings

Sub-scale	No	Items	Item total correlations	Cronbach’s alpha (α)	McDonald’s Omega (Ω)
Perseverance of effort	1	I am a hard worker.	.60	.70	.71
	2	I finish whatever I begin.	.60		
	3	I am diligent.	.56		
Consistency of interests	4	New ideas and projects sometimes distract me from previous ones.	.59	.74	.74
	5	I have been obsessed with a certain idea or project for a short time but later lost interest.	.54		
	6	I often set a goal but later choose to pursue a different one.	.50		
Adaptability to new situations	7	I appreciate new opportunities that come into my life.	.77	.92	.92
	8	Changing plans or strategies is important to achieve my long-term goals in life.	.69		
	9	Changes in my life motivate me to work harder.	.74		
	10	I am able to cope with the changing circumstances in life.	.80		
Total			-	.90	.90

As seen in Table 7, Cronbach’s alpha coefficients for sub-scales of perseverance of effort, consistency of interests, and adaptability to situations and the full scale were calculated as .70, .74, .92, and .90, respectively. McDonald’s omega coefficients were also calculated, and only a minor difference was obtained for the sub-scale of perseverance of effort as .71. The corrected item-total correlations of the scale varied from .54 to .80. In reliability analysis, corrected item-total correlations greater than .30 indicate that scale has a high distinctiveness (Büyüköztürk, 2012). Based on the calculated corrected item-total correlations and high internal consistency coefficients, TMGS is considered a reliable measurement tool.

3.3. Relationships Between Grit, Perceived Academic Underachievement, and Academic Self-Efficacy

To examine the relationships between grit, perceived academic underachievement, and academic self-efficacy, Pearson correlation coefficients were calculated using the data of the third study group. Also, to evaluate the criterion validity of the scales and examine the relationships between variables, the relations of PAUS and TMGS to the Academic Self-efficacy Scale were also examined. Since grit and perceived academic success is theoretically associated with academic self-efficacy, Academic Self-efficacy Scale was used to determine criterion-related validity. The obtained findings are presented in Table 8.

Table 8. Correlations between Variables

	1	2	3
1. Grit	-		
2. Perceived academic underachievement	-.20**	-	
3. Academic Self-efficacy	.48**	-.21**	-
	\bar{X}	37.12	20.49
	Sd	6.80	5.26
			23.35
			5.18

Note: N = 255; p < .01**.

As shown in Table 8, the relationships between grit, perceived academic underachievement, and academic self-efficacy were examined with Pearson correlation analysis. The analyzes were performed using total scores and descriptive statistics were also considered. According to the analysis results, a significant negative low correlation was found between total scores of PAUS and Academic Self-efficacy Scale ($r = -.21, p < .01$) and a significant negative low correlation between total scores of TMGS and PAUS ($r = -.20, p < .01$). Furthermore, a significant positive moderate correlation was found between grit and academic self-efficacy ($r = .48, p < .01$).

4. Conclusion and Discussion

In this study, the PAUS developed by Snyder and Adelson (2017) to measure the perceived academic achievement level of adults and the TMGS developed by Datu et al. (2017) to assess the level of grit in adults and college students are adapted into Turkish. The validity and reliability of the adapted scales were also examined. The data used during the adaptation processes were obtained from college students. The items of the adapted scales were evaluated by field experts, language specialists, and experts in the field of assessment and evaluation. The data used in this study were obtained from three different study groups, and findings were discussed under three different studies.

The construct validity of the PAUS was examined with CFA. CFA results showed that t-values of the scale are significant, factor loadings, and goodness-of-fit indexes indicate perfect fit. The one-factor structure of the 6-items Turkish version of the PAUS was confirmed. Regarding the internal consistency measurements, Cronbach's alpha and McDonald's omega coefficients were calculated as .80. High corrected item-total correlations indicate that PAUS is a reliable measurement tool with items that can distinguish individuals. Finally, based on the obtained results, the Turkish version of PAUS is considered a valid and reliable measurement tool that can be used in Turkish samples.

The validity and reliability tests of the TMGS were carried out. The construct validity of the TMGS was examined using CFA. According to the CFA results, t-values were found to be significant, factor loadings and goodness-of-fit indexes indicate a perfect fit. The three-factor model of the Turkish version consisting of 10 items was confirmed. For internal consistency calculations, both Cronbach's alpha and McDonald's omega coefficients were found to be .90. High corrected item-total correlations indicate that TMGS is a reliable measurement tool with items that can distinguish individuals. Finally, according to the obtained results, the Turkish version of the TMGS is accepted as a valid and reliable measurement tool that can be used in Turkish samples.

In the last analysis, the concepts' relationships were examined through the PAUS, TMGS, and Academic Self-efficacy Scale developed by Yılmaz et al. (2007). The significant negative low correlation found between PAUS and Academic Self-efficacy Scale scores indicates that academic self-efficacy, which is the belief about success, is related to perceived underachievement. Furthermore, we determined a significant positive moderate correlation between grit and academic self-efficacy. This finding highlights the importance of one's self-efficacy beliefs for grit. Based on the determined relationships, it can be argued that the scales have criterion validity in addition to construct validity. According to course grades, Strayhorn (2013) examined the relationship between grit and success and determined that students with more determination are more successful. According to these findings, it can be thought that grit plays a role in the student's perceived successful. However, when perceived academic underachievement is high, it can be said that the individual will be less gritter. This study revealed that it is necessary to increase their grit, as students' perception of themselves as more successful enables the development of their academic studies and taking higher course grades. At the same time, as stated in the literature, grit and perceived achievement reciprocally determine each other (Duckworth et al., 2007; Duckworth & Quinn, 2009). Therefore, if the student perceives himself as unsuccessful, his grit may decrease. On the contrary, as the student's grit decreases, he may perceive himself as unsuccessful. In both cases, the student's academic success may be negatively affected.

Finally, it was determined that the Turkish version of the PAUS measures the same one-factor 6-item structure as the original scale. Also, the Turkish version of the TMGS measures the same 3-factor 10-item structure as the original scale. Both PAUS and TMGS are considered valid and reliable measurement tools to evaluate perceived academic underachievement among adults and measure grit levels in adults and college students, respectively. Since students' perceived academic underachievement levels also affect their grit, the PAUS scale can be used in researchs on this subject. While this scale can be used for a single course, it will also be effective in determining the general academic underachievement level. While grit is theoretically two-dimensional in some studies (Sarıçam et al., 2016); there are also studies in which grit is used as one-dimensional (Rojas et al., 2012). Turkish version of TMGS scale, which is adapted with this study, will be able to reveal new studies and findings related to the structure of grit in the literature.

The literature search revealed that there is no scale to measure perceived academic underachievement and multidimensional grit in students, so PAUS and TMGS can make valuable contributions to the literature. Moreover, the correlations found between self-efficacy belief, which is important for success, grit, and perceived success, are important for further studies (Snyder & Adelson, 2017). It is stated that as one's perceived academic underachievement decreases and grit level increases, self-efficacy beliefs increase and thus, burnout can be prevented (Çapulcuoğlu & Gündüz, 2013; Kutsal, 2009).

5. Recommendations

This study has some limitations. The data was obtained from college students aged 18 and above attending a state university located in the Middle Black Sea region. The scales may be applied to students studying in universities in other regions or those in non-formal education courses. The use of the scales in different age groups can be examined by performing validity and reliability measurements with high-school students. Further studies may examine the impact of parental academic support on students' grit levels, perceived academic underachievement, and academic self-efficacy. The mediating role of academic underachievement and grit level in the relationship between academic self-efficacy and academic success can be examined. In addition, the relationships between perceived academic underachievement and certain variables such as self-efficacy beliefs, academic optimism, test anxiety, intrinsic motivation, grit, and academic procrastination can be examined. In addition, PAUS can be used to obtain information about a specific course. Quantitative studies can be conducted that examine the relationship between perceived academic underachievement and grit, as well as qualitative studies that solicit thoughts and views on variables that may increase grit or cause perceived academic underachievement.

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Appendix 1. Turkish Version of Perceived Academic Underachievement Scale

1. Derslerde kapasitemin altında performans gösteriyorum.
 2. Derslerde kapasitemi en üst düzeyde kullanıyorum. *
 3. Dürüst olmak gerekirse, derslerde olması gerekenin altında başarı gösterdiğimi düşünüyorum.
 4. Derslerde yeteneğimin altında performans gösteriyorum.
 5. Derslerde daha çok gayret gösterebilirdim.
 6. Derslerdeki başarımla, o derslerde ne kadar yeterli olduğumu yansıtmıyorum.
-

* Bu madde ters kodlanmaktadır.

Appendix 2. Turkish Version of Triarchic Model Of Grit Scale

1. Çalışkanım.
 2. Başladığım işi her ne olursa olsun bitiririm.
 3. Gayretliyim.
 4. Yeni düşündüğüm planlar, önceki planlarımdan beni vazgeçirir.
 5. Kısa süre belli bir plana bağlı kaldıktan sonra vazgeçerim.
 6. Genellikle belirlediğim hedeften daha sonra vazgeçerim.
 7. Karşıma çıkan yeni fırsatlar benim için önemlidir.
 8. Plan ve stratejilerde değişikliğe gitmek uzun dönemli hedeflerime ulaşmamda önemlidir.
 9. Yaşamımdaki değişiklikler beni daha çok çalışmaya motive eder.
 10. Yaşamda karşılaştığım değişikliklerin üstesinden gelebilirim.
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The Impact of Outdoor Activity Based Values Education Program on the Effective Citizenship Values of Students¹

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ABSTRACT

The present study was carried out to examine the impact of the outdoor activity-based values education program on the effective citizenship values of sixth-grade secondary school students. In addition, the implementation process for the outdoor activity-based values education program was examined within the context of student, teacher, and parent opinions. The study was carried out within the scope of the exploratory sequential mixed pattern from among the mixed design patterns utilizing both the qualitative and quantitative data collection methods. The quantitative data were obtained from the implementations using the "effective citizenship values scale". In contrast, the qualitative data were obtained from students, teachers, and parents via the semi-structured interview forms. It was concluded as a result of the study that the implemented values education program positively impacts the students' effective citizenship value levels. Furthermore, it was also reported that the study enabled learning through doing and living, resulted in permanent learning, positively impacted student behaviors, and improved students' values.

Keywords:

Values education, citizenship education, effective citizenship, outdoor activity-based values education.

1. Introduction

Throughout history, educators have sought to answer questions such as "how should young generations be raised?" and "what are the properties of a good citizen?". These and other similar questions have become more important than ever in our time. The increase in negative social life events indicates that we need to raise "good people – good citizens" now than ever. Another reason is the drifting of young individuals from society despite the fact that individuals are included more in social life and the increase in social relations. Raising well-educated people has always been one of the primary objectives of education throughout history. Humanity has been able to get a hold of many developments and is now striving to develop the models of "good person" and "good citizen" that it has continuously longed for (İnal-Yüksel, 2006). Therefore, one of the primary goals of education is to equip students with the right knowledge, values, and behaviors that will enable them to become "good people" and "good citizens." A "good person" and a "good citizen" together can be called effective citizens. Effective citizenship has multidimensional characteristics. The good and active citizens cannot be separated from each other with clear lines. Effective citizenship can be as simple as helping a neighbor or as difficult as organizing a big fundraiser (Yıldırım, 2020). Öztürk and Dursun (2002) defines an effective citizen as a "thinking", "sensitive," and "competent" citizen. Many researchers seem to associate effective citizenship with values (Gonsalvez, 2013). According to Dynneson and Gross (1982), good citizens are individuals who are patriotic and loyal to the values and principles stated in government documents. In

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this context, it can be said that values have an important place in effective citizenship. These values are also expressed as effective citizenship values.

The common ground of being a good person and a good citizen is placing behaviors equipped with value at the center of their lives. According to Wilkins (1999), one should have the mutual values of the society to be a good citizen. Tan and Tan (2014) define a good citizen as an individual who contributes to society by abiding by a series of public mutual values. Accordingly, it is impossible to separate values from the concepts of a good person and a good citizen. Thus, it is expected that certain values such as righteousness-honesty, fairness, responsibility, love, respect, and helpfulness should be included within the scope of citizenship education.

Regardless of the name of the education provided, values education is the key if the focus is on raising a good person-good citizen. Citizenship education and values education are generally associated with one another (Althof & Berkowitz, 2006; Koh, 2012). Indeed, value education at schools takes place as part of the citizen education process. It is thought that the values passed on to the children at school will contribute to making them good citizens in their later years (Taş, 2016). Values can be indicated as an indispensable element of citizenship education. Accordingly, it is possible to state that citizenship education and values education intersect at the common point of "raising a good person-good citizen".

Values can be passed down to posterity through different methods and techniques. Inculcation, value clarification, value analysis, moral reasoning and action learning are the primary methods. *Values clarification* is aimed that students gaining more awareness about their personal values and how they affect their lives (Baer, 1977). In addition, in this approach, it is aimed that students use their cognitive processes actively. *Moral dilemmas* method developed by Kohlberg (1975). This method aims to reveal students' moral values by giving them stories in which they will fall into moral dilemmas. The student must choose between two (or more) conflicting values (Kohlberg, 1975). *Value analysis*, students of logical thinking, and scientific research methods are used to determine attitudes about values. It is aimed that students internalize values by using their cognitive processes. In the *action learning method*, the process of taking action is as important as cognition and perception in the development process of values (Elkatmış, 2009). The distinctive feature of the action learning approach is that it gives students special opportunities to act on their values (Superka & Johnson, 1975).

The focus of values education is "values". On the other hand, values education can be expressed as the process of creating value-oriented behavior, emotion and thought change through the individual's own life. Values education can be conducted directly/indirectly during the classes or in environments outside of the school. Values education during classes takes place with the efforts of the teachers within the scope of the values selected for that lesson. Whereas values education that takes place outside the school is conducted by way of extracurricular activities such as traveling, observations, watching and reviewing movies planned and implemented by the teacher outside of the regular class hours.

Outside the school, environments serve many activities that are the subject of education, including values education. These learning environments known in English literature with concepts of outdoor, out of school and beyond the classroom provide opportunities for students to learn these values through actions and while having fun. Out of school indicates the learning by action process that takes place in environments outside of the school (Priest, 1986). Karademir (2013) defines out-of-school education as the set of all activities that enable the acquisition of the required learning outcomes through planned and regular activities conducted outside of the school walls.

The primary objective of out-of-school education is to establish environments where students are active and learn through actions during which they use different sensory organs. Students use all their senses and emotions actively including their eyes, ears and muscles win out of school learning environments. Hence, it is indicated that students learn much more through experiences in out-of-school environments compared with their experiences in traditional classroom environments (Cronin-Jones, 2000).

It can be stated that out-of-school activities are quite beneficial in terms of both academic issues and values education. The experiences that take place in out-of-school environments can potentially make a cognitive and sensory impact on the students. In addition to helping students develop their values (Parkin, 1998), out-of-school environments also ensure that students live realistic experiences (Yaffey, 1993). Hence, it has been

illustrated that out-of-school learning activities have positive and significant impacts on the students' values (Selanik-Ay & Erbasan, 2016).

The education activities that take place in out-of-school environments are mostly fun. It is expected that learning in out-of-school environments will increase the students' motivation toward the education process. Another contribution of these environments to the education process is that the education provided is more permanent and can be remembered by the students for long periods (Dillon et al. 2006). This is an opportunity for values education. Indeed, it is expected that a values education during which students have fun with high perception levels and full concentration will inevitably yield effective results.

Out-of-school environments are frequently used in areas such as environmental education (Mathias, Daigle, Dancause, & Gadais, 2020), science education (Karademir, 2013; Kerr, 2020), and values education through out-of-school environmental education (inera, Johnson, Kroufek, & imonová, 2020), according to a survey of the relevant literature. However, no study has been observed which utilizes citizenship education in out of school environments within the scope of values education. It is considered that the present study will significantly contribute to the active use of out-of-school environments for citizenship education and values education processes. This research is expected to contribute to the fields of out-of-school education, values education, and citizenship education. In addition, the study's strong side is that it processes these concepts together and determines the effect of values education carried out in out-of-school environments on citizenship values. In this regard, the study aimed to reveal whether outdoor activity-based values education program implemented on secondary school sixth-grade students will be effective in the citizenship values of the students or not. For this purpose, answers were sought for the following questions:

- Does the outdoor activity-based values education program prepared for secondary school students have a statistically significant impact on the students' levels of effective citizenship values?
- What are the opinions of the students included in the experiment group for the outdoor activity-based values education program, the teachers who witnessed the implementation, and the parents of the students in the experiment group?

2. Methodology

2.1. Research Model

The present study used an exploratory sequential pattern from among the mixed methods. The study questions are resolved by collecting qualitative and quantitative data in this method (Creswell, 2016). Analysis in the exploratory sequential pattern is carried out by collecting quantitative data followed by qualitative data. The primary aim of this method is to use quantitative data to complete the missing part of the data obtained using qualitative data. Hence, quantitative findings will be explained in more detail.

The quantitative dimension of the study was carried out according to the pre-test, post-test control group experimental model from among the experimental models. "Pretest-post-test design with non-equalized control group" from among the semi-experimental patterns was used in the present study. The reason for not using one of the real experimental patterns was the impossibility for the educators to create completely artificial environments isolated from everything. The qualitative dimension of the study was carried out within the scope of phenomenology. Yıldırım & Şimşek (2013) expressed phenomenology as focusing on phenomena that we are aware of but for which we do not have a detailed comprehension. The purpose of the study was to gather the perspectives of students, teachers, and parents regarding the values education study that was conducted. "Effective citizenship values scale" was applied simultaneously as pre-test to the experiment and control groups. Afterward, outdoor activity-based values education was applied to the experiment group but not to the control group. ECVS was simultaneously applied as post-test to the groups at the end of the six month long experimental process. ECVS was applied as first follow-up test to the groups 6 months after the application process and 12 months after the second follow-up test. Moreover, semi-structured interview method was used to determine the opinions of the experiment group students, teachers witnessing the application of the program and the parents of the experiment group students to determine the effectiveness of the application process for the outdoor activity-based values education program.

2.2. Study Group

A total of 36 sixth-grade students continued their education at the two-state secondary schools (16 students in the experiment group and 20 in the control group). The study group was prepared by the researcher using the convenience sampling method. According to Christensen, Johnson and Turner (2015), the possible participants are selected in the convenience sampling method from among those who can easily take part in the study.

A total of 16 students with the lowest scores on the effective citizenship values scale from among the 64 students who applied for voluntary participation in the study were selected for the experiment group. Students in the experiment group were selected from those whose mothers do not work, who do not have a smaller sibling and whose parents can voluntarily participate in the activities since the study also includes a section on the parents. The control group is composed of students with similar socioeconomic backgrounds as the experimental group. Qualitative data for the study were collected from 16 children in the experimental group, 17 parents of students in the experimental group, and 6 teachers working at the school where the applications were conducted. In the qualitative phase of the study, participants were invited to participate in the interviews on a voluntary basis.

2.3. Data Acquisition Tools

“Effective citizenship value scale” was used in the study to acquire quantitative data. At the same time, semi-structured interview forms prepared for the students, teachers, and parents were used for qualitative data acquisition.

Quantitative data acquisition tools: Effective citizenship values scale (ECVS) developed by Authors (2020), the 5-point Likert type scale consists of six sub-scales (being fair, rightfulness-honesty, affection, respect, responsibility, charity) with a total of 82 items. Sixteen of the scale's items were negative and scored in reverse. Among the sub-scales, only the charity value scale is two-dimensional, with individual and social dimensions, whereas all other scales have three-dimensional structures with individual, social, and universal dimensions. The internal consistency coefficient of the scale was .95, Spearman-Brown split half reliability was .89 and the test-retest reliability coefficient was .84. Validity-reliability studies were conducted for each sub-scale, which can also be used as separate scales. The internal consistency coefficients for the subscales vary between .71 and 80; Spearman-Brown split-half test correlation coefficients vary between .67 and 78; whereas the test-retest reliability coefficients vary between .67 and 80.

Qualitative data acquisition tools: Semi-structured interview forms were prepared by the researchers separately to determine the opinions of students, teachers, and parents within the context of the study objective. Question pools were prepared for each study group following the literature survey conducted in line with the study objective after which draft forms were prepared. These draft forms were presented for expert opinion, including three academics working in the field and a teacher. The required revisions and changes were made following the opinions and suggestions of these experts, thus finalizing the interview forms. Thus, the “Student Interview Form”, “Teacher Interview Form” and “Parent Interview Form” were prepared. The student interview form consisted of 4 questions; the parent interview form consisted of 4 questions, and the teacher interview form consisted of 3 questions. Moreover, detailed questions were also included in each interview form. Study data were enriched through detailed questions, and a more in-depth examination was carried out.

2.4. Research and Data Acquisition Processes

The literature survey was conducted during the first stage to determine which of the values are related to citizenship and should be included within the scope of the study. Based on the literature survey and expert opinions, values of being fair, affection, respect, responsibility (diligence), charity (solidarity) and rightfulness-honesty were included. The determined values were considered when forming the outdoor activity-based values education program. Previous programs on values education, moral education, and character education were examined before developing the programs. Acquisitions related to these six values were written down and discussions were made on these acquisitions with three experts (values education, social sciences education, citizenship education). The acquisitions and program were finalized based on the feedback from the experts. Activities were prepared during which acquisitions would be given. The scales and interview forms to be used in the study were prepared.

In the second stage; the required permits were taken from the related institutions to carry out the applications with the students and implement the data acquisition tools. Afterwards, interviews were conducted separately with the student, parent, teacher and school administration and information was provided on the study. In addition, the values education workshop was prepared to carry out the activities. The tools, instruments and materials considered to be useful during the education period were obtained. Communications were established with the institutions that will provide support throughout the activity process or the institutions where activities will take place and the required permits were obtained.

In the third stage; ECVS was applied to the students in the list determined before the study from among the volunteer students in both schools. Students with the lowest scores from this application were selected for the study. The values education program prepared to provide the required learning outcomes on effective citizenship values was then applied on the experiment group. The length of the educational activity was six months. The educational seminars were held three days per week for two hours per day. There were a total of 144 course hours devoted to the activities, which were divided into 72 sessions. One course hour was allotted forty minutes. In the fourth stage; ECVS was applied simultaneously to both the experiment and control groups as post-test after the application. Two separate follow-up tests were also applied simultaneously to both the experiment and control groups 6 and 12 months after the applications were completed. Moreover, interviews on the program were conducted with the experiment group students, student parents, and teachers after the applications were completed.

2.5. Ethical Procedures

The current research data was obtained within the scope of the project titled "The Impact of Outdoor Activity Based Values Education Program on the Effective Citizenship Values of Students". An ethics committee report was received for the scales used in this study. Ethics committee application and permission for the research was received from Sakarya University on May 19, 2020 (numbered 61923333/050.99/-13). Extra, the purpose and process of the research were explained to teachers, parents and students in detail. Since the study group of the research consisted of secondary school students, permission was obtained from the parents. The research process was designed on a completely voluntary basis.

2.6. Data Analysis

Quantitative data analysis: Shapiro-Wilk test ($p > .05$), skewness (-.76/-.45) and kurtosis (-.62/-.88) coefficients, along with graphical examinations were first considered to determine whether the quantitative data are suited for use in the analyses as a result of which it was determined that the data meet the normality assumption. After identifying the normal distribution states of the tests, variance homogeneity as another assumption for parametric tests was examined by way of the Levene test and it was determined that there are no differences between the group variances for all tests ($p > .05$). In addition, the equality status of the group covariances for the paired combinations of the data sets was examined via Box's M test, and it was determined that the group covariances are equal for all measurements ($p > .05$).

Whereas Cronbach Alpha internal consistency coefficients were examined regarding the reliability of all measurements applied on the groups, it was determined that the tests have reliability coefficient values ranging between .92 and .97. Finally, Mauchly's Test of Sphericity was used to examine whether the variances for the differences between the measurements are equal or not and it was identified that the variances between measurements do not vary at statistically significant levels ($p > .05$). Two-Way Anova for Mixed Measures was then used to determine whether the applied values education program is effective or not since the data set measurements meet all these assumptions mentioned above.

Qualitative data analysis: Semi-structured interview method from among the qualitative data analysis methods was used at the end of the application process of the study to receive feedback on the impact of the outdoor activity-based values education program on the values of the students as well as the education process. The data obtained through qualitative data analysis tools were subject to descriptive analysis procedures. The descriptive analysis includes the summarization and interpretation based on various themes of the data acquired via different data acquisition tools. The primary objective of this type of analysis is to present the acquired findings in a concise and interpreted manner (Yıldırım & Şimşek, 2013).

First, the voice recordings for the interviews conducted with the students, parents and teachers were transcribed and uploaded to the computer. The computerized records were examined meticulously and attentively. In addition, direct quotations from the students, parents and teachers were used when making explanations on the opinions. Teachers were coded as T1, T2, etc., parents as P1, P2, etc., and students as S1, S2, etc. These codes were utilized when quoting directly from the text. During data collection and analysis, approaches of validity and reliability appropriate for qualitative investigations, such as credibility, transferability, consistency, and verifiability, were employed. The expressions of the participants were verified by way of detailed questions during the interviews to ensure credibility. The text written down was presented to the available participants for review. Moreover, data analysis was conducted by a researcher by way of researcher triangulation which another researcher studied regarding code accordance. The findings were then presented to a group. The findings were finalized based on the group feedback. Direct quotations were made from the participant opinions during the reporting process to support the findings.

2.7. Ethical

Ethical Committee Approval is required by applying to Sakarya University Social Sciences Ethical Committee in the present study. Ethical Committee Approval's information is presented below:

- Date of decision: 06.05.2020
- The number of the approval document: 23-13

3. Findings

This research was conducted as a mixed design in which quantitative and qualitative methods were used together. In the quantitative aspect of the research, the effect of the values education program based on out-of-school activities on the effective citizenship values of sixth-grade students in secondary school was investigated. In the qualitative aspect of the research, the views of students, teachers and parents on the values education program based on out-of-school activities during the study were tried to be explained in depth.

3.1. Findings On The First Study Question

The first study question tried to find a response to the impact of the outdoor activity-based values education program for secondary school students on their effective citizenship levels. Two-factor Anova analysis was performed for mixed measurements to test this question with the findings presented in Table 1.

Table 1. Two Factor ANOVA Results for the Mixed Measurements of ECVS Scores

Source of Variance	KT	d	KO	F	p	η^2
Intergroup	15983290.70	31				
Intervention (Experiment/Control)	42.70	33	42.70	.03	.86	.00
Error	42014.78	105	1273.18			
Intergroup	102221.51	3				.39
Time (pretest, post-test, follow up)	30033.32	3	10011.11	20.78	.00	
Intervention*Time	24492.75	99	8164.25	16.95	.00	.34
Error Total	47695.44	139				
	16085512.21					

It was observed based on the variance analysis of the mean scores from the ECVS pre-test, post-test and follow-up test measurements of the students in the experiment and control groups that the impact of the intervention is not statistically significant regardless of measurement ($F(1,33)=.03$; $p>.05$, $\eta^2=.00$). But it was shown that there is a statistically significant difference between all measurements performed at different times ($F(3,99)=20.78$; $p<.01$, $\eta^2=.39$). According to the findings, it can be understood that there is a statistically significant difference between the mean scores of the students obtained from pre-test, post-test and follow up test measurements regardless of group. In addition, the common impact of intervention and time was also observed to be at a statistically significant level ($F(3,99)=16.95$; $p<.05$, $\eta^2=.34$). Based on this finding, placement in different groups (pre-test, post-test and follow up test) impacts ECVS scores differently. Moreover, Table 2 presents the Wilk's Lamda statistics results on the impact of intervention and time interaction.

Table 2. Wilk's Lamda Statistics Results Regarding ECVS

Effect	Wilks' λ	sd	F	p	η^2	Power
Time	.28	3	26.57	.00	.72	1.00
Time*Intervention	.32	3	21.56	.00	.68	1.00

Table 2 shows a statistically significant change in the effective citizenship value of the students for the time at the level of Wilks' $\lambda=.36$, $F(3,99)=26.57$; $p<.01$. Similarly, time*intervention interaction impacts were also observed to be statistically significant (Wilks' $\lambda=.32$, $F(3,99)=21.56$). Based on these results, a comparison with the control group reveals that the experimental group students' values changed to varying degrees before, during, and after the outdoor activity-based values education program and during the follow-up procedure. The results of the "Bonferonni compatible multiple comparison" test were performed to determine the time-dependent difference between the pre-test, post-test, and follow-up test mean scores of the experiment and control groups; these results are provided in Table 3.

Table 3. Binary Comparison Test Results for ECVS (Bonferroni Compatible)

		Experiment group				Control group			
		Pre-test	Post-test	Follow-Up -1	Follow-Up -2	Pre-test	Post-test	Follow-Up -1	Follow-Up -2
		Average Difference (I-J)				Average Difference (I-J)			
Experiment	Pre-test		-63.31*	-66.31*	63.88*				
	Post-test	63.31*		-3.00	-.56	44.74*			
	Follow-up-1	66.31*	3.00		2.44		15.41		
	Follow-up-2	63.88*	.56	-2.44				19.68	14.08
Control	Pre-test							-1.90	-5.05
	Post-test					3.16	-3.16	1.26	
	Follow-up-1					1.90	-1.26		-1.90
	Follow-up-2					5.05	1.90	3.16	-3.16

It is observed that the difference between the ECVS pre-test-post-test measurements for the experiment group is statistically significant in favor of the post-test ($p<.01$). Similarly, a statistically significant difference in favor of follow-up tests was observed between the pre-test and follow-up tests ($p<.01$). However, no statistically significant difference was observed between the post-test and follow-up test score averages ($p>.05$). There was no statistically significant difference between the control group's pre-test and post-test score averages and the post-test and follow-up test score averages ($p>.05$). It was also observed that there is a statistically significant difference in favor of the control group between the ECVS pre-test measurement average scores for the experiment and control groups ($p<.05$). The reason for this difference was that the experiment group was comprised of students with low scores among the students who applied.

A statistically significant difference was not determined between the ECVS post-test score averages of the experiment and control groups ($p>.05$). However, it was observed based on the simultaneous ECVS post-test results that the experiment group averages are greater than the control group averages. Similarly, a statistically significant difference was not observed between the follow-up test-1 and follow-up test-2 score averages of the experiment and control groups ($p>.05$).

3.1. Findings On The Second Study Question

In this section, opinions were put forth on the outdoor activity-based values education of the students in the experiment group, along with the opinions of their parents and the teachers who observed the implementation studies.

Findings on student opinions: Following the experimental studies, interviews on the program were conducted with the students in the experiment group. Every student in the experiment group indicated that the program was good and beneficial. "These six months passed by with a good education program" (S15). "I think it's a very logical study. And it's also very good" (S9). "I think it is a good education program. Everyone should take it" (S2).

The students indicated the reasons why the outdoor activity-based values education program is beneficial as; "value development" (f=12), "forming awareness" (f=5), "voluntary participation" (f=4), "learning social behaviors" (f=3) and "fun" (f=3). Direct quotations on these findings are presented below.

Direct quotations regarding the development of values; "We already knew the values, but this program helped us to study them more thoroughly." We now behave with greater awareness." (S9) "Before I heard about the idea of responsibility, I did not do some things. However, I now understand the concept of responsibility quite well. Consequently, I learnt how to do things better" (S7). Direct quotations on why the education program is fun; "Well, I really liked it, to be honest. And it's very fun. ... we made some very entertaining activities" (S16), "I find it nice, entertaining and it makes good contributions" (S4).

Direct quotations on social behavior education; "We learn how we should behave against our friends and parents" (S12). "For example, some people should take values education. I think the feelings of compassion or some other feelings are undeveloped in people who did not take those values" (S2). Student opinions on forming awareness towards values; "... I learned how important justice and benevolence are" (S11).

Each student who took part in the study stated that such an education is necessary at schools. "I think it is necessary for every school, each student should take this education"(S13). "It should be applied at every school for students"(S9). Students indicated the necessity for studies on value education as "education of people" (f=9), "values education" (f=8), and "behavior-changing" (f=5). Direct quotations on these opinions are provided below.

Direct quotations on values education; "Because very important information is taught in values education. I thought that rightfulness and honesty were the same. But I learned that they are not and that one needs honesty first. I did not know my responsibilities fully, I learned them during the study and started doing them" (S13). Direct quotations on changing behaviors; "As an example, let's say there is a problematic child, we can teach him or her these values in more detail to make him/her behave better and be a good individual" (S9). Direct quotations on the education of people; "I mean because there are some people and they are very good, and then there are others who are very bad. We can make these very bad people like angels in this way" (S1).

Findings on parents' opinions: Interviews were conducted with the parents of the experiment group after completing the six month study with the experiment group. During these interviews, the parents expressed satisfaction with the outdoor-based values teaching programs. In addition, the parents expressed satisfaction that their children participated in the survey.. "Values education... these were already very important topics, those that should always be present in education programs and those that all parents are involved in. We were satisfied" (P15). "I give importance to the development of the children and their psychological development. I believe teaching these subjects through activities instead of just by talking about them will make a greater impact on the children" (P3).

The majority of the parents made a general assessment indicating that they were glad that the activities were "beneficial" and "effective". "I find it very effective" (P2). "I think that in general it is very beneficial" (P5). Some parents liked the study because of the changes in their children's behaviors, thus indicating that they were satisfied. "I think it was great. There is an advancement in S1 teacher. I mean both in his responsibilities and in his behaviors at home. I find it very useful" (P1). Whereas some of the parents stated that they are satisfied with the activities because they think they will benefit their children now and in the future. "I think it is beneficial for the present as well as the future. I mean lifelong" (P10). Similarly, P3 said, "It aims for both the future and the present" thus indicating that the education may impact the students' lives both in the future and the present.

Participating parents were asked during the interviews whether the values education program was necessary or not. The parents who took part in the study stated that the values education activities are necessary. The parents stated that they find the values education studies necessary due to "value development" (f=8), "willing participation" (f=4), "social development" (f=4), "moving away from the negative conditions of the present" (f=3) and being "activity based" (f=2).

The parents put forth under the "value development" heading either directly or indirectly: "I mean children acting better to their mothers, not being dislikeful against for instance disabled children. I mean we tell all these to them but they should hear it here"(P13). The parents believed that the students took part in the education process

voluntarily because they enjoyed it. P4 expressed this through his child as follows. *"The children enjoyed it. Our child loved it anyway"*. P15 based the necessity of value education on the negative impacts of the times on children. According to this parent; *"Of course it is necessary, especially in this day and age. We live in a society where love and respect have diminished. As you said, justice and benevolence are only partially present. But not available when they are needed the most. That is why these were very important subjects."*

Findings on teacher opinions: After completing the six-month program, interviews were conducted with the teachers working at the school where the study took place. The interviewed teachers stated that the outdoor activity-based values education program is "good". *"I find it very good. It is just what is needed."* (T1). *"I support it. These were nice activities, together with the students"* (T3).

The teachers indicated that the outdoor activity based values education program led to some learning outcomes related with values in students such as "raising awareness" ($f=5$) while enabling the students to "empathize" ($f=4$). According to the teachers, the program's most important feature was raising awareness among students on the subject of values. The teachers stated their opinions on this issue: *"As an example, there was this very nice activity that we did. We had brought a wheelchair to the school to help them understand the physically impaired. This raises the awareness of children"* (T1). Another factor was that the program provided the students with opportunities to "understand" other and to "empathize" with them. Indeed, T1 stated the following on this issue: *"It helps us understand them. Similarly, one day we blindfolded the children all day long in order to help them understand the visually impaired. I mean it was a very nice activity."* Similarly, T2 said *"I mean it was very nice in terms of understanding and empathy. Apart from that, there was also something related with the physically impaired, the wheelchair"*.

The outdoor activity-based values education process was deemed a "useful" training session by participating educators. They indicated after the program that they observed cases such as "receiving positive feedback" from the students ($f=4$) as well as "enabling active learning" ($f=3$) and "establishing awareness in students" ($f=3$). Exemplary quotations on providing active learning; *"It is also nice that the program involves applications. It does not remain as theory, let me put it that way. We actually give this information to the children as theory during classes"* (T2).

Quotations on establishing awareness; *"The children were quite willing. I mean, I told the children we have such a workshop. Especially the students who took part in these studies were more willing. They participated more. They helped us a lot"* (T3). Quotations on receiving positive feedback; *"I believe it is beneficial because I saw how the values we helped the students acquire transformed into proper behaviors."* Whereas T2 said, *"It is good for both participation and its effects, I mean its outcome. I think it should be put into practice,"* indicating that the education program is beneficial and that the values-based education should be conducted. *"It is beneficial. I mean even if the child does not use what he/she learns immediately, it will surely be reflected in their future lives"* (T4). As implied by this remark, it is believed that the principles taught to kids serve as a foundation that will influence their lives in the future, if not now.

4. Conclusion, Discussion & Recommendations

More than having responsibilities only against the state, the citizen is an individual in social life. This individual has certain characteristics at the personal, social and environmental level. Values are among these characteristics. Values can be indicated as indispensable elements for individuals and societies. These elements make up an important part of citizenship. Thus, values have mostly been considered within the scope of citizenship education (Althof & Berkowitz, 2006; Pane & Patriana, 2016).

Citizenship and values education is used to express the process during which a "good citizen" is raised and values are passed on to posterity (Nzahabwanayo & Divala, 2018). It was determined in the study that the outdoor activity-based values education program has a significant impact on the effective citizenship values of students. It can be concluded when this result is taken into consideration that the outdoor activity-based values education program results in a change and advancement in the effective citizenship values of students. Results of studies in the literature on citizenship education (Germano, 2003; Nzahabwanayo & Divala, 2018; Taş, 2016) and value-based education (Gill & Jaswal, 2010) support this finding.

Morris and Cogan (2001) conducted a study in which it has been reported that schools generally make important contributions to developing citizenship values. Taş (2016) observed that the applied program has impacted the students' citizenship value. Kropp (2006) illustrated that the implemented program has made an impact on the students' levels of taking responsibility. Similarly, Perry and Wilkenfeld (2006) conducted a values education program, resulting in an increase in the levels at which students take responsibilities. Based on the findings of the present study and the literature findings, it can be suggested to emphasize values-based education at schools to raise citizens with effective citizenship values. In addition, it is also suggested to include effective citizenship values directly or indirectly when preparing the curriculum.

It was identified as a result of the follow-up processes conducted six months and twelve months after the applied education program that the acquired learning outcomes are permanent. This is considered to be related to the strong follow-up of the education process and that the education program duration was not short. Özerbaş & Gündüz (2014) reported that the values education program has resulted in significant and permanent learning. Germano (2003) concluded that the six-month character education program has produced positive results. Uzunkol (2014) carried out a study in which it has been set forth that the implemented values education program was not effective on certain aspects of the students was that its duration was short. Accordingly, the interviewed parents stated that the values acquired by the students will be reflected in their future lives. Thus, keeping the value and citizenship education programs as long as possible is suggested. In this way, they may be more beneficial and permanent. Indeed, one of the primary goals of education is to ensure that the learning outcomes are permanent.

Values education cannot be confined to closed spaces. It is a part of life and it should feed on social life. That is why the present study was conducted in the form of outdoor activities. Indeed, positive results have been obtained in many similar studies in literature. Considering the results of both the present study and the findings in literature, it is understood that outdoor activities are effective on the value acquisitions of students. Gill & Jaswal (2010) reported that teaching values through special activities such as stories, songs, discussions, art etc. is effective. Bozkurt (2017) conducted a study in which it was shown that values can be taught to children permanently when they are emphasized through the use of games. Moreover, outdoor activities are more permanent and can be remembered by the students for longer periods of time (Dillon et al. 2006). Hence, it is suggested that the educators and researchers conduct values education programs abundant with activities with which children can learn through experience. The outdoor activity based values education program does not consist only of knowledge but also implementations and activities, it has enabled the students to transfer the values to their own lives. The fact that the students have taken part in joy and enjoyed the activities throughout the program indicates that they have enjoyed the learning process.

The students, teachers and parents considered outdoor activity based values education program as a very nice and beneficial study. The findings of Preston (1995) as a result of the doctorate thesis study examining the values education programs at schools in USA support the present study's findings. According to Preston (1995), the values education programs at schools are beneficial for the students and the implemented values education programs are supported by parents, society and school administration. According to the participants, the success of the educational programs implemented is due to the reinforcement of the students' pre-existing values, the students' ability to learn how to behave in society, the students' increased awareness of values, the fact that the activities were fun, and the fact that the students learned through experiential learning. It can be understood that the students' values advanced as a result of the outdoor activity-based values education program and that their behaviors changed positively. It can be understood that the activities resulted in three different changes in the behaviors of children. First, previously unobserved behaviors have started to take place; second, negative behaviors have changed positively; third, the already present positive behaviors have advanced further. Akpınar & Özdaş (2013) carried out a study in which a negative and statistically significant correlation was identified between the frequency of teaching values at the secondary school and undesired student behaviors. Dereli-İman (2014) reported in another study that the families of students who received values education program indicated that the proper behaviors of their children increased and that their undesired behaviors decreased.

The conducted study has enabled the students to acquire values through experience in an enjoyable manner. Thus, the students were allowed to create their values by taking on active roles throughout the values education program. Taş (2016) conducted a study in which it was concluded that the experiment group pupils

thought the program "fun" and "beautiful."The present study also had a positive impact on the students. This was observed in the study by Uzunkol (2014). Accordingly, effective values education programs should be devoid of boredom and transferred into a format in which students will have fun. Outdoor activity-based values education program provides an entertaining process. The recommendations for the study are as follows;

- Active, non-school settings should be utilized in the process of educating pupils about values.
- The purpose of values education should not only be to stimulate the cognitive processes of pupils, but also to foster their emotional growth.
- The process of values education should be designed so that kids can have fun, study, and live. Teachers can receive training in values education in non-school settings. Training should be provided for the development of various activities.

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Turkish Version of the Silencing the Self in School Scale: Validity and Reliability Study for Emerging Adults

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ABSTRACT

The purpose of this study is to adapt the STSIS Scale to Turkish and to investigate its psychometric qualities. The scale comprises 22 items and three variables (self-silencing, divided self, and putting the teacher first). The study participants comprised 298 young adults with a mean age of 21.09 years. Utrecht Work Engagement Scale-Student Form, Negative Affect Schedule, and Perception Form for Life Skills were used to evaluate the scale's criterion validity. The construct validity was investigated using confirmatory factor analysis. In addition, test-retest and internal consistency coefficients were examined to evaluate the scale's reliability. The Turkish version of the scale consisted of three subdimensions related to the Negative Affect Schedule and Perception Form for Life Skills. In addition, reliability values for the scale were satisfactory. The internal consistency coefficient was .89, the composite reliability was .97, and the test-retest validity coefficient was .86. According to these findings, the Turkish version of the STSIS Scale is a valid and reliable tool for use with young adults.

Keywords:

Self-silencing, school, validity, reliability, scale

1. Introduction

Self-silencing (SS) is a notion that emphasizes via individuals' thoughts related to their intimate relationships and themselves (Jack & Ali, 2010). Individuals who silence themselves give more importance to the desires and demands of others by giving up on themselves (Jack, 2003). SS, based on the clinically depressed women's life, is theorized by Jack (1991). According to Jack (2003), in intimate relationships, women think that they can maintain their relationships by putting others' expectations, desires, and demands ahead of their own. In addition to keeping the relationship, avoiding conflict and gaining a feeling of trust are the basic goals of SS.

SS is addressed within the scope of voice or silence in developmental and feminist perspectives (Gilligan, 2017). At this point, the Two Dimensional Autobiographical Model proposed by Fivush (2002) draws attention. Fivush suggests that the basic phenomenon that determines the presence of women in voice or silence is the narratives. When women experience a sense of existential despair by silencing themselves, they take part in the "avoidant" attitude dimension in this model. Participation in any dimension of this model is influenced by both the attitudes of others and one's own self. Therefore, it is believed that SS can benefit from the culture. Expectations about conforming to culture's norms and feminine ideals cause women to SS more (Jack & Ali, 2010; Jack & Dill, 1992). By affirming traditional gender roles, certain cultures that encourage women to be silent contribute to the formation of a submissive attitude in women (Jack, 1991). In other words, it can be said that masculine and feminine gender roles evaluated in conventional roles (Woodhill & Samuels, 2004), increase SS. On the other hand, it is known that the individuals silence themselves in different ways in both gender roles (Smolak, 2010). As with both gender roles, there are different forms of SS in both genders.

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Women to secure their relationships, and men to maintain autonomy and distance in relationships silence themselves (Smolak, 2010). Therefore, though it is seen in the studies that SS is considered as a notion for women's studies, men also silence themselves. In the literature on SS, mostly depression (Jack & Dill, 1992; Lafrance, 2009; Nicolas et al., 2010), self-esteem (Neely-Smith & Patsdaughter, 2004; Drat-Ruszczak, 2010), trauma (Granski et al., 2020), dyadic relationship adjustment (Thompson, 1995) and achievement motivation (Spratt et al., 1998) are examined. In Turkey, there are few studies on SS. These studies examined the relationships between SS and identity formation (Demir Kaya & Çok, 2021) and well-being (Kurtiş, 2010) in women.

It is assumed that SS (Jack & Ali, 2010), considered a relational process rather than an individual feature, is frequently experienced in young people with school life due to its emphasis on dyadic relationship adjustment and achievement motivation. The importance of the young's relational processes in the school environment is remarkable in achieving positive academic outcomes (Patrick et al., 2019). Assuming that the teacher is the center of the network of relationships in the school life of young people, students can also silence themselves in the teacher-student relationship.

Scale development studies on SS were carried out by Jack and Dill (1992) and Jack (1991). Participants included women in universities, hospitals and women's shelters, and the "Silencing the Self (STS) Scale", which consists of 31 items in four subdimensions, was developed. Drat Ruszczak (2010) conducted an adaptation study of the scale on Polish women. Similarly, DeMarco (2010) examined an adaptation study of the scale on women with HIV / AIDS. On the other hand, some studies have used this scale on both women and men to examine individuals' grades of SS (Gratch et al., 1995). Remen et al. (2002) evaluated the construct validity of Jack's (1991) STS Scale regarding gender differences and suggested that the scale had a stronger structure in women.

As the scale studies on SS are investigated in Turkey, it is noteworthy that Kurtiş (2010) conducted the reliability and validity of the STS Scale. After the study by Kurtiş (2010), a revision including men and women in the participants was needed, and Birtane Doyum (2017) carried out Turkish adaptation of this scale on both men and women. Later, Demir Kaya (2019) carried out Turkish adaptation of the STS Scale in women who are both students and non-students. Thus, examination on STS Scale was conducted on a heterogeneous women sample. As a result, it can be said that the adaptation studies of STS Scale were carried out in various cultures and different sample types.

STS Scale developed by Jack (1991) measures the attitudes of individuals in their intimate relationships. Patrick et al. (2019) examined the STS Scale from a different perspective and adapted this scale to young people in the context of the student-teacher relationship and the school environment. It is seen that the items in this adaptation study, which is suggested as 'Silencing the Self in School (STISIS)', are similar to the items of the scale developed by Jack (1991) and emphasize relationships with teachers rather than relationships with partners (Patrick et al., 2019). Although there are validity and reliability studies on the STS Scale (Jack, 1991; Jack & Dill, 1992) in many cultures, there is no adaptation study of the STISIS Scale, which was developed based on the STS Scale on both women and men.

Adapting the STISIS Scale into Turkish may be beneficial in some respects. For example, the concept of SS, which is only considered suppressing the woman's voice in intimate relationships, has not been examined in the academic environment. Therefore, this scale can be used to define the level of SS of individuals in the school environment. In addition, SS is higher in depressed individuals and causes depression (Jack, 1991). In other words, there is a two-way relationship between depression and SS. In situations of general distress, including depression, the level of students' ability to express themselves as they feel or think can be measured using the STISIS Scale. In addition, this scale can also be used in studies involving variables related to schools such as academic achievement, school burnout, and school engagement. Therefore, this study aimed to adapt the STISIS Scale to Turkish designed to assess the level of expression of feelings and thoughts in the school environment among young adults aged 18-27 years.

2. Method

2.1. Participants

Data were collected from 298 students. The relevant literature has recommended that 10 participants be reached for each item on the scale (Turker, 2009). It is also maintained that at least 200 participants are required for the sample size (Pituch et al., 2016). Therefore, it can be said that the current study reached a sufficient number of participants for the SS scale at school, consisting of 22 items. The participants' ages were between 18 and 27 (178 females and 120 males). The ages of the participants of the test-retest group ranged from 18 to 26 (Mean = 21.74, SD = 2.34). Participants were 49 females (68%) and 23 males (32%).

2.2. Measures

Sociodemographic Data Form: This form was created to collect information about the demographic features of the individuals. The form recorded the students' sex, age, and the university.

Silencing the Self in School Scale (STSIS): The scale, which determines the extent to which individuals silence themselves in school, was developed by Patrick et al. (2019). In the analyses of validity, it was determined that a structure consisting of 22 items and three factors had been established for the students. The scale is a 5-point Likert type. The scale having 22 items has three subscales 8 items are in the Self-Silencing subscale (SSS), 6 items are in the Divided-Self subscale (DSS), and 8 items are in the Putting Teacher First subscale (PTFS). Items 6, 9 and 14 in the scale are reverse coded. The reliability analysis calculated the internal consistency coefficients as .89 for the SSS, .77 for the DSS, and .77 for the PTFS (Patrick et al., 2019).

Utrecht Work Engagement Scale-Student Form (UWES-SF): The scale was developed by Schaufeli and Bakker (2004) and Çapri et al. (2017) carried out a Turkish adaptation study. The scale has five Likert points. As the score increases, employee engagement will increase. The scale consists of nine items and three subscales, each with three items. The reliability and validity analysis confirmed the three-factor structure among college students (χ^2 : 92.75; df: 24, χ^2 /df: 3.86; NNFI: .92; CFI: .95; RMSEA: .07). The reliability was analyzed by calculating the reliability coefficient (Cronbach's alpha) and it was determined to be $\alpha = .73$ for the factor of vigor, $\alpha = .76$ for the factor of dedication, $\alpha = .70$ for the absorption, and $\alpha = .84$ for the overall scale (Schaufeli & Bakker, 2004). In adaptation studies, it was determined that the three-factor structure was confirmed among Turkish students (χ^2 : 75.34; df: 23, χ^2 /df: 3.27; NNFI: .99; CFI: .99; RMSEA: .062; SRMR: .029). Cronbach's alpha ranged between 0.72 and 0.88 in the study of adaptation to Turkish, and the sample size was 597 students (Çapri et al., 2017). In this study, the Cronbach's alpha of the UWES-SF was calculated as .89.

Negative Affect Schedule: In the tested PANAS validity studies (Watson et al., 1988), the two-factor structure was determined on the students. There are 10 negative and 10 positive affect items in the schedule. When the reliability findings were investigated, it was seen that the internal consistency value for the positive affect was .88 and .85 for the negative affect. The scale is in 5-point Likert type and the points for each affect are between 10 and 50. There is no reverse item and Cronbach's alpha is .85. Gençöz (2000) conducted a validity and reliability analysis in Turkish. According to the Explanatory Factor Analysis (EFA) outcome for Turkish culture, the two-factor structure accounting for 44% of the total variance was confirmed. The reliability was analyzed by calculating the reliability coefficient. It was determined that the Cronbach's alpha was .86, test-retest reliability was .54, and the sample size was 199 students (Gençöz, 2000). In this study, the negative affect subscale was used, and the Negative Affect Schedule's Cronbach's alpha was .88.

Perception Form for Life Skills: This form, which measures the life skills of individuals, consists of 16 items. A single total score is obtained from the 5-point Likert-type form (Çok et al., 2020). In this study, the reliability was analyzed by calculating the reliability coefficient, and the Cronbach's alpha of the Perception Form for Life Skills was calculated as .91.

2.3. Procedure

Brian C. Patrick, who developed the scale, was contacted, and required permission was obtained to adapt the STSIS Scale to Turkish. Permission was obtained from the developers of the Turkish versions. Ataturk University's ethics committee approval (Date: 05.07.2021 Number: 10/144) was obtained. After the required permission and ethics committee approval were completed, the adaptation study of the STSIS Scale was started. In the study, language validity was first evaluated. After the research team and three experts in the

fields of psychology translated the original items, items were compared, and the Turkish form was created. After it was observed that the items were compatible, the data were collected through the online form. An informed consent form was presented to the participants, and information about the study was given. Students filled out the forms in about 15 minutes. After three weeks, test-retest reliability was used to determine the form's reliability, and 72 of the participants were given the form a second time.

2.4. Statistical Analysis

To define the validity analysis of the scale, construct validity and criterion-related validity were examined. Confirmatory factor analysis (CFA) was used to investigate the construct validity. First Order CFA and then Second Order CFA were analyzed. Meydan and Şeşen (2011) state that in CFA analysis, Second Order CFA of multidimensional scales should also be tested. Therefore, in the current study, First Order CFA was preferred to verify the factorial structure, and Second Order CFA was used to test its multi-factorial structure. For the criterion-related validity of the STSIS Scale, the Utrecht Work Engagement Scale-Student Form, Negative Affect Schedule, and Perception Form for Life Skills, whose reliability was calculated in the literature, were used. To determine if STSIS scores differed between genders, the t-test for independent samples was performed. The reliability was examined with test-retest reliability, internal consistency, and composite reliability. Regarding test-retest reliability, 72 participants were re-reached at three-week intervals. In addition, independent samples t-test was performed to determine the difference between the lower 27% and upper 27% group averages for each item in revealing the discrimination power of the items. As it is known, Henryson Method and Simple Method are the most commonly used methods to calculate item statistics in the item analysis process. The number of samples included in the calculation distinguishes these two item analysis methods from each other. In the Henryson Method, all respondents included in the measurement are used, while in the Simple Method, the most successful 27% upper and the most unsuccessful 27% subgroup are determined, and 54% of the population is used (Hasançepi, Terzi, & Küçük, 2020). In the current study, the simple method was used and 54% of the mass was handled. SPSS 21.0 and Lisrel 8.70 programs were preferred for statistical Adata Analysis.

2.5. Ethical

Permission was obtained from the developers of the Turkish versions. Ataturk University's ethics committee approval (Date: 05.07.2021 Number: 10/144) was obtained.

3. Findings

After translating to Turkish, the 22-item scale was administered to 298 university students. Firstly, it was checked whether there were any errors in the data entries. As the items on each scale were required to be filled out during the creation of the online form, there were no instances of missing data. Then, it was determined whether the data set contained any extreme values. After determining that there were no outliers, the assumption of normality was examined. Skewness and kurtosis values were checked for normality analyses. It was observed that the skewness was between -1.12 and 1.16, and the kurtosis was between -.80 and 1.32. Since the values in the data set are close to 0 and between skewness and kurtosis values (+2, -2), the assumption of normality is met (Georg & Mallery, 2019).

3.1. Validity Analysis

3.2. Construct Validity

CFA was used to test construct Validity. In the scope of the CFA, the factoring technique of maximum probability factor analysis was used. Multiple fit indexes of the CFA were used. In the fit indexes, the criteria was above .90 for CFI and NFI, and below .08 for RMSEA and SRMR. According to the literature, values of .90 and above for CFI and NFI indexes indicate good fit (Hu & Bentler, 1999; Kline, 2016). It was stated that for the RMSEA values, below .05 is a good fit, below .08 is an acceptable fit, and above .10 is a poor fit. It is stated that a value between .08 to .10 shows mediocre fit (Brown, 2015). According to the First Order CFA conducted for the STSIS Scale, the factor loading of item 8 was .04, and it had a meaningless value. Then, item 8 was removed from the scale, and analyzes were performed. The First Order CFA results and error variances of the STSIS Scale are shown in Figure 1.

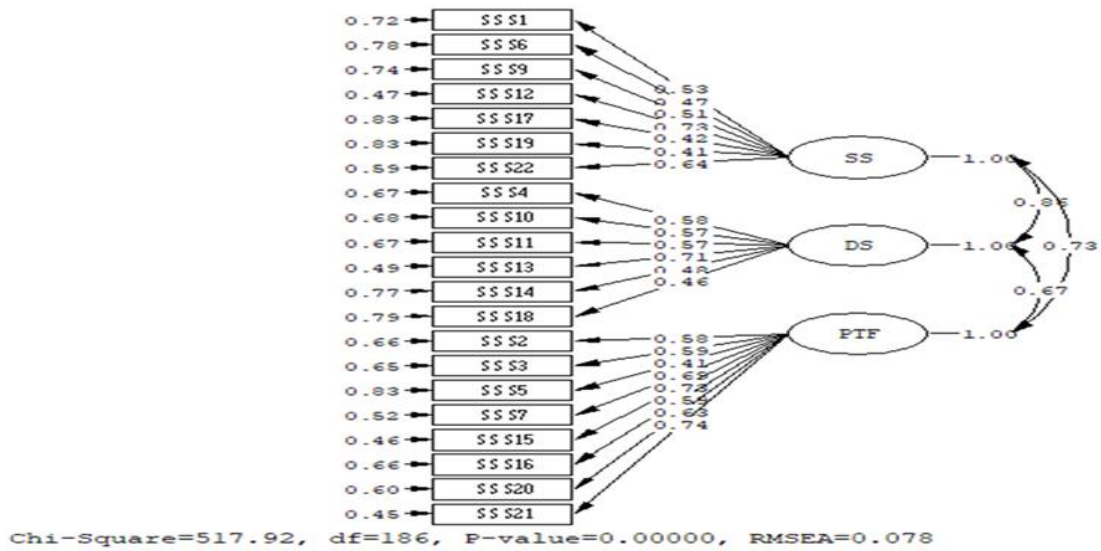


Figure 1. The First Order CFA Results and Error Variances of the STSIS Scale

Firstly, the significance of the standardized regression coefficients for the First Order CFA of the STSIS Scale was assessed. Accordingly, factor loading values were ranged from .41 to .73 for SSS, .46 to .71 for DSS, and .41. to .74 for PTFS. According to First Order CFA, model fit indexes were (χ^2 : 517. 92; df: 186, χ^2 /df: 2.78; NNFI: .92; CFI: .93; RMSEA: .078; SRMR: .066). According to the fit indices, the First Order CFA values of the STSIS Scale have a good fit (Bayram, 2016; Kline, 2016; Tabachnick & Fidell, 2014). To reveal the determined structure of the STSIS Scale, Second-Order CFA was carried out. Second-Order CFA results and error variances are shown in Figure 2.

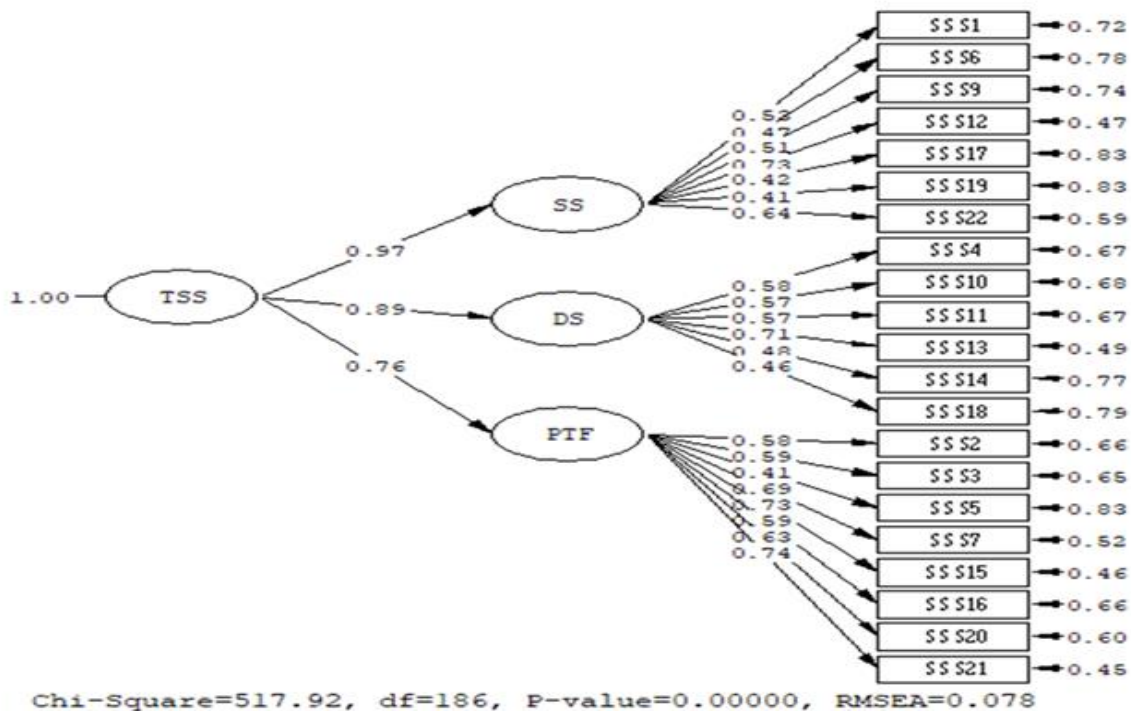


Figure 2. The Second Order CFA Results and Error Variances of the STSIS Scale

Firstly, the significance of the standardized regression coefficients was assessed by the Second Order CFA of the STSIS Scale. Accordingly, factor loading values ranged from .41 to .74 ($p < .01$). According to Second-Order CFA, model fit indexes were (χ^2 : 517. 92; df: 186, χ^2 /df: 2.78; NNFI: .92; CFI: .93; RMSEA: .078; SRMR: .066). According to the fit indices, the Second Order CFA values of the STSIS Scale have a good fit (Bayram, 2016; Kline, 2016; Tabachnick & Fidell, 2014). Normality values, standardized factor loading values, and explained variance values of the Second Order CFA Model are presented in Table 1.

Table 1. Normality Values, Standardized Factor Loading Values, and Explained Variance Values of STSIS Scale

Items	Skewness	Kurtosis	λ	R ²
Self-Silencing (SS)			.97	.94
1.	.52	-.27	.53	.28
6.	.88	.34	.47	.22
9.	.54	.05	.51	.26
12.	.91	.80	.73	.53
17.	-.02	-.71	.42	.17
19.	-1.12	-.71	.41	.17
22.	.20	-.72	.64	.41
Divided-Self (DS)			.89	.79
4.	.32	-.80	.58	.33
10.	.54	-.36	.57	.32
11.	.22	-.77	.57	.33
13.	1.13	.97	.71	.51
14.	.68	.88	.48	.23
18.	.07	-.72	.46	.21
Putting Teacher First (PTF)			.76	.57
2	.83	.32	.58	.34
3	.89	.43	.59	.35
5	.36	-.52	.41	.17
7	1.01	.50	.69	.48
15	1.16	1.32	.73	.54
16	.63	.11	.59	.34
21	.69	-.29	.63	.40
22	.86	-.04	.74	.55

As shown in Table 1, both the standardized factor loading values and explained variance values are quite high ($R^2 = .17$ to $.54$). In light of these findings, the three-dimensional structure hypothesis model for the STSIS Scale is confirmed. In other words, the 21-item STSIS Scale is a suitable measuring instrument.

3.3. Criterion-related Validity

The STSIS Scale was assessed by examining the relationships between work engagement (student form), negative affect, and life skills. Obtained data show a normal distribution. Table 2 shows the correlation coefficient, skewness, and kurtosis values obtained.

Table 2. Correlations Between Mean Scores and the STSIS Scale on the Criterion Measurement Tools

	Mean	SD	Skewness	Kurtosis	1	2	3	4
1. STSISS	50.43	11.50	.24	.19	1			
2. WES	24.58	7.04	.30	-.22	-.08	1		
3. NAS	22.14	8.11	.64	-.25	.43**	-.07	1	
4. PFFLS	61.51	9.75	-.25	-.31	-.32**	.35**	-.26**	1

** $p < .001$; STSIS: Silencing the Self in School Scale; WES: Work Engagement Scale; NAS: Negative Affect Schedule; PFFLS: Perception Form for Life Skills

As a result of the correlation analysis, there was a significant positive correlation between silencing the self in school and negative affect ($r = .43, p < .01$), and there was a significant negative correlation between silencing the self in school and life skills ($r = -.32, p < .01$). In addition, there was no significant negative correlation between silencing the self in school and work engagement ($r = -.08, p = .705$).

3.4. Comparison of Self-Silencing in School by Genders

In the current study, the differences between the levels of STSIS Scale of individuals are investigated by gender. According to the total score obtained, there was no difference between females and males. The results are shown in Table 3.

Table 3. T-test for STSIS scale on gender

	Gender	N	Mean	SD	t	p
STSIS	Female	178	51.35	11.02	1.68	.094
	Male	120	49.08	12.08		

According to the findings, there was no significant difference between the students' the STSIS marks by gender ($t_{296} = 1.68, p = .094$).

3.5. Reliability Analysis

In addition to the t-test results concerning the significance of the difference between the item means of 27% of the lower and 27% of the upper groups, Table 4 displays the item-total correlations for each item on the STSIS Scale.

Table 4. *Item analysis results*

Item Number	Corrected item-total correlation coefficients	Cronbach's alpha value when the item is eliminated	t (Low 27%-High 27%) n1=81, n2=81	p
1	.46	.88	8.88	.000
6	.36	.89	7.37	.000
9	.40	.88	8.51	.000
12	.66	.88	12.91	.000
17	.41	.88	7.65	.000
19	.41	.88	6.92	.000
22	.62	.88	12.61	.000
4	.50	.88	11.26	.000
10	.44	.88	9.45	.000
11	.51	.88	10.13	.000
13	.60	.88	11.82	.000
14	.41	.88	7.26	.000
18	.36	.89	7.68	.000
2	.51	.88	10.09	.000
3	.47	.88	8.69	.000
5	.36	.89	6.98	.000
7	.54	.88	10.15	.000
15	.60	.88	11.14	.000
16	.50	.88	11.08	.000
20	.54	.88	10.54	.000
21	.63	.88	14.74	.000

As a result of the construct validity, item analyses were performed on the STSIS Scale, consisting of three subdimensions and 21 items, and individuals who have the features in the items and those who do not are distinguished. Accordingly, the item-total test correlation values were found to be between ($r = .36$) and ($r = .66$). According to the relevant literature, scale items are valid when the item-total correlation value is more than .30 (Field, 2013). These results show that the items' the validity in the scale is high. Therefore, the items measure the features that are wished to be determined. In addition, it can be said that all items in the scale contribute positively to the scale's reliability (Field, 2013). Another finding was that the t values between the lower and upper groups' item scores ranged between 6.92 and 14.74 ($p < .01$).

Test-retest reliability, Cronbach's alpha, and composite reliability were calculated to determine the reliability of the STSIS Scale. The test-retest reliability, internal consistency, and composite reliability coefficients of the STSIS Scale are shown in Table 5.

Table 5. *Internal Consistency, Test-Retest Reliability, and Composite Reliability Coefficients of the STSIS Scale*

Scale	Internal Consistency	Test-Retest Reliability	Composite Reliability
Self-silencing	.73	.68	.82
Divided Self	.74	.82	.77
Putting Teacher First	.83	.87	.89
Total Score	.89	.86	.97

The Cronbach's alpha is .73 for the SSS, is .74 for the DSS, is .83 for the PTFS, and is .89 for the total score. In addition, composite reliability coefficient is .82 for the SSS, is .77 for the DSS, is .89 for the PTFS, and is .97 for the total score.

The STSIS Scale was first applied to 80 students for test-retest reliability. Three weeks later, the scale was re-administered to the same students and 72 people were involved in the second application. When the correlation values between the first and second application obtained from 72 people were examined, it was found that SSS ($r = .68$), DSS ($r = .82$), PTFS ($r = .87$), and the total score ($r = .86$). Reliability coefficients of .70 or more are considered sufficient (Field, 2013). In addition, values of .60 or more can be considered good

measures (Kalaycı, 2009; Şencan, 2005). Therefore, according to the findings, the scale has a good level of reliability.

4. Conclusion and Discussion

In this study, the Turkish reliability and validity of the STSIS Scale developed by Patrick et al. (2019) were examined. The validity and reliability analyses showed that the STSIS Scale's Turkish version is suitable for measuring the SS levels of young people in the school environment. It is seen that the STSIS Scale, which originally composed of 22 items, was confirmed with 21 items, and the Self-Silencing subscale included 7 items instead of 8 items. For the other items, the items in each subdimension of the original scale are also included in the same subdimensions in the Turkish version. In addition, the item analysis results showed that each item was suitable for measuring SS in school.

The STS Scale has been adapted in many cultures such as Polish (Drat Ruszczak, 2010), American (DeMarco, 2010), Asian, African American, Hispanic, and Caucasian (Gratch, Bassett, & Attra, 1995). Based on the Self-Silencing Theory in women proposed by Jack (1991), the STSIS Scale measures the level of self-expression of students in their relationships with their teachers in the educational setting. In other words, the relationship established with the teacher in the educational setting, instead of the partner in intimate relations, determines the individual's silencing. STSIS Scale was re-evaluated by Patrick et al. (2019), regarding the items in the STS Scale. Unlike the STS Scale in women, the STSIS Scale includes 3 subdimensions: SSS, DSS, and PTFS. Cronbach's alphas were .89 for SSS, .77 for DSS, and .77 for PTFS (Patrick et al., 2019). Cronbach's alphas were .73 for SSS, .74 for DSS, and .83 for PTFS; similarly, the 3-factor structure of the STSIS Scale was confirmed.

No study on the adaptation of the STSIS scale was found in the relevant literature. Therefore, some comparisons can be made following the STS scale developed by Jack (1991). In the STS Scale developed by Jack and Dill (1992) and Jack (1991) the samples consist of undergraduate females, pregnant women/hospitalized patients, and individuals in women's shelters. The Cronbach's alpha values were calculated as .86, .89, and .94, respectively, for the sample. The test-retest validity coefficient was found to be .88, .89 and .93 in the study group, respectively. According to Remen et al. (2002), who conducted the STS Scale's validity and reliability study on men and women, the Cronbach's alpha of the STS Scale was good for women and men ($\alpha = .81$ and $.82$, respectively). Cramer and Thoms (2003) also conducted a validity and reliability study of the STS Scale on both women and men. Although the original scale's 4 factors were confirmed in women, a 3-factor solution for males emerged.

Similarly, some studies in the literature (Duarte & Thompson, 1999; Birtane Doyum, 2017) have adapted the STS Scale, which was originally developed for women, and for men. Therefore, the participants in these studies are similar to the participants in the STSIS Scale. In addition, it was found that silencing in school did not differ by gender in the participants of this study. Although there was a gender difference in some of the adaptation studies on SS (Remen et al., 2002), the lack of difference in SS in school might be connected to the school environment. For example, while individuals are more committed to gender roles related to femininity or masculinity in their intimate relationships, they may not use these gender characteristics much in the school environment.

Similar to the study by Cramer and Thoms (2003), Drat Ruszczak (2010) also confirmed the STS Scale on 3 subdimensions. In other words, 20-item STS Scale shows a good fit as a measurement tool with Divided Self, Externalized Self-Perception, and Silencing the Self subscales. The STSIS scale, which was developed based on the STS scale, is similar to the above studies in that it confirms the 3 subdimensions. In the present study, these subdimensions were confirmed. Its correlations with work engagement (student form), negative affect, and life skills were examined to determine the criterion validity. Accordingly, the correlation between work engagement (student form) and silencing the self in school is parallel with the study of Patrick et al. (2019). Studies on SS show that individuals experience negative emotions as they silence themselves (Lafrance, 2009; Oh, 2010). On the other hand, as SS increases, enterprise, expressiveness, and awareness decrease (Fivush, 2002; Jack & Ali, 2010). The STSIS scale, which was developed based on the STS scale, is similar to the above studies in that it confirms the 3 subdimensions. In the present study, these subdimensions were confirmed. Silencing the self in school is associated with a depressive experience in school, including variables such as feelings of disconnection from teachers, maladaptive coping strategies, weak grades of behavioral engagement, and emotional distress (Patrick et al., 2019). Considering that the starting point of the Silencing

the Self Theory is depressed women (Jack, 1991), it can be said that silencing the self in school can also cause depression. It is known that concepts such as competence and academic achievement related to the school variable are also related to depression (Kennedy, Spence, & Hensley, 1989). These studies show that negative experiences in the school environment cause general distress such as stress, depression, and anxiety (Hewitt et al., 2002). Similarly, there is a correlation between general distress and SS in intimate relationships. Therefore, it has been expected that silencing the self in school is a variable that prepares the ground for the depressive position at school.

5. Limitations and Recommendations

The present study has some limitations. First, the participants in the study are in young adulthood. Because school life is central to adolescence, this study can be conducted with adolescents. Another limitation of this study is that a few participants represent Turkish society unevenly. Although it is desired to prevent this through online data, it is seen that the majority of the participants reside in eastern Turkey. Since SS is a concept discussed in cross-cultural psychology (Jack, 1991), repeating the study with a heterogeneous sample may be recommended. In addition, the collected data coincided with a period when online education was carried out in schools owing to the covid-19 pandemic. Compared to face-to-face education, the relationship styles of students with their teachers may have changed in online education. Therefore, the present study can be repeated once formal education is started in schools. Similar to the previous limitation, the participants could not directly ask questions to the research group about the items in the scales due to the online data. Finally, the convergent and divergent validity of the scale was not investigated as there is no other scale measuring STSIS Scale in Turkey. In future studies the convergent and divergent validity of the scale can be investigated with other scales. Despite these limitations, according to the study's results, the Turkish version of the STSIS Scale is a valid and reliable tool.

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The Effect of School Managers' Five-Factor Personality Traits on Decision-Making Processes

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ABSTRACT

This study investigates the effects of the five-factor personality traits (FFPTs) of school administrators on decision-making processes. The research was conducted using one of the quantitative research approaches, the relational survey model. The research sample comprised 363 managers working in İstanbul during the academic year of 2020-2021, of which 133 were female, and 230 were male. Five-Factor Personality Traits Scale and Melbourne Decision-making Scale were used as data collection tools. Neuroticism, one of the subdimensions of the Big Five Inventory, was found to negatively influence self-esteem in decision-making, whereas extroversion, conscientiousness, openness, and agreeableness positively influenced self-esteem in giving. Neuroticism, one of the sub-dimensions of the Big Five Inventory, positively influenced attentive, avoidant, delaying, and frightened decision-making styles. In contrast, extroversion, conscientiousness, openness, and agreeableness negatively influenced these decision-making styles.

Keywords:

Five-factor personality traits, decision-making processes, school manager.

1. Introduction

Management emerges as an ongoing concept among people living in communities. The necessity of living together gave birth to management (Balyer, 2019). On the other hand, organizations form the basis of the existence of managers. An organization is a conscious community formed by people coming together for a purpose. There are employees at certain levels in the organization, which distinguishes managers from employees; to guide, organize and supervise them (Robbins, Decenzo & Coulter, 2016). "What does the manager do?" When asked, in its most up-to-date form, it provides the necessary resources for achieving the goals through other individuals, provides direction and guidance to the goals, manages the necessary organizations, and takes decisions to achieve these goals (Robbins & Judge, 2019). No matter how much management has emerged in business, management is essential and inevitable in an organization created by people in any organization. These organizations include organizations such as hospitals, government agencies, and schools. Educational organizations, which are the field of research, are the central vein of educational management. The managers working here consist of educational employees who come together to achieve the educational needs of society and the educational goals set (Bakioğlu, 2016). Like every organization, educational organizations need managers in their schools. These managers have been in management with their "leadership" characteristics rather than "management" in recent years.

In this way, the success of the organization in every field and the fruitful academic results that will emerge can only be realized with a positive and constructive management approach (Beeman & Perez, 2013). There

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are competencies as well as management styles that the manager should have. Among these competencies, the one that will affect the organization the most is "decision making". In the new period, rapidly changing situations and extraordinary events have created the need for leaders to think quickly and make decisions. This situation brings with it unilateral decision-making. Healthy organizations are distinct (Aydn, 2013) on the basis of the appropriate assignments and permissions to be granted inside the organization. Therefore, there is a need for managers who can deal with the problems to be experienced in all areas of the organization as a whole, carry out teamwork, use their technical knowledge and skills, overcome them with harmonious and robust relationships, and take strategic and practical decisions (Ercan & Altunay, 2015).

1.1. Decision-making Process

The decision-making process is one of the essential roles of managers, the cornerstones of management. As a result of Mintzberg's studies in the 1960s, he revealed "the managerial roles of managers at work." He gathered these roles under three main titles among themselves, and one of these main titles is "Decision Roles" (Robbins, Decenzo & Coulter, 2016). Also, Daniel E. Griffiths developed the theory "Management is decision making" in 1959. Individuals make decisions in all areas of their lives, affecting their environment and themselves. When making decisions, one should know both oneself and others well; knowing a person is to know his personality well. Personality is a state that privatizes the individual. It also includes personality behaviors and lifestyles (Üngüren, 2011). The situation is the same in organizations, and since the decisions to be taken by the manager concern the entire organization, he should make the right decisions. There are also personal factors besides the environmental factors he is influenced by while making the decisions (Tekin, 2018). According to studies, individuals are affected by many factors in their decision-making processes, and one of the most important among them is personality (Oğuz, 2009). The distinguishing aspect of this research from other studies is to examine the effect of school managers' "five-factor personality traits on decision-making processes".

Among service organizations, schools are based on education and training. School service is about student learning (Hoy & Miskel, 2015). In this context, educational management is the discipline of managing the overall operation of these institutions. Numerous fields, including psychology, sociology, politics, and economics, have influenced educational administration. Educational management should set education as its target and not deviate from this path. If management in understanding business is taken as a basis, effectiveness and goals may be in trouble. Although a complete model cannot be drawn for educational management due to the confusion of educational organizations, the most up-to-date is "school-based management." School-based management is a decentralized structure that sees autonomous and individual schools as the key to development and progress and where decision-making authority and responsibility are left to the school. School-based management has four primary forms: Management under the control of the school principal, management under the control of experts (teachers), management under the control of the community (parents and community members), and balanced management (Bakioğlu, 2016).

Decision-making skills are essential for a manager and fundamentally affect the organization and its success (Lunenberg & Ornstein, 2013). A decision is defined as "the dynamic series of factors and activities that begins with identifying the necessary elements for action and ends with the formation of a specific judgment for action", as Mintzberg puts it. The decision is the basis of action. The manager's choice on any given topic is the decision. It is the solution strategy selected by managers at all levels after considering a problem (Kaya, 2008). Decision-making is considered the management's brain, and the more accurate the decision is made, the more successful the organization will achieve in every step (Taşçı, 2011). Decision-making consists of two processes: managerial and functional. While making decisions, the manager cannot remove himself from his staff and environment (Yldz & Donmez, 2017). (Oztürk, 2009) The manager is also affected by the situations resulting from his own decision-making. The decision requires a process since it reflects the past and the future (Sar, 2006). The decision is about the result and the processes it goes through until the last moment (Koçel, 2018). Every decision is a risk and affects the entire organization; It is necessary to analyze the past, present, and future (Bakioğlu & Demirel, 2013). Managers must consider their decision-making processes (Sezer, 2016). In the first periods of the management, the issue of the decision process was not given importance – Fayol, Luther, Gullick, and Urwick did not participate in the decision-making process.

In contrast, decision-making constitutes the center of management and has become a part of the steps of today's management (Çelikten, Gılıç, Çelikten & Yıldırım, 2019). Decision-making refers to a process with a

beginning and an end; When the decision comes out, it is necessary to predict by analyzing the returns before and after it (Tekin & Ehtiyar, 2010). The decision is the product of a certain process and its output and reports the "result." The decision mechanism has passed through a process until the conclusion, and the decisions must be evaluated by looking at this process (Koçel, 2018; Torunlar, 2018). The decision-making process is similar to the "butterfly effect" and can affect the decision area, environment, and even their environment. Decision-making can be based on the decision maker's values, preferences, and explicit or implied knowledge (Shaked & Schechter, 2019). Therefore, managers should be very careful in their decision-making and consult (Torunlar, 2018).

Education, like other sectors, is affected by national and international changes, and they have to keep up with the changes quickly. On the other hand, this situation has strategic importance as the managers' decisions against every possible problem and change will affect the teacher, student, parent, and the environment. School managers make decisions inside complicated institutions known as schools (Shaked & Schechter, 2019). Principals and other decision-makers deal with alterations, escalating expectations, and rising demands (Ahmad & Ghavifekr, 2014). Decision-making is one of the most dangerous and challenging responsibilities of a school manager. There may be such circumstances that have detrimental effects on the school and even on a person's career (Shapiro & Stefkovich, 2011). While overcoming these difficulties, the determinant of the success or failure of schools is "decision making," which is of great importance for schools (Shaked & Schechter, 2019). Decision-making mechanisms involve much more than the 'mechanical application of existing rules, regulations, and various levels of school and school-related policy'. School managers are often local policymakers who tailor the authorities' guidelines to their particular situation (Frick, 2009; Spillane & Kenney, 2012). While making decisions, it is impossible for managers not to be influenced by internal and external stakeholders or not be pressured in the decision process. In today's world of high expectations, stringent demands, and rapid changes, the decision-making processes of principals are becoming more complex (Shaked & Schechter, 2019). The decision-making process can be affected by various factors (Summak & Kalman, 2020), and Sezer (2016) revealed that school managers are affected by some internal and external factors in the decision-making process. In addition, the leadership style of the manager influences decision-making, as do external factors such as the national policy backdrop (e.g., accountability), the size and location of the institution, and the quality of trusting relationships among colleagues (Polka, Litchka, Mete & Ayaga, 2016). Another component is the personality features of the manager, which is one of the characteristics resulting from the manager's education.

1.2. Five-Factor Personality Traits

Personality makes individuals their own and has distinctiveness; it is the whole of the features that carry the individual to a different field from the others, and differences make the reactions of individuals to events and situations differently. Especially within an organization, the behaviors or thoughts of the individual develop depending on their personality traits. "What personality traits and basic dimensions of personality differentiate individuals in terms of emotional, interpersonal relationships, experiential, attitudinal, and motivational styles?" Personality theorists gathered the data from the question under various factors and produced different models (Durak-Batıgün & Şahin, 2006; Tozkoparan, 2013). In the early 1980s, Robert McCrae and Paul Costa utilized factor analysis to examine the continuity and structure of personality, focusing on the dimensions of "extraversion" and "emotional inconsistency (neuroticism)". Later, they added the "openness to experience" factor. McCrae and Costa, who supported the three-factor personality model for a long time, concluded from their research that personality should be investigated in five dimensions; they added "agreeableness" and "conscientiousness" to the model and named it "Five-Factor Personality Traits"—"Big Five" (McCrae & Costa, 1999). **Neuroticism:** "Depression (propensity to experience dysphoric effects – sadness, hopelessness, guilt): low self-esteem, irrational perfectionist beliefs, pessimistic attitudes" (McCrae & Costa, 1999). If the consistency of the individual experiences in their emotions, they are balanced, calm, flexible, and comfortable in their relations with other individuals. If the situation is the opposite, individuals are more excited and anxious about their relationships with other individuals, and their moods can change quickly (Yıldızoğlu, 2013). On the other hand, if the individual has high neuroticism, impulse control and coping with stress become more complicated; The individual can be defined as anxious, tense, resentful, depressed, self-important, touchy, and challenging to adapt (Zhao & Seibert, 2006). **Extraversion:** Assertiveness (preference for friendship and social stimulation): Social skills, multiple friendships,

entrepreneurial professional interests, participation in sports, and club memberships (McCrae & Costa, 1999); extraversion consists of positive emotions, and the individual is self-confident, optimistic, active, ambitious, enthusiastic and open to development. The social aspects of these individuals dominate; they are talkative and have leadership characteristics (Tozkoparan, 2013). **Openness to Experience:** Actions (need for diversity, innovation, and change): Interest in travel, many different hobbies, foreign culinary knowledge, different professional interests, friends sharing tastes; openness to other people's ideas, criticism, and changes; it includes imagination, creativity, high intellectual angle, and non-resistance to experiences (Park & Antonioni, 2007). **Agreeableness:** (desire to defer to others during interpersonal conflict): Forgiving attitudes, belief in cooperation, offensive language, reputation as repulsive; the individual who shows compatibility can show empathy in their agreements with the other person and does not ignore the wishes and desires of the other person and is easy to live with, and thus, he is successful in teamwork (Ercan & Altunay, 2015). **Conscientiousness:** Strive for achievement (a strong sense of purpose and high levels of ambition): Leadership skills, long-term plans, organized support network, and technical expertise; the individual is determined, determined, patient, reliable, and is controlled and planned in performing the given task (Zhao & Seibert, 2006).

As with all managers, the most critical responsibility of school managers is "decision making." "Decision-making" in educational organizations has a never-ending cycle and a structure based on fundamental decision-making (Hoy & Miskel, 2015). School managers are faced with situations requiring daily quick and urgent action. As a result of quality decision-making, positive benefits are provided to the organization by signing the good works (Hoy & Tarter, 2010; Arslan & Demirli, 2018). Studies show that the manager is affected by many factors in the decision process, and this subject has been studied with different variables and different results have been obtained: decision-making and information management (Igwe, 2014; Stephen, 2015; Tunç & Çelikkaleli, 2005; Arslan & Demirli, 2018); personality traits (Bruin, Parker & Fischhoff, 2007; Tozkoparan, 2013); morality, communication (Tekin, 2018); change and uncertainty (Frick, 2009; Mayasari, 2018; Polka, Litchka, Mete & Ayaga, 2016); engagement (Taşçı, 2011); leadership characteristics (Kaya, 2008; Deniz, Arı, Akdeniz & Özteke, 2015); school managers (Hoy & Tarter, 2010; Bakioğlu & Demirel, 2013; Shaked & Schechter, 2019; Yıldız & Dönmez, 2017; Oğuz, 2009); self-esteem (Sezer, 2016); career (Bacanlı, 2012); organization management (Çelikten, Gılıç, Çelikten & Yıldırım, 2019); individual perception (Kurban & Yaşar, 2017; Leggett, Campbell-Evans & Gray, 2014); influencing factors (Sağır, 2006; Harris, 2012; (Cremona, 2012).

Since personality traits are a more specific and subjective situation, the manager will likely be affected by his decisions in line with his personality traits. In this direction, this research aims to determine to what extent managers' personality traits affect the decision-making processes. It is thought that the FFPT has sub-dimensions that will affect the decision-making processes, and in this direction, it is essential for the managers to know themselves. A manager who knows himself will be more careful in the decision-making process. The open or strong side of a leader consists of "agreeableness," which expresses confidence, "conscientiousness," which expresses commitment to the task, "neuroticism," which expresses emotional instability, and "openness to experience," which expresses innovation. Knowing the orientation of education managers on this issue and knowing the percentage of their influence on the decisions they will make as leaders can be a guide for conducting different researches in the field.

2. Method

2.1. Research Model

The research aims to examine the effect of school managers' Five-Factor Personality Traits (FFPTs) on their decision-making processes. A relational screening model was used in the research. A relational survey model evaluates the relationship between two or more variables (Gürbüz & Şahin, 2017).

The main and sub-hypotheses of the research are given below:

H₁. School managers' Five-Factor Personality Traits (FFPTs) significantly affect their level of self-confidence in decision-making.

1a. Neuroticism, one of the sub-dimensions of FFPTs, significantly affects the decision-making processes of school managers.

- 1b. Extraversion, one of the sub-dimensions of FFPTs, significantly affects the decision-making processes of school managers.
- 1c. Openness to experiences, one of the sub-dimensions of FFPTs, significantly affects the decision-making processes of school managers.
- 1d. Agreeableness, one of the sub-dimensions of FFPTs, significantly affects the decision-making processes of school managers.
- 1e. conscientiousness, one of the sub-dimensions of FFPTs, significantly affects the decision-making processes of school managers.
- H2. School managers' Five-Factor Personality Traits (FFPTs) significantly affect their decision-making styles.
- 2a. Neuroticism, one of the sub-dimensions of FFPTs, significantly affects the decision-making styles of school managers.
- 2b. Extraversion, one of the sub-dimensions of FFPTs, significantly affects the decision-making styles of school managers.
- 2c. Openness to experiences, one of the sub-dimensions of FFPTs, significantly affects the decision-making styles of school managers.
- 2d. Agreeableness, one of the sub-dimensions of FFPTs, significantly affects the decision-making styles of school managers.
- 2e. Conscientiousness, one of the sub-dimensions of FFPTs, significantly affects the decision-making styles of school managers.

2.2. Population and Sample

Three thousand three hundred forty-two school managers working in public schools in the Anatolian districts of Istanbul constitute the research universe. A random method was used to determine the sample, and 363 participants constituted the study sample. The sample was determined using the convenience sampling method, and the data from 363 volunteer managers were obtained by collecting the scales prepared via "Google forms" on the digital platform. While determining the quotas, the types of schools defined by the Ministry of National Education (state schools) and school levels (kindergarten, primary, secondary and high school) were considered. 63% of the research sample is male, and 36.6% are female managers (including the manager, deputy chief manager, and assistant manager).

2.3. Data Collection Tools

In his study, the "Melbourne Decision-Making Scale" and "Five Factor Personality Scale" (FFPS) were used as data collection tools. At the same time, the "personal information form" was applied to obtain the participants' demographic information. The personal information form prepared by the researcher consists of 6 questions in total, including information about the gender, marital status, tenure, type of school, task type, and education status of the participants in the study group.

The Five-Factor Personality Scale was developed by John, Donahue, and Kentle (John, Donahue & Kentle, 1991) and adapted into Turkish by Alkan (2007); validity and reliability studies were conducted. The scale consists of 5 sub-dimensions and 44 items. It is a 5-point Likert-type scale (1. I strongly disagree, 5. I agree very much). The reliability coefficient of the scale was found to be 0.87 by Alkan (2007). In this study, the reliability coefficient of the scale was found to be 0.80.

Mann, Burnett, Radford, and Ford developed the Melbourne Decision-Making Scale (Mann, Burnett, Radford & Ford, 1997), and its Turkish adaptation and validity and reliability study were performed by Deniz (Deniz, 2004). The scale consists of two parts; it consists of 28 items in total, one sub-dimension in the first part and four sub-dimensions in the second part. It is a 3-point Likert type scale (1st true, 2nd sometimes true, and 3rd not true). In the Turkish version, Deniz applied (2004) at three-week intervals and found that the reliability coefficients varied between 0.68 and 0.87. Mann et al. (1997) found the reliability coefficient to be 0.74. In this study, the reliability coefficient of the scale was found to be 0.64. The data were applied online to school

managers working on the Anatolian side in the 2020-2021 academic year, after the permission of the Istanbul Provincial Directorate of National Education.

2.4. Data Analysis

The data collected for the research study were analyzed by using SPSS 23 program. The normality of the data was examined with the Kolmogorov Smirnov Test, and it was determined that the data have a normal distribution ($p > .05$; $p = .300$). The study data were tested using correlation analysis and simple linear regression analysis.

2.5. Ethical

Ethical Committee Approval is required by applying to İstanbul Sabahattin Zaim University Social Sciences Ethical Committee in the present study. Ethical Committee Approval's information is presented below:

- Date of decision: 26.03.2021
- The number of the approval document: 2021/3

3. Findings

The results of correlation analysis examining the relationship between managers' FFPTs and decision-making styles and their sub-dimensions, self-confidence in decision-making, are given in Table 1. According to Table 1, there was a moderately negative correlation ($r = -0.37$, $p.001$) between decision-making styles and extraversion, one of the five-factor personality traits sub-dimensions; a negatively low level among liability ($r = -0.21$, $p.001$); negative and moderate between aperture size ($r = -0.30$, $p.001$); it was discovered that there was a negative and low level ($r = -0.18$, $p.001$)

Table 1. Results of Correlation Analysis between FFPS and Decision Making Styles

	1	2	3	4	5	6	7
1. Decision making styles (total)	—						
2. Self-esteem in decision making	-0.56*	—					
3. Extraversion	-0.37*	0.35*	—				
4. Conscientiousness	-0.21*	0.31*	0.31*	—			
5. Openness to experiences	-0.30*	0.31*	0.60*	0.41*	—		
6. Agreeableness	-0.18*	0.18*	0.24*	0.50*	0.35*	—	
7. Neuroticism	0.38*	-0.41*	-0.42*	-0.37*	-0.28*	-0.37*	—

Note. * $p < .001$

The results of the regression analysis examining the effect of the five-factor personality traits of the managers and the subdimensions of the FFPS on self-confidence in decision making are shown in Table 2. It is seen that FFPT significantly affects self-esteem in decision-making ($\beta = .27$; $p < 0.01$). FFPS explains 8% of self-esteem in decision-making. Neuroticism, which is one of the sub-dimensions of FFPS, negatively affects self-esteem in decision-making and has a rate of 17% ($\beta = -.41$; $p < 0.01$); extraversion positively affects self-esteem in decision-making and it was 12% ($\beta = .35$; $p < 0.01$); openness to experiences positively affects self-esteem in decision-making and 10% ($\beta = .31$; $p < 0.01$); agreeableness positively affects self-esteem in decision-making and 3% ($\beta = .18$; $p < 0.01$); conscientiousness positively affects self-esteem in decision-making and explains it by 10% ($\beta = .31$; $p < 0.01$). The first hypothesis and sub-hypotheses of the study were confirmed.

The results of the regression analysis examining in which the effect of the five-factor personality traits of the managers' personality traits on their decision-making style are shown in Table 3. It is seen that FFPT significantly affects decision-making styles. FFPT explains decision-making styles at a rate of 7%. Neuroticism, one of the sub-dimensions of FFPS, affects decision-making styles positively and has a rate of 14% ($\beta = .37$; $p < 0.01$); extraversion negatively affects decision-making styles by 14% ($\beta = -.36$; $p < 0.01$); openness to experiences negatively affects decision-making styles and it was 9% ($\beta = -.30$; $p < 0.01$); agreeableness affects decision-making styles negatively and it was 3% ($\beta = -.17$; $p < 0.01$); conscientiousness negatively affects

decision-making styles and explains it by 4% ($\beta = -.20$; $p < 0.01$). The second hypothesis and sub-hypotheses of the study were confirmed.

Table 2. Results of Regression Analysis Regarding the Effect of FFPS on Self-Esteem in Decision Making

Dependent Variable	Independent Variable	B	Standard Error	β	T	p	F	R	R ²
Self-esteem in decision making	Constant	9.51	1.23	-	7.70	.00	30.48	.27	.07
	FFPS	.04	.00	.27	5.52	.00			
	Constant	19.50	.38	-	51.03	.00	73.65	.41	.16
	Neuroticism	-.14	.01	-.41	-8.58	.00			
	Constant	12.40	.55	-	22.32	.00	50.55	.35	.12
	Extraversion	.12	.01	.35	7.11	.00			
	Constant	12.37	.64	-	19.35	.00	38.56	.31	.09
	Openness to experiences	.10	.01	.31	6.21	.00			
	Constant	12.93	.09	-	13.60	.00	12.71	.18	.03
	Agreeableness	.08	.02	.18	3.56	.00			
Constant	11.38	.79	-	14.32	.00	38.77	.31	.09	
Conscientiousness	.13	.21	.31	6.22	.00				

Dependent Variable: Self-esteem in decision making/ ** $p < 0.01$

Table 3. Regression Analysis Results for the Effect of FFPS on Decision-making Styles

Dependent Variable	Independent Variable	B	Standard Error	β	T	p	F	R	R ²
Decision-making styles	Constant	60.26	3.76	-	16.02	.00	25.91	.25	.06
	FFPS	-.11	.23	-.25	-5.09	.00			
	Constant	32.31	1.17	-	27.46	.00	59.66	.37	.14
	Neuroticism	.41	.05	.37	7.72	.00			
	Constant	53.61	1.67	-	32.09	.00	56.97	.36	.13
	Extraversion	-.40	.05	-.36	-7.54	.00			
	Constant	52.77	1.94	-	27.17	.00	36.44	.30	.09
	Openness to experiences	-.29	.04	-.30	-6.03	.00			
	Constant	50.91	2.88	-	17.65	.00	11.54	.17	.03
	Agreeableness	-.25	.07	-.17	-3.39	.00			
Constant	51.04	2.48	-	20.58	.00	16.07	.20	.04	
Conscientiousness	-.26	.06	-.20	-4.00	.00				

Dependent Variable: Decision-making styles/ ** $p < 0.01$

4. Conclusion and Discussion

In this study, it was determined that FFPT significantly affects self-esteem in decision-making. "Neuroticism," one of the sub-dimensions of FFPS, negatively affects self-esteem in decision making. It should be underlined that on the Melbourne decision-making scale, the goal of "self-esteem" is self-respect in decision-making, not personality self-esteem. Heidari and Arani (2017) concluded in their research that the neuroticism variable has a significant relationship with all decision-making styles except self-esteem. Uçkun, Üzümlü, Uçkun (2017) did not find a significant relationship between personality and decision-making in their research. In this study, "Extraversion, Conscientiousness, Openness, and Agreeableness," the subdimensions of FFPS, were found to negatively affect the subdimensions of "Attentive, Avoidant, Procrastinating, and Panic" in decision making; "Neuroticism," one of the subdimensions of FFPS, was found to have a positive effect on decision making. Neurotic people tend to experience negative emotions such as "fear, sadness, confusion, anger, guilt and hatred" (Heidari & Arani, 2017). Studies in the field have yielded different results between neuroticism and decision making. In their research, Denburg et al. (2009) discovered a negative association between neuroticism and decision-making; as neuroticism increases in an individual, so does the rate of difficulty in making decisions (Denburg, Weller, Yamada, Shivapour, Kaup, LaLoggia, Cole, Tranel & Bechara, 2009). Gambetti and Giusberti (2019) discovered a positive relationship between neuroticism and procrastination in decision-making and avoidant styles. In Baltac's (2017) study, he discovered a positive correlation between

neuroticism, a sub-dimension of the BFLI, and decision-making procrastination. In contrast, a negative relationship was found with other personality sub-dimensions. The findings of this study also support this conclusion: It can be concluded that individuals with neurotic personality traits are anxious, anxious, and insecure, which positively affects their decision-making styles. In their studies, Bayram and Aydemir (2017) discovered that personality traits are associated with decision-making, and other research supports this conclusion (Riaz, Riaz, & Batool, 2012; Ülgen, Salam, & Tusal, 2016; Iennaco, Messina, Moretto, Dell'Orco, Costa, Sperandeo, Cioffi, Esperandeo, Maldonato, Dolce, & Bu This study reveals that the sub-dimensions of the most recent and widely accepted personality theories influence decision-making styles in both good and negative ways. In this direction, how creative the educational leader is and their level of curiosity; levels of an organization and work ethic; sociability; relationship and courtesy levels; emotional consistency explain their decision-making styles in a meaningful way. Knowing the leader's personality traits, who plays a leading role in making the final correct decisions of an organization, will also provide a foresight against the mistakes to be made in the process.

5. Recommendations

Decision-making refers to a process within the management, and every decision managers take has critical importance in organizational terms. Research shows that personality traits are among the various factors that affect the decision processes of individuals. Individuals have different personality traits, and accordingly, they have to make different decisions according to different situations. Making the right decision is an important action in educational organizations, as it is in every organization. Decisions to be taken by school managers will also affect the organization in terms of academic, social, and interpersonal communication. Since individuals' "extrovert," "conscientious," "openness," "agreeableness," and "neurotic" behaviors have a significant impact on their decision-making, managers with a high level of self-awareness are open to consultations and criticism regarding the decisions they will make with a solid understanding of themselves. Leadership style choices would be appropriate. Doing practices for school managers to get to know themselves, providing the necessary guidance and psychological support, and ensuring that they receive executive coaching; would be appropriate to carry out studies to improve their self-awareness. Since this research includes school managers working on the Anatolian side of Istanbul, mixed studies can be done by collecting qualitative data from teachers in different provinces.

6. References

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Interpersonal Cognitive Distortions and Anxiety: The Mediating Role of Emotional Intelligence

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ABSTRACT

In this study, interpersonal cognitive distortions and emotional intelligence were identified as predictors of anxiety. In this regard, this study was conducted to describe the connections among interpersonal cognitive distortions, anxiety, and emotional intelligence and disclose the mediation of emotional intelligence between interpersonal cognitive distortions and anxiety. A total of 235 university students (135 females and 100 males) were surveyed for the correlational model in the study. The Beck Anxiety Inventory, the Schutte Emotional Intelligence Test, a Personal Information Form, and the Interpersonal Cognitive Distortions Scale were utilized for collecting the data. According to the findings, emotional intelligence, interpersonal cognitive distortions, and anxiety have statistically significant negative correlations. Furthermore, it was found that interpersonal cognitive distortions had a positive and statistically significant correlation with anxiety. Based on the mediation analyses conducted in the study, it was determined that the association between interpersonal cognitive distortions and anxiety was partially mediated by emotional intelligence. As a result, the indirect influence of interpersonal cognitive distortions on anxiety is statistically significant. Experts who design programs to help persons with anxiety and who study family therapy are expected to benefit from the findings of the study.

Keywords:

Anxiety, interpersonal cognitive distortions, emotional intelligence

1. Introduction

The origins of the concept of anxiety, a disorder frequently mentioned today, date back to ancient philosophers. It is stated that philosophers, religious leaders, and scientists have been doing studies on understanding and coping with anxiety until today (Clark & Beck, 2010). The term "anxiety" dates back to the Greek word "angh," meaning tension or contraction (Rachman, 2004). Based on the German word "angst," Bannister (1985) stated that anxiety could be defined as a persistent fear that can be experienced at a significant or low intensity. Anxiety may appear in different forms and at different degrees of intensity (Bourne, 1995). The dimension of anxiety shows its effect on the individual in a wide range, from positive to negative. While moderate anxiety can be a source of energy by raising the individual's performance and energy and motivating him/her for success (Freeman et al., 2004), high-level anxiety can cause just the opposite (Ayyıldız et al., 2014; Dordinejad et al., 2011; Matzin et al., 2013; Özerkan, 2003; Steinmayr et al., 2016; Vitasari et al., 2010). Moderate anxiety is a desirable situation, while not experiencing anxiety in the face of daily difficulties, including failure and loss, is considered a problem. As it can be understood from here, the problem is not about the presence of anxiety but about its proportionality with the current situation. States of anxiety that are inharmonious with the current situation and those experienced severely lessen the productivity of the person, lead to a worsening

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in interpersonal relations, and emerge together with some physical symptoms that are considered pathological (Karamustafalıoğlu & Akpınar, 2010).

Studies conducted on the causes of anxiety disorders have shown that genetic, biological, cognitive, and social factors, nature, family processes, commitment, and psychological and environmental factors play a considerable role (Aktay & Hızlı Sayar, 2021; Atkinson et al., 1999; Mantar et al., 2011). Anxiety disorders can have devastating consequences. Individuals with this problem may experience impairment in psychosocial functions, decrease in quality of life, and deterioration in interpersonal relationships (Aktay & Sayar, 2021; Gültekin & Dereboy, 2011; Işık & Işık, 2006; Okyay et al., 2012). It is thought that it is important to identify the factors regarding anxiety, which poses a risk of reaching a level that can lead to devastating consequences in the individual's life, to keep anxiety under control, and to determine the variables that will be effective in living in harmony with the current situation. The argument that emotions are determined by thoughts reminds us of the cognitive approach. According to the cognitive approach, the element that reveals the emotion as a result of events is the thoughts about it rather than the event itself (Beck, 1991). Errors in the cognitive process during the interpretation of events may cause the resulting emotion and response to be inconsistent with the event. In addition, according to this approach, the repetitiveness of cognitive distortions causes mood disorders such as anxiety and depression (Leahy, 1997). Based on this information, "interpersonal cognitive distortions (ICD)," which is thought to be effective on anxiety, was included in this study as a variable.

One of the most important assumptions of the cognitive approach is that thoughts are the basis of emotions and behaviors (Beck, 1991; Corey, 2016). Rait et al. (2010) maintain that thoughts are the cause, creator, and supporter of behavior. For this reason, according to the cognitive approach, understanding behaviors and emotions is possible only by understanding the cognitive content. Albert Ellis, one of the important theorists, developed a model for this situation, which he called ABC, and tried to explain the process by schematizing it. In the model, A is the behavior of the individual, a phenomenon, or a happening; B is the person's opinions and thoughts about the happening; C is the individual's reaction to the happening. Ellis (1991) states that it is B, not A, that causes C. In other words, the individual's thoughts about the event shape his/her feelings, and therefore his/her response. In case of an error in the way of thinking, both the emotion and the response may be inconsistent with the current situation. This situation is explained through schemas, cognitive distortions that occur due to schemas, and automatic thoughts. Though their foundations are based on childhood and develop in the process, cognitive schemas are generally considered resistant to change and sometimes even permanent features (Atkinson et al., 1999). Beliefs and assumptions formed as a result of the individual's experiences regarding events, people, and the environment make up cognitive schemas. These schemas form the basis of the rules in the individual's information processing (Wright et al., 2006). Each individual's schema is unique as it is based on their own experiences, so responses to the same event may differ from person to person.

According to Beck (1991), schemas are the introduction of prejudices into the information processing cycle. Life events are adapted to existing schemas and interpreted by the individual, generating a kind of meaning framework. Cognitive schemas are considered to be the source of automatic thoughts and cognitive distortions. Automatic thoughts, which can be considered a reflection of schemas, appear in the human mind almost like a reflex (Beck, 1991). These thoughts, which are specific to the individual, guide the emotional state. Automatic thoughts are noticed in the emotions they cause rather than in themselves and have a flying nature that passes quickly through the human mind (Türkçapar, 2011). When automatic thoughts are categorized according to certain characteristics, cognitive distortions occur. The connection between dysfunctional schemas and automatic thoughts is provided by cognitive distortions. While the newly received information is being processed, it is often distorted to adjust to the existing schemas, and distorted evaluations rise to the degree of awareness as automated reflections (Türkçapar, 2011). Automated reflections usually emerge in an exaggerated or distorted way in individuals with psychological problems.

Cognitive distortions are also expressed as systematic errors that lead to misunderstandings and erroneous assumptions (Corey, 2016). According to Beck (1991), cognitive distortions are expressed as a tendency to interpret, evaluate, and perceive external stimuli negatively regardless of what they actually are and the meaning they carry. As a result of the categorization studies, ten different cognitive distortions were defined: "mindreading," "all-or-nothing thinking," "personalization," "emotional reasoning," "mental filtering," "catastrophizing," "magnification or minimization," "overgeneralization," "labeling," and "should

statements.” It is stated that especially individuals with emotional problems tend to make mistakes consistently in their thoughts and that these mistakes result from systematic negatively biased thinking. This situation strengthens the idea that anxiety and cognitive distortions may be related.

Emotional intelligence (EI) is a concept that is also related to how individuals manage their emotions and how they deal with negative emotions (Druskat et al., 2006; Reeves, 2005; Zeidner et al., 2004). EI is expressed as the sum of a number of competencies that may be summarized as the ability to clarify the feelings correctly, associate them with cognitive situations, make sense of them, and see their effects on different situations (Ashforth & Humphrey, 1995). Since EI was thought to be associated with cognitive distortions, its cognitive dimension, and anxiety with its emotion dimension, it was included in the present research as a mediator factor. It is reported in the literature that emotions have an effect on reasoning processes (İşmen, 2001). Briefly, it is stated that EI skills and cognitive skills interact (Maboçoğlu, 2006). Salovey and Mayer were the first to introduce the idea of EI comprehensively (1990). Its definition is one’s awareness of his/her own and others’ emotions, ability to distinguish between them, and reflecting this on their behavior (Mayer & Salovey, 1993). Goleman (2000), who made the concept of EI popular and known worldwide through his book, defined EI as the capacity to “know what we feel and to manage the feelings that put us in a difficult situation; motivate ourselves to achieve tasks and goals; be creative and improve our weaknesses; be aware of others’ feelings and manage relationships effectively.” Cooper and Sawaf (1998), on the other hand, define it as the power that reveals the existing potential of individuals and moves them towards a goal. Konrad and Hendl (2003) state that EI is also a kind of intelligence adding that individuals’ recognition of themselves and their emotions and using their emotions healthily are the components of EI. Emotional intelligence is also considered a social skill related to social relationships, such as being able to effectively direct emotional situations (e.g., fear, anger, and depression), being able to motivate oneself, and being able to empathize. Reflecting on these definitions, it can be said that EI will be effective in individuals’ relationships with themselves and their social relationships.

Researchers generally describe EI with the aspects of emotional competence, such as consciousness and expression of feelings, awareness of others’ feelings, and managing emotions (Atay, 2002; Boyatzis et al., 2000; Druskat et al., 2006; MacCann et al., 2020; Ural, 2001). There are findings in the literature indicating that EI is linked to anxiety and depression (Batool & Khalid, 2009; Fernandez-Berrocal et al., 2006; Salguero et al., 2012; Foster et al., 2018). According to Mayer and Salovey (1993), individuals who perceive their emotions clearly can also perceive the changes in their emotional state, and they can cope more easily with the negative consequences of emotions by making use of this situation. Similarly, Alumran and Punamaki (2008) report that understanding emotions correctly can be a guide in understanding and coping with the reactions caused by emotions. All this information supports the idea that EI may have a mediating effect. Studies have shown that EI can be changed and developed (Goleman, 2000; Mayer et al., 2003). It is crucial to consider whether EI can aid in anxiety in this scenario. If there is a link, it can be mentioned that someone who develops EI can better manage and lessen anxiety and the negative impacts of cognitive distortions. This research was planned to explore the correlation of ICD with anxiety as well as the function of EI in mitigating this relationship. The following hypotheses were tested for this aim:

- Hypothesis 1: Anxiety is significantly predicted by ICD.
- H₂: EI mediates the correlation between ICD and anxiety.

2. Method

2.1. Research Model

A correlational research design, which is among quantitative research methodologies, was employed in this research. A correlational questionnaire model is defined as a study paradigm in which the co-change of a relationship between two or more variables is attempted to be determined (Fraenkel et al., 2012; Karasar, 2009). This study targeted to look at the influence of ICD and EI on anxiety prediction.

2.2. Participants

This study comprised 235 university students, with 135 women (57.45%) and 100 men (42.55%) participating. Participants’ ages ranged between 18 and 32 (Mean age = 22.42; SD = 3.54). Prior to the study, a power analysis was conducted to calculate the sample size on the G*Power 3.1 software by picking two predictor variables,

an alpha level of 0.05, a power ratio of 1 - .95, and a medium effect size (Balkin & Sheperis, 2011). The results of the analysis indicated that at least 107 participants were necessary for the multiple regression analysis (Faul et al., 2009). Eventually, 235 subjects were recruited for the study. The sample size can be said to be fairly large. Of the participants, 54 were from the theology department (22.98%), 69 were from the psychology department (29.36%), 58 were from the social services department (24.68%), 15 were from the public relations department (6.38%), and 39 were from the sociology department (16.60%). According to the statements of the participants, 19 (8.09%) had a poor income level, 148 (62.98%) had a middle-income level, and 68 (28.90%) had a good income level. It was found that the mothers of 193 (82.13%) of the participants had secondary school education or below, and 42 (17.87%) had high school education. Also, the fathers of 135 (57.45%) of the participants had secondary school education and below, 72 (30.64%) had high school education, and 28 (11.91%) had an undergraduate degree. In addition, 35 (14.89%) of the participants had received psychological support before, while 200 (85.11%) had not received any psychological support at all.

2.3. Data Collection Tools

Sociodemographic Data Form: This form was prepared by the researchers. There are some questions about gender, the education level of the parents, the perceived economic level, and the status of receiving psychological support in this form.

The Schutte Emotional Intelligence Test: Developed by Schutte et al. (1998), this test is used to assess the features of a person's EI. Tatar et al. conducted the Turkish adaption study of the scale (2017). This 33-item scale is evaluated on a five-point Likert-type scale with options ranging between "strongly disagree," assigned the highest score, and "strongly agree," assigned the lowest score. As a result, the scale might range from 33 to 165 points. Emotional intelligence scores above a certain threshold indicate an EI of a high level. The one-factor structure was confirmed by an analysis conducted to assess the factor structure, reliability, and validity of the scale. The coefficient showing internal consistency of the scale was determined as .86 (Tatar et al., 2017). This coefficient was calculated as .74 in the current study.

The Beck Anxiety Inventory: The developers of this scale are Beck et al. (1988). Their purpose was to distinguish anxiety from depression. It investigates both the subjective level of anxiety and somatic symptoms. It is a scale that a person has to fill up on his/her own. The scale has 21 items, which are evaluated with the following options: "0, none"; "1, mild," "2, moderate," and "3, severe". The scores on the scale vary from 0 to 63. High scores indicate high levels of anxiety that the individual experiences. The validity and reliability studies for BAI were undertaken in Turkey by Ulusoy et al. (1998). The coefficient indicating the internal consistency of the overall measure was reported as .93. This coefficient was calculated as .90 for the overall measure in this study.

The Interpersonal Cognitive Distortions Scale: Developed by Hamamcı and Büyüköztürk (2003), this scale is used to examine people's cognitive distortions in interpersonal relationships. The scale has 19 items, which are graded with options in the range of "1, strongly disagree" and "5, strongly agree." The three dimensions on the scale are "unrealistic relationship expectations," "intimacy avoidance," and "reading." The three dimensions of the measure are added to get the overall score for ICD. High scores, according to Hamamcı and Büyüköztürk (2003), suggest high ICD. The test-retest and internal consistency methods were employed to verify the dependability of this scale. The internal consistency coefficient of the overall scale was calculated as .67. This coefficient was calculated as .75 in the context of this study.

2.4. Data Collection

The investigation was accepted by Gümüşhane University's Ethics Committee for Scientific Research and Publications (issue: 2020/7; date: July 8, 2020). The measurement instruments to be used in the study were transformed into a form and delivered to students from various faculties at Gümüşhane University after gaining approval from the Ethics Committee. A researcher individually handed the forms to the student volunteers in the classes. The consent form with a tick came after a brief introduction to the measurement tools used in the study. Students who decided to join the research read the form and checked the box. The measurement devices took around ten minutes to complete.

2.5. Statistical Analysis

Various statistical arrangements were made on the study data before the analyses were initiated. It is necessary to perform extreme value, missing value, normality distribution, and collinearity analyses on the data (Field, 2013). Initially, a missing value analysis was performed in the study, and it indicated that the data set did not have any missing values. In the extreme value analysis, standard z scores were generated from the scores for the variables that were obtained, and an examination was done on the data set to find out if the values were in the range between -3 and +3. As a result, the values were found to be in the desired range (Tabachnick & Fidell, 2014). Then, the kurtosis and skewness measurements were applied to the values of the variables obtained from the data set. As seen in Table 1, the normality assumption of the variables was satisfied as the values of kurtosis and skewness, which are recognized as established criteria in the related literature, were between +2 and -2 (George & Mallery, 2019).

The descriptive statistics of all variables were calculated. To test the hypotheses of the study, a regression-based mediation analysis was performed. The bootstrap method was implemented for mediation analysis. Through the bootstrap method, which makes re-sampling possible to produce very large data sets from the existing data set, the sample size of 235 people was re-sampled as 10000 at a 95% confidence interval. Thus, it was possible to ensure more reliable results by performing the analyses on larger data sets produced by re-sampling. Within the scope of the analysis, first, the direct effect of ICD on anxiety was calculated. Later, EI was added to the model. EI was determined to have a direct impact on the correlation of ICD with anxiety. In the calculation of the bootstrap method, the significance of the indirect effect was tested by using model 4 in the SPSS Macro Process (Preacher & Hayes, 2008). Confidence intervals that did not include the value zero in the results indicated that the indirect influence was significant. The research data was analyzed on the SPSS 21.00 software package.

2.6. Ethical

Ethical Committee Approval is required by applying to Gümüşhane University Ethical Committee in the present study. Ethical Committee Approval's information is presented below:

- Date of decision: 29.12.2021
- The number of the approval document: E-95674917-108.99-71601

3. Findings

3.1. Preliminary analysis

Negative significant correlations were identified between EI and ICD ($r = -.19$, $p < .01$) and anxiety ($r = -.52$, $p < .001$) according to correlation analysis results. ICD and anxiety, on the other hand, had a strong positive connection ($r = .39$, $p < .001$).

Table 1. The Results of Descriptive Statistics and Relationships Between Variables

	Mean	SD	Skewness	Kurtosis	1	2	3
1. Anxiety	15.45	9.65	.40	-.54	1		
2. ICD	51.25	9.42	.14	.20	.39***	1	
3. EI	126.81	10.04	-.43	.31	-.52***	-.19**	.1

*** $p < .001$, ** $p < .01$; ICD: Interpersonal Cognitive Distortions; EI: Emotional Intelligence

3.2. Findings about Mediation Analysis

The total effect of ICD on anxiety was found to be significant ($B = .40$, $t = 6.40$, $p < .001$) when the non-standardized regression coefficients were analyzed. Furthermore, the effects of ICD on EI ($B = -.21$, $t = -3.03$, $p < .001$) and EI on anxiety ($B = -.45$, $t = -8.61$, $p < .001$) were shown to be significant. Preacher & Hayes (2008) found that EI played a mediation role in the link between ICD and anxiety ($ab = .09$, 95% CI [.0346, .1526]). The examination of EI, however, indicated that ICD had a predictive influence on anxiety, which was significant ($B = .30$, $t = 5.53$, $p < .001$). This shows that partial mediation has occurred. Some of the connections between ICD and anxiety were direct, whereas others were indirect via EI according to partial mediation (Preacher & Hayes, 2008). In addition to the mediation analysis, ICD were found to explain 4% of the variance in EI and 15% of the variance in anxiety levels when combined with EI.

Table 2. The Results of the Mediation Analysis and Bootstrapping Process

	ab	95% CI		a	b	c	c'
		LL	UL				
Emotional Intelligence	.09	.035	.153	-.21**	-.45***	.40***	.30***

***p < .001, **p < .01, ab = Estimated indirect effect. Pathc' direct effect, path c total effect.

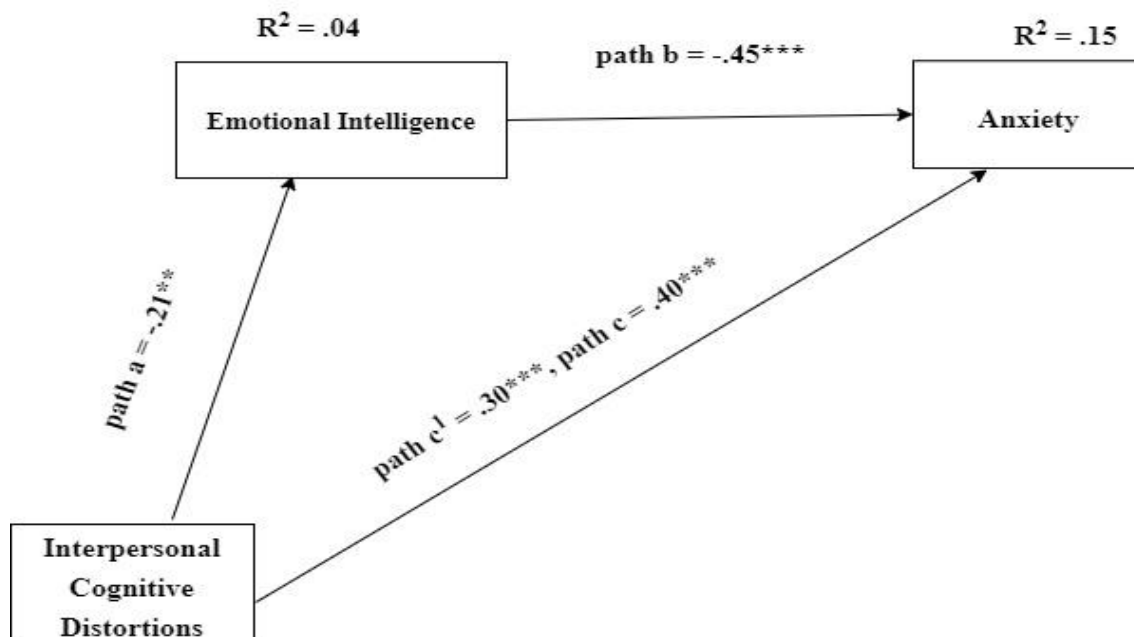


Figure 1. The Prediction of Anxiety by ICD Through the Mediation of Emotional Intelligence

4. Conclusion and Discussion

The results revealed that ICD had a positive and substantial correlation with anxiety but a statistically noteworthy negative correlation with EI. The correlation of EI with anxiety was also negative and statistically noteworthy.

The cognitive theory emphasizes the importance of cognitive processes on the individual's emotions and the resulting reactions. According to Beck (1991), who was one of the important representatives of the theory, incongruous emotions can be explained by cognitive processes. It is stated that the systematic errors in cognitive processes and the tendency towards negativity that arise due to them are effective in the formation of anxiety (Beck et al., 1985; Weems et al., 2001). Reflecting on these findings, the results of the present research can be evaluated to be in parallel with the results of studies on this subject in the literature. For example, Cannon and Weems (2010) found a strong positive correlation between anxiety and cognitive distortions. In their cross-sectional study on adolescents, Maric et al. (2011) determined that adolescents with high anxiety had higher cognitive distortion levels than those with low anxiety. Another study on adolescents showed a significant positive correlation between obsessive-compulsive disorders experienced by individuals and ICD (Demir & Kaya, 2016). Cook et al. (2019) stated in their study with young people that cognitive distortions has a positive and substantial correlation with social anxiety. Likewise, in their study on young individuals aged 18-25 years, Wilson et al. (2011) reported a significant positive correlation between anxiety and cognitive distortions. In line with this research, in their study with university students, Başbuğ et al. (2017) concluded that ICD had a strong positive correlation with separation anxiety. Similar to other groups, studies conducted with adult samples found that there was a positive relationship between cognitive distortions and anxiety (Kuru et al., 2018; Özdel et al., 2014). In addition, studies investigating the relationship between social anxiety and cognitive distortions showed matching results (Creswell et al., 2014; Karabacak et al., 2015; Kaplan et al., 2017). In the light of all this information, it can be said that cognitive processes have a decisive effect on mood and that individuals' anxiety levels can be improved through studies to be conducted on errors in cognitive processes.

Research findings indicate an inverse and significant relationship between cognitive distortions and EI. Emotions can be defined as responses to stimuli. Lazarus (1984) stated that in the process related to emotions, the individual perceives, interprets, and evaluates the stimuli. In other words, the way to emotions passes through cognitive processes. Many studies emphasize that impairments in the thought system affect emotions (Cox & Nelson, 2008; DePape et al., 2006; Tiba, 2010) and that cognitive distortions lead to negative emotions and mood disorders (Ingram et al., 2007; Wilson et al., 2011). As such a strong correlation exists between thought and emotion, it is possible to say that EI, which can be summarized as individuals' capacity to notice and understand their own emotions and the emotions of those around them, will also be affected by cognitive processes. Research results also point to this situation. Research into the correlation of EI with cognitive distortions is scarce in the literature. While some of these limited number of studies, which are similar to the present study, showed a significant negative correlation between EI and cognitive distortions (Ghafari, 2016), others concluded that there was no relationship between EI and cognitive distortions (Covino, 2013). In addition, it is stated in the literature that positive thought patterns predict EI (Barbuto & Story, 2010), an improvement in cognitive distortions will reduce negative affect (Sears & Kraus, 2009), cognitive distortions influence the way emotions are expressed (Mercan et al., 2021), and that unreasonable beliefs have a significant correlation with EI (Keser & Traş, 2019).

The results of the present research indicated that EI had a significant negative correlation with anxiety. EI affects competencies, such as recognizing, understanding, and expressing emotions correctly, grasping the effects of emotions on events, and integrating them with cognitive processes (Law et al., 2004). It is an expected result that EI is associated with anxiety, which has an intense emotional content. In the literature, it is stated that the source of anxiety has an exaggerated, catastrophic, or distorted threatening thought content (Leahy, 1997). Schemas and beliefs that an individual has about danger can predispose the individual to anxiety. Disturbances in the cognitive structure can pave the way for the emergence and maintenance of high levels of anxiety when exposed to a trigger (Wells, 2006). It is seen that various types of anxiety have been discussed in the literature, and there are research findings that support this view. The results of many studies have shown that EI has a significant negative correlation with social anxiety (Abdollahi et al., 2015; Aslan et al., 2020; Jacobs et al., 2008; Kocaoğlu & Çekiç, 2021; Summerfeldt et al., 2006; Tezelli & Dilmaç, 2021). The results obtained from the study indicated that EI mediated the correlation between anxiety and ICD. Emotional intelligence, which is a skill, can be built. It is thought that the findings to be obtained through experimental studies on this topic will contribute to the development of effective models for coping with anxiety. In addition, based on the research findings, it can be suggested that interventions in cognitive distortions will positively affect individuals' anxiety levels. It can also be said that these results are important for studies on anxiety, which may have compelling effects on the individual.

5. Limitations and Recommendations

This study has some limitations. Firstly, individuals outside the clinical setting were included in the study. Considering that the starting point of the anxiety variable is individuals with clinical characteristics, future studies may include groups with different characteristics. Second, the participants of the study were in emerging adulthood. Since anxiety also occurs during adolescence or advanced stages of development, similar variables can be studied among adolescents and individuals in mid-adulthood or late adulthood periods. Third, the present study is a cross-sectional study. Longitudinal studies can be planned to investigate whether the correlation of ICD with EI and anxiety continues and to identify other possible variables that may affect this process. The research findings highlight that EI partially mediates the correlation between anxiety and cognitive distortions. The emotional intelligence of individuals with a high level of ICD is negatively affected by this situation, and it can indirectly increase the level of anxiety. In other words, part of the strength of the relationship between ICD and anxiety can be explained by emotional intelligence. It is thought that our research findings will shed light on the studies to be carried out on this subject. The findings of this study can provide data for experimental studies to be conducted since EI can be developed and ICD can be corrected with various intervention programs. In this regard, it is recommended to carry out studies with larger sample groups and different variables. Examples of these variables can be listed as problem-solving skills, the level of mindfulness, solution-oriented thinking skills, and cognitive flexibility. In conclusion, individuals' anxiety levels decreased with the increase in their EI characteristics. Although individuals generally try to stay away from anxiety, they may experience the conflict created by stress and anxiety in general (Feist & Feist, 2009).

Considering the developmental characteristics of individuals in emerging adulthood, it is known that they need to have various friendship relationships. It can be said that emerging adults who want to have such relationships can develop the kind of relationships they want to the extent that they can implement the features of EI such as empathy, adaptability, respect, and understanding and expressing emotions (Goleman, 2016). At this point, researchers can lower anxiety levels experienced by individuals with high levels of interpersonal cognitive distortion by preparing programs to develop EI and contributing to the development of their characteristics, such as empathy, adaptability, ability to understand body language, and understanding and expressing emotions. It is thought that with the development of EI, the individual will be able to establish healthier relationships with other individuals. As a result, the foundations of close relationships will be sounder, and thus, the psychosocial function of the individual will increase.

6. References

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A Comparative Study of EFL Teachers' and Students' Perceptions towards ELF and its Pedagogical Implications

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ABSTRACT

English has become the international language as a result of globalization. And English's status has already begun to have an impact on English language education. As a result of these changes in the language, it is vital to figure out whether there has been a paradigm shift in how EFL teachers and students think about it. The goal of this study was to find out how tertiary-level EFL teachers and students felt about English's status as an ELF and its pedagogical implications. The study enrolled 570 Turkish EFL students and 52 EFL teachers from an English preparatory program at a foundation institution, who were chosen using convenience sampling. Both groups' data were obtained using the same questionnaire based on the relevant literature. While EFL teachers were more enthusiastic about ELF than students, both groups were concerned about its pedagogical consequences. In supporting ELF as a concept, the findings of this study are similar to those of earlier research, but they also show some discrepancies in taking a neutral posture rather than preferring native English-oriented teaching in ELT classrooms, as was the case in previous research.

Keywords:

EFL teachers, EFL students, English as a lingua franca (ELF), Pedagogical implications

1. Introduction

English as a lingua franca (a common language spoken by people from all over the world) describes the acceptance of English as a common medium of communication by speakers from different linguistic and cultural backgrounds (Jenkins, 2006). Furthermore, according to Jenkins (2000), Seidlhofer (2001), and Walker (2010), English has become a lingua franca (ELF) for international faculty members at the university level. Furthermore, ELF research undertaken in higher education settings has revealed that effective communication is more crucial than attaining native-like English (Archibald et al., 2011; Baker, 2009; Cogo, 2012). Despite English's prominence as an ELF in academics, its application in English teaching is still limited. Native speakerism exists among non-native English speakers, as Kirkpatrick (2007) and Wu (2014) demonstrated, along with a lack of precision in comprehending ELF.

Munro (2008) asserted that a commitment to native English in language education is implausible and is likely to disappoint EFL teachers and students. In comparison, English exams and textbooks, in particular, demonstrate a native-English-centered approach to English instruction. As a result, English pedagogy must be revised to reflect the language's changing realities, particularly in expanding circle countries.

English allows tertiary students and academic staff to engage in exchange programs such as Erasmus since it serves as a common medium of communication amongst speakers of various first languages around the world. As a result, students and academic staff are likely to be frustrated by the unorthodox use of English in a range of communicative circumstances in educational settings due to a lack of knowledge of ELF. Despite this, EFL teachers and students, who are the key players in education, have gotten little attention when it comes to ELF.

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Pre-service (Coşkun, 2011; Öztürk et al., 2009; Soruç & Griffiths, 2021) and in-service EFL teachers (Bayyurt, 2008; Sarandi, 2020; Sönmez & Akyel, 2014; Soruç, 2015, 2020) are the primary focus of existing research, with little attention dedicated to EFL students.

This study included EFL students and contrasted their perspectives with those of teachers since earlier research on the issue mainly focused on EFL teachers. A tertiary-level English preparation program would be more efficient if these two groups could agree on their views on language instruction. In other words, the difference in perceptions of what constitutes effective English practice among EFL students and teachers may have a negative impact on learning outcomes. The goal of this study was to gain insight into modern English teaching by exploring the perceptions of tertiary-level EFL teachers and students toward ELF and its pedagogical consequences.

1.1 Literature

The importance of English as a worldwide language has been highlighted through international travel, commerce, and conferences, to name a few. Berns (2009) suggested that English is extensively utilized as a lingua franca as a common medium of communication by non-native English speakers. ELF, according to Jenkins (2011), is the use of English for communication by people whose native languages are not the same. It is also critical for native English speakers to review their language usage when traveling abroad in order to converse effectively with people who speak various languages. Non-native English speakers benefit more from using English as a lingua franca than native English speakers because their language repertoire is expected to facilitate communication in multilingual contexts, such as mixing codes in the event of a communication breakdown or using the interlocutor's first language(s) and other regional languages (Canagarajah, 2013). To this end, ELF research does not consider English as a language with a fixed set of norms originating from speakers associated with a particular geographical location. Rather, world Englishes emphasize varieties (e.g., Nigerian English, Jamaican English) that have developed within specific geographic boundaries (Jenkins et al., 2011).

Cogo (2012) argues that the global growth of English has several intrinsic consequences for the way the language is used, understood, and taught. As a result, in addition to addressing the notion itself, ELF study sought to examine how it was performed by communities of practice at a variety of communicative events. According to Wen (2014), research on ELF has advanced to the point that it may be considered a distinct discipline. In that regard, yearly ELF conferences have been held with significant participation since 2008, indicating a growing interest in the subject as a research area. Moreover, in 2012, a specialized academic journal (JELF) was launched on this topic. Additionally, Wen (2014) asserts that many PhD dissertations focus on ELF. The following portion of this paper summarizes some of this research.

According to Cogo (2012), early research on ELF focused primarily on the concept of ELF as a variety; however, as it progressed, it became clear that ELF was far too dynamic to be a variety, and this approach was abandoned in favor of an examination of communication practices. Most research on ELF has focused on phonology (Jenkins, 2000), lexicogrammar (Breiteneder, 2005, 2009; Cogo & Dewey, 2006), and pragmatics (Firth, 1996; House, 2002; Meierkord, 2002) in academic and business English. Knapp emphasized the importance of studies describing the functional and structural characteristics of ELF for English pedagogy (1985). Jenkins (2000) responded to this call by conducting a study elucidating the form and function of ELF.

English is the most commonly used language on the earth, according to Seidlhofer (2001), and empirical research is needed to better grasp this word. Jenkins (2000) and Seidlhofer (2001) went a step further in their research and related ELF to English language pedagogy, which supports this point of view. Despite its standing as the world's lingua franca, Jenkins (2011) stated that ELF speakers did not have the same rights as native English speakers when it came to utilizing the language. Seidlhofer (2001) created the VOICE corpus, which contains dialogues between speakers from various linguistic backgrounds, to further conceptualize ELF. Mauranen (2003) developed the ELFA corpus for academic contexts as a result. Kirkpatrick (2010), for example, paved the way for the creation of an Asian corpus (ACE). These efforts to better understand ELF prompted scientists to conduct more research. The current emphasis of ELF research has been on multilingualism in general (Jenkins, 2015). As a result, Jenkins (2017) predicted that the English language

would spread worldwide in various forms to meet the needs of communities of practice in multicultural settings.

Naturally, research into ELF has pedagogical implications in the field of ELT. Though no detailed explanations on this subject have been provided to date (Jenkins, 2011). It is critical to uncover EFL teachers' and students' perspectives on this subject in this context. In Europe, students chose to subscribe to ELF despite teachers' indecision (Jenkins, 2011). Nevertheless, some researchers continue to be skeptical of ELF research findings. To illustrate, Subtirelu (2013) argued that students did not wish to abandon native English as a means of instruction in ELT classrooms, and thus their preferences could not be ignored. To make such assertions more credible, it becomes critical to establish if the students' choices are educated or not. Hence, it is vital to continue eliciting information about EFL teachers' and students' perceptions regarding ELF. Consequently, the information obtained from the aforementioned language education stakeholders may be utilized to assist in developing a curriculum for an English preparation program.

In Turkey, studies focused mostly on EFL teachers' perceptions of ELF (Bayyurt, 2008; Biricik Deniz et al., 2016, 2020; Coşkun, 2011; Sönmez & Akyel, 2014; Soruç, 2015, 2020; Soruç & Griffiths, 2021), with EFL students' perspectives receiving less attention (Griffiths & Soruç, 2019). The goal of this study was to examine the perspectives of Turkish EFL teachers and students at the tertiary level on ELF and its pedagogical consequences in the context of an English preparatory program at a foundation university, in order to contribute to the growing body of knowledge on the subject. It was also noted that there had been insufficient research done in this specific situation to compare and contrast the opinions of both the teachers and the pupils. As a result, the findings of this study were expected to have ramifications for English teachers and students, as well as curriculum creation for an English preparatory school. As a result, this study was directed by the following research questions:

- What are the similarities and differences in the perspectives of ELF among Turkish EFL teachers and students?
- What are the opinions of Turkish EFL teachers and students on English varieties, ELF characteristics, and English learning objectives?
- What are the commonalities and differences amongst Turkish EFL teachers' assessments of ELF's pedagogical implications?
- What are the perspectives of Turkish EFL teachers and students on English teachers, target language culture, global cultures, and English exams?

2. Methodology

This section of the study details the setting and participants, the instrument used to collect data, the procedure used to collect data, and the data analysis. Because an existing situation was being investigated, the study was designed around the use of a survey model. As a result, this research design quantifies the participants' understandings, allowing for quantitative data collection for use in the study (Creswell, 2014).

2.1 Setting and Participants

The research was conducted in the English preparation program of an Istanbul-based foundation university. Students enrolled in English-medium departments were needed to finish a one-year preparatory education because this university offered departments that provided education in both English and Turkish. Classes in the English preparatory program was held five days a week, from 9:00 a.m. to 3:50 p.m., Monday through Friday. Each week, there were 28 hours of class time scheduled, with each class hour lasting 50 minutes. The study included 52 EFL teachers and 570 EFL students who were enrolled in this university's English preparatory program at the time of the investigation. In terms of gender distribution, there were 20 male EFL teachers and 32 female EFL students: 255 male EFL students and 315 female EFL students. Because the researcher had easy access to the study's target demographic, convenience sampling was used in this examination (Dawson & Trapp, 2001).

2.2. Data Collection Instrument

To obtain responses from EFL teachers and students on the concept of ELF and its pedagogical implications, this study used two 5-point Likert scales developed and validated as part of the researcher's doctoral dissertation (Geçkinli, 2020). The scales were created following the most prominent points raised in the relevant literature (Biricik Deniz et al., 2016; Cogo & Dewey, 2012; Coşkun, 2011; Jenkins, 2015; Seidlhofer, 2011; Sönmez & Akyel, 2014; Soruç, 2015; Ton & Pham, 2010). ELF-related concepts were verbalized so that participants could reflect on the subject despite their lack of conceptualization. To this purpose, the scales were created in English and then translated into the participants' home language to overcome linguistic barriers. Before administering the scales, the researcher pretested the item wordings with EFL teachers and students for any ambiguous or imprecise statements and conducted factor analysis. Finally, the reliability ratios for both the ELF and the pedagogical implications of ELF scales were .71, which was deemed acceptable (George & Mallery, 2003). The survey items included in both scales to assess the perceptions of EFL teachers and students were identical to allow for comparisons between the groups. While the first section of the first scale elicited responses from EFL teachers and students on their perceptions of the concept ELF through 13 questions on three factors: English varieties (4 items), ELF features (5 items), and English learning objectives (13 items), the second section of the first scale elicited responses from EFL teachers and students on their perceptions of the concept ELF through 13 questions on three factors (4 items). The first part of the second scale gathered demographic information, while the second section included 13 questions to elicit opinions from participants about the educational implications of ELF. English teachers (5 items), target language culture (2 items), worldwide cultures (2 items), and English exam (2 items) were the topics of the questions (4 items).

2.3. Data Collection and Analysis

Permission to gather data was acquired from both the university administration and the head of the English preparatory program prior to the study. The first step was to set a time for data collection with the teachers because there were fewer of them. After that, participants were given a consent form informing them that all information acquired would be kept totally confidential and that participation in the study was completely voluntary. Finally, the procedure for collecting data from EFL teachers was accomplished. Similarly, data collecting from students took place during a time span agreed upon with the course's professors, and identical processes were used to collect data from students. In addition, the same questionnaire was given to both teachers and students to see if there were any similarities or discrepancies in their thoughts on the ELF concept and its instructional implications. To do statistical analysis, SPSS 25 was utilized to analyze the data. To examine the data acquired while analyzing the differences between EFL teachers and students, independent samples t-tests were utilized. In determining the extent to which participants showed a preference for ELF in their responses, the overall mean scores for the entire questionnaire and its subdimensions (English varieties, ELF features, English learning objectives, English teachers, target language culture, global cultures, English exams) were taken into account. These are some survey question examples that illustrate these factors, accordingly: *I think English must be taught considering the different uses in the world; I think achieving communication is more important than using correct English grammar; One must aim to be as fluent in English as a native speaker; I believe that the best way to learn English is from native English speakers; I believe English language classes should focus exclusively on American or British cultures; I think international cultures (Middle East, Africa, Asia, and Latin America) must be taught in English language classes; I believe listening exams should include non-native English accents (e.g. Turkish, Indian, and Chinese).* Reverse coding was used to the inquiries that ran contrary to the ELF perspective in order to make them compatible with the ELF-aligned queries.

2.4. Ethical

Our investigation began with a request to the social sciences ethics committee at Istanbul Sabahattin Zaim University. The committee has approved the ethical request. Throughout the data collecting procedure, all participants were informed of the study's purpose and scope and the critical nature of their voluntary participation. Participants indicated that they consented to participate in the research willingly.

3. Findings

The first research question looked into the similarities and differences in perceptions between EFL teachers and students concerning the concept of ELF. The findings are summarized in Table 1, which shows the overall findings.

Table 1. *T-test Results from Independent Samples Comparing Turkish EFL Teachers' and Students' Perceptions of ELF*

	Groups	N	Mean	SD	t	df	p
Overall Perceptions towards ELF	Students	570	3.24	.46	-4.066	620	.000*
	Teachers	52	3.52	.54			

Note. ** $p \leq .05$

The findings of the independent sample t-test for perceptions of ELF among English teachers and students are presented in Table 1. As evidenced by the fact that their "p" values are less than "0.05" ($p=0.000$), there is a statistically significant difference between teachers' and students' conceptions of the idea of ELF. Table 2 gives results for the factors that make up the ELF questionnaire to support in the validation of the aforementioned general conclusions.

The second research question focused on the similarities and differences in perceptions of Turkish EFL teachers and EFL students about English varieties, ELF traits, and English learning goals.

Table 2. *T-test Results from Independent Samples Comparing Turkish EFL Teachers' and Students' Perceptions of ELF*

Factors	Groups	N	Mean	SD	t	df	p
English Varieties	Students	570	2.94	.68	-7.629	620	.000*
	Teachers	52	3.70	.75			
ELF Features	Students	570	3.90	.71	1.952	620	.051
	Teachers	52	3.70	.69			
English Learning Objectives	Students	570	2.72	.74	-3.569	620	.000*
	Teachers	52	3.11	.75			

Note. ** $p \leq .05$

Table 2 demonstrate comparisons of EFL teachers' and students' perceptions of the factors included in the ELF questionnaire. Within this context, the findings reveal significant discrepancies in the perspectives of two groups on the factor's English varieties and English learning objectives. Given these two factors, EFL teachers' perspectives are more consistent with an ELF perspective than EFL students' perceptions. Concerning the factor identified as ELF features, the findings indicate no significant differences in perceptions between EFL teachers and students. In other words, the findings indicate that both groups endorse the features of ELF.

The third research question looked at how Turkish EFL teachers perceived and differed in their perceptions of the pedagogical implications of English as a lingua franca.

Table 3. *T-test Results from Independent Samples Comparing EFL Teachers' and Students' Perceptions of the Pedagogical Implications of ELF*

	Groups	N	Mean	SD	t	df	p
Overall Perceptions towards Pedagogical Implications of ELF	Students	570	2.96	.49	-6.166	620	.000*
	Teachers	52	3.40	.49			

Note. ** $p \leq .05$

Data on EFL teachers' and students' impressions of the pedagogical implications of ELF are presented in Table 3. Since the statistics show, there is a significant difference in opinions on the educational implications of ELF between the two groups, as their "p" values are smaller than "0.05" ($p=.000$). Table 4 examines the following sub-dimensions in order to elaborate on these broad-spectrum findings.

Table 4. *T-test Results from Independent Samples Comparing Turkish EFL Teachers' and Students' Perceptions of Pedagogical Implications of ELF Factors*

	Groups	N	Mean	SD	t	df	p
English Teachers	Students	570	2.73	.81	-3.928	620	.000*
	Teachers	52	3.18	.67			
Target Language Culture	Students	570	3.39	1.0	-.536	620	.592
	Teachers	52	3.47	.77			
Global Cultures	Students	570	3.20	1.0	-4.467	620	.000*
	Teachers	52	3.86	.82			
English Exams	Students	570	2.91	.79	-4.320	620	.000*
	Teachers	52	3.41	.87			

Note. ** $p \leq .05$

Table 4 contains comparisons of EFL teachers' and students' perceptions of the factors underlying the ELF questionnaire's pedagogical implications. Thus, the findings indicate significant discrepancies between the two groups' perceptions of three factors, namely English teachers, global cultures, and English exams. In comparison to EFL students, EFL teachers tend to be better aligned with the ELF perspective on the three characteristics described above. The data show that there are no significant differences between the groups when it comes to the factor described as target language culture. Given that the values for the opposing perspectives on target language culture match the mean agreements in Table 4, reverse coded in favor of ELF, one may conclude that neither students nor teachers are convinced of the critical importance of target language culture in ELT instruction.

4. Discussion, Conclusion and Recommendations

The purpose of this study was to explore the perspectives of EFL teachers and students on English as a lingua franca and its educational consequences. The outcomes of the pertinent data acquired from EFL teachers and students are compared and contrasted in the next section. When EFL teachers' and students' perceptions of the role of English as an interlanguage were compared, it was observed that they differed significantly. As a result, we might conclude that EFL teachers are more conscious of English's contemporary standing as a worldwide language franca.

Several variables, including English varieties, ELF traits, and English learning objectives, were used to further investigate EFL teachers' opinions on the idea of ELF. In terms of English varieties, the results show that EFL teachers are better knowledgeable about the numerous Englishes spoken around the world than EFL students. When it comes to EFL teachers' and students' opinions of ELF qualities, communication success is valued more than accuracy in the English language by both sides. Students, as opposed to teachers, are more convinced of the need of obtaining native-like proficiency when comparing their judgments of suitable English learning objectives.

The findings also indicate that EFL teachers appear to be more knowledgeable about the current situation of English as a vehicular language and the variety of ways in which this language is dealt with in different contexts. One possible explanation for their increased cognizance is that EFL teachers now have an increasing opportunity to interact with non-native English speakers. For instance, they are very likely to contact non-native English speakers in higher education settings who speak English in highly unconventional ways, both in terms of their accents and the forms they acquire.

Sarandi (2020), Soruç (2015, 2020), Sönmez and Akyel (2014), Coşkun (2011), Öztürk et al. (2009), Kuo (2006), Sifakis (2008), Zabitgil Gülseren and Sarıca (2020) and Timmis (2002) all revealed in their studies that EFL teachers, by contrast, adhered to mother tongue English norms and viewed native English speakers as ideal models. Nonetheless, when EFL teachers were allowed to make informed choices and provided with the necessary opportunities, they were very likely to adopt an ELF perspective in English pedagogy (Bayyurt & Sifakis, 2015; Soruç & Griffiths, 2021).

The discrepancy between this study's findings and the literature could be explained by the increasing availability of non-native English practices via various media tools and the increasing internationalization of university environments. As a result, these findings may be interpreted as EFL teachers gradually accepting the shifting role of English as an interlanguage. Additionally, we can assert that teachers' perceptions of English are changing due to globalization's compelling force for a shift in how this language is handled.

Students, on the other hand, prefer to take a neutral attitude when it comes to the current state of English as a worldwide communication tool. Nonetheless, this ambiguity cannot be understood as a lack of understanding of English's lingua franca function on the part of pupils. In the same way, it is impossible to claim that pupils do not want to compromise on native English norms. It is possible that their aloofness stems from a disconnect between the English they are taught in school and the English they are exposed to outside of school hours. Jenkins (2007) claims that English users must be exposed to many versions of the English language in various situations in order to modify their views toward the language.

Students are also more prone to attribute a gatekeeping role to native English varieties since, for the past decade, their norms have acted as the only guides for accuracy and greater job chances. They are certain to come across a variety of unorthodox forms of Englishes on the internet, where the majority of the content is offered in English (Schütz, 2005). Furthermore, English is the predominant language of instruction in a number of educational institutions. While native English variations are still common in tertiary education, university students are much more likely to have divergences from these types of English outside of their formal courses. As a result, students' hesitation about taking ELF may be exacerbated by the difficulty of deciding between what is ideal and what is practical in terms of the current situation of the English language.

When it comes to the pedagogical implications of this language, it was also revealed that there were considerable discrepancies in the attitudes of EFL teachers and students. As a result, when it comes to adopting ELF viewpoints into classroom procedures, EFL teachers have a more hopeful outlook than pupils.

When comparing the views of the two groups regarding EFL teachers (native and non-native), it was observed that the participating teachers were more supportive of English teachers in ELT classrooms with a variety of linguistic and cultural backgrounds than the students in terms of the sub-dimensions of pedagogical implications of ELF. Although neither EFL teachers nor students placed much emphasis on the target language's culture in the ELT classroom, when the means of these two groups were studied more closely, it was discovered that teachers were more supportive of developing a culture consistent with ELF. When it came to global cultures, EFL teachers were more supportive than EFL students of their inclusion in ELT classrooms. Teachers were more supportive of incorporating international English use into testing than supporting native English standards when it came to English tests.

Although instructors were more responsive to the instructional implications of ELF than students, their perceptions in that regard remained close to the line between hesitant and agreeing. This could be due to ELT pedagogy's long-standing high appreciation for native English models. Similarly, Seidlhofer (2011) remarked that, despite the fact that traditional SLA approaches are challenged via the lens of ELF, there is still a gap between what ELF research says and what is actually done in ELT pedagogy. While EFL teachers tend to be aware that their pupils will be less likely to utilize the English they learn in the future to engage with native English speakers, they appear to be wary of losing their native English-oriented perceptions. They typically promote native varieties as the most functional models for international communication as a result of their dedication to the native-oriented ELT sector.

Overall, the conflict between contemporary English communication standards and the impositions of traditional EFL pedagogy appears to have an impact on both teachers and students; however, the findings of this study show that the impact is greater on students. Despite the fact that native English pedagogy influenced EFL students more than EFL teachers, Kumaravadivelu (2005) claims that the dominance of native English language pedagogy and associated testing practices foster outdated beliefs about the language not only among teachers, but also among students. Furthermore, traditional English pedagogy's tendency to depict English as valid or invalid makes it difficult to meet the needs of learners in today's increasingly multilingual communicative situations. As a result, ELF research predicts that English will be used in polyglot scenarios in the future, and recommends for EFL students to be prepared for these situations (Seidlhofer, 2002).

Despite the survey's near-unanimous conclusions, English teachers had an uncertain opinion of ELF's instructional applications, as the numbers in Table 3 show. Because ELF is not a codified language variety, EFL instructors may find it difficult to expressly agree on the teaching implications of ELF. This makes sense from the perspective of the teachers, who are more confident in their teaching methods when the norms for the language they are required to teach are defined or preset. ELF, on the other hand, is unable to give a distinct English model for use in English classes. Because English as a lingua franca transcends geographical boundaries and has inherent traits of fluidity and flexibility, it cannot be limited to a single variety, as Cogo (2008) points out. ELF is also designed to serve as the principal form of communication in pluricentric and multilingual situations as a contact language (Cogo & Dewey, 2012). Jenkins (2015) proposes that, rather than focusing just on codification, the ELF perspective's major concern should be communication techniques and accommodation procedures.

EFL students' opinions of the current position of English as a lingua franca and the pedagogical implications of this position appear to be substantially more impacted by native English ideology than EFL teachers' perspectives. Because of their lack of understanding of English's current role as a lingua franca, along with the overwhelming influence of native English ideology, EFL students are prone to become confused and adopt native English ideology. According to Canagarajah (2006), local language policymakers should play a bigger role in integrating an ELF perspective into ELT teaching by incorporating issues like diversity and context into English language training. Similarly, Holliday (2005) and Jenkins (2007) claim that strongly embedded native speaker-oriented perceptions of ELT continue to influence how ELF is perceived in the modern era.

English teachers, as comparison to pupils, have a stronger understanding of English's role as a global lingua franca and support ELF's pedagogical implications in their classrooms. In other words, teachers tend to be more conscious of English's global nature and hence more open to implementing its related recommendations into their classroom teaching. They do, however, work in an industry dominated by native English ideology, so their application of the pedagogical consequences of English as a lingua franca in the classroom is not fully autonomous. In this sense, the support of other education stakeholders in their broader surroundings, such as the management of the institution where they work and government education policy, is critical. Both English language teachers and students, as well as tertiary-level English preparatory institutions, are expected to profit from the findings of this study. To begin, English teachers should have access to in-service training programs that help them understand English's status as a lingua franca and how to use it effectively in the classroom. Teachers should be encouraged to examine how they may transfer their ideas on English's position as a lingua franca into classroom practice following these awareness-raising seminars, so that the awareness-raising training they get is not entirely theoretical. To help students in this challenging endeavor, assistance should be offered at both the institutional and educational policy levels. EFL students depend heavily on language instruction provided by higher education institutions, which is often geared at native English speakers.

As a result, increasing their awareness of English's role as a lingua Franca is critical in promoting a democratic and egalitarian approach to foreign language instruction. As a result, it is the responsibility of instructors and educational institutions to raise student awareness of this issue and provide them with the information they need to make informed judgments. In terms of English preparation programs, they should examine their English education curriculum in light of the ELF study's findings in order to create a curriculum that is current with the most recent changes in the English language.

Because the data in this study were collected quantitatively, the tools used to collect them in future studies can be varied for triangulation purposes. In terms of constraints and future directions, the study's low number of teacher participants could be increased. While this study only included EFL teachers and students, other studies may include school administration, another important stakeholder in language instruction. Finally, while this study focused on the context of a university English preparatory program, future research could look into different language education settings. Overall, the purpose of this study was to assist stakeholders in tertiary level English preparatory programs as well as contribute to the body of ELF research by investigating EFL teachers' and students' opinions of ELF and its pedagogical implications.

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The Predictive Role Of The Primary School Teachers' Educational Beliefs On Their Curriculum Design Orientation Preferences

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ABSTRACT

Educational beliefs influence teachers' designing teaching environment, teaching methods and techniques they apply in the classroom, the strategies they use in classroom management and the measurement-evaluation tools they prefer. In this regard, teachers' educational beliefs can be said to affect their curriculum design orientations. Curricula play a significant role in raising individuals within a country. Hence, teachers' educational beliefs also have an impact on raising students. This study sheds light on whether there is a relationship between primary school teachers' educational beliefs and their curriculum design orientation preferences and whether their education beliefs predict curriculum design orientation preferences. One of the survey models used in this study was the correlational survey model. The stratified sampling approach was used to select 515 primary school teachers for the study. The "Educational Beliefs Scale" and the "Curriculum Design Orientation Preference Scale" were used to collect data for the study. Correlation analysis and multiple linear regression analysis were used during data analysis. The findings revealed a medium and low level relationship between the primary school teachers' education beliefs and their curriculum design orientation preferences. Also, the results showed that the modern education philosophies that primary school teachers adopted, such as progressivism, reconstructionism, and existentialism, could be used to predict their preferences for designing curricula around students and problems. In contrast, traditional education philosophies, perennialism and essentialism, were identified to predict the subject-centered curriculum design orientation preferences. Based on the research findings, various recommendations were provided. Click or tap here to enter text.

Keywords:

Educational belief, curriculum, curriculum design, curriculum design orientations.

1. Introduction

"How should the teaching environment be arranged? Should digital technologies be included in the teaching-learning process? Should Web 2.0 tools be used in measurement-evaluation?" Today, these questions are debated among educators. However, there is no clear answer to these questions. Teachers' design of the teaching environment, what behaviors they will transfer to students, which teaching materials they will employ in the teaching-learning process, and which tools they will prefer in measurement-evaluation are in close relation to their educational beliefs.

Teachers' educational beliefs are shaped along with their educational philosophies (Can, 2020). Philosophy of education is defined as "a way of thinking that queries education, educational science, educational objectives, content, the relationship between the theories guiding education and practice, the limits as well as the obstacles of education, and methods" (Köse, 2019). Philosophy of education addresses countries' education policies. On this wise, the countries' education systems are shaped within the framework of the adopted philosophy of education. In

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addition, the curricula at all levels of education in the countries are prepared within the framework of the adopted educational philosophy.

Curriculum is expressed as desired goals and a set of values that can be active through a development process culminating in students' experiences (Wiles & Bondi, 2007). Oliva (2009) indicated that curriculum consists of "teaching content and learning experiences to transfer cultural heritage and develop reflective thinking". The curriculum refers to a series of educational activities covering all the behaviors students must exhibit inside and outside school. In this regard, curricula can be regarded as one of the significant elements of education. The organization of the curriculum must start with how the curriculum will be designed. In this context, we encounter the concept of curriculum design. Curriculum design is displayed as the process of identifying which elements the curriculum will inherit (Duman & Kocatürk-Kapucu, 2020). Various approaches are taken into account while preparing the curriculum design. These approaches have been grounded on what should be at the center of the curriculum design. When individuals are the focus of the curriculum, it is called student-centred design; when social problems are considered, it is called problem-centred; and when content and units are considered, it implies subject-centred curriculum design orientation (Oliva, 2009; Ornstein & Hunkins, 2009; Soenmez, 2015). Teachers are the implementers of curricula. They design their curricula according to the curriculum as mentioned above design orientations. They organize the learning environment, apply teaching methods, techniques and models, choose measurement-evaluation tools, and design teaching materials within the framework of the educational philosophies they adopt (Aslan, 2017; Doğanay & Sarı, 2003). Thus, it may be wise to mention that the educational philosophies are effective on the curriculum design orientations. In fact, Ornstein and Hunkins (2009) noted that learner-centered and problem-centered curriculum design orientations are based on the philosophies of progressivism, essentialism and reconstructionism, while the subject-centered curriculum design is on perennialism, essentialism and progressivism.

Upon analyzing the relevant national and international literature, studies were conducted to examine teachers' educational philosophies and their curriculum design orientations (Aslan, 2017; Burul, 2018; Cheung & Wong, 2002; Davranmaz, 2021; Doğanay & Sarı, 2003; Erdem, 2021; Livingston, McClain & DeSpain, 1995; Pehlivan, 2019). Considering the related literature in Turkey, a study conducted by Kozikoğlu and Uyan (2018) shed light on the consistency between teachers' educational beliefs and their preferences for curriculum design orientations. A few studies were carried out to analyze teachers' educational beliefs and their curriculum design orientation preferences, which is considered a shortcoming in the literature. The study conducted by Kozikoğlu and Uyan (2018) pinpointed the relationship between the educational beliefs of teachers at different education levels and their preferences for curriculum designs. The present study attempts to identify the primary school teachers' educational beliefs and their curriculum design orientation preferences. This can be a difference between these two studies. In addition, this study was conducted with teachers working in a different city.

Designing a curriculum in line with the educational philosophy by the teachers may contribute to their implementation of the curricula more effectively and efficiently. Likewise, teachers can implement the curriculum more functionally if they adopt the educational philosophy for developing the curriculum in their classrooms. Hence, the results of this study are expected to contribute to the relevant literature. Identifying the relationship between the educational philosophies adopted by the teachers and their curriculum design orientation preferences will guide them in preparing and implementing the curricula since curricula are designed by considering what knowledge, skills and competencies the individuals must have. In this respect, the educational philosophies teachers adopt also impact how students are raised. Primary school teachers teach children aged 5-11, and they play a significant role in raising them. Therefore, this study examines the relationship between primary school teachers' educational beliefs and their curriculum design orientation preferences. Although the literature indicates that the theoretical curriculum design approaches are built on educational philosophies, the presence of a limited number of studies has called for this study. In this vein, the present study is paramount in terms of revealing this theoretical basis. Based on all these reasons, this study aims to reveal whether there is a correlation between the primary school teachers' educational beliefs and their curriculum design orientation preferences and whether their educational beliefs predict their preferences for curriculum design orientation. In service of this aim, answers to the following questions were sought:

- Is there a relationship between primary school teachers' educational beliefs and their preferences for curriculum design orientation?
- Do primary school teachers' educational beliefs predict their curriculum design orientation preferences?

2. Conceptual Framework

2.1. Educational Beliefs

Educational belief refers to what educators adopt regarding the way of learning-teaching based on their educational philosophies (Haney, Lumpe & Czerniak, 2003). Brauner and Büyükdüvenci (1982) implied that the most general feature of the educational philosophy is to organize the educational beliefs through evaluating many different possibilities and gathering them under one roof. Based on these statements, the philosophy of education is acknowledged as the factor determining teachers' educational beliefs. Philosophy of education is announced as a sub-field of philosophy which is essentially a field that handles, analyzes, synthesizes and conceptualizes all concepts, understandings, problems, and practices related to education (Yıldırım, 2021: 25). The literature points out that the philosophies of education are mainly divided into five categories: Perennialism, Essentialism, Progressivism, Reconstructionism, and Existentialism (Günay, 2018; Köse, 2019; Küçükali, 2021; Wiles & Bondi, 2007).

Classical realism is the basis of the philosophy of perennialism. Many of those who defend the philosophy of idealism advocate this educational philosophy (Güçlü, 2018). Perennialism makes reference to the existence of unchanging ethical principles and human nature everywhere and at all times. It emphasizes principles that are absolute immutable, namely, universal. Individuals must be raised according to these principles. Perennials promote the development of the human mind and argue that disciplined, intellectual and responsible aristocratic people should be raised (Acar-Erdol, 2018; Ergün, 2021; Sönmez, 2020). The purpose of education in perennialism is to prepare individuals for the eternal and real afterlife (Ergün, 2021). Perennialism requires that the teacher must be only authority in the classroom, and strict discipline should be applied (Erdener & Sezer, 2019). The advocates of perennialism underline that school is not real life but an artificial environment designed for preparation for real-life (Arslan, 2012). Perennialism is the most conservative and traditionalist philosophy compared to other educational philosophies (Wiles & Bondi, 2007). This philosophy defends that individuals read great classical works (Cevizci, 2016). In perennialism, measurement and evaluation are carried out to determine how much is learned (Erkiliç, 2013).

The essentialism, an educational philosophy, is grounded on realism. Essentialism, known as the most widespread and consistent educational philosophy in the world, takes the real world as a starting point in comparison with the ideal universe represented by perennialism (Daşçı, 2021). Education in essentialism aims to preserve social values and culture and to transfer them to new generations (Sönmez, 2020). In essentialism, it is of great significance for students to memorize knowledge. In this respect, a teacher-centered and strict discipline approach has been adopted in essentialism, just as in perennialism (Noddings, 2016). Essentialism does not consider the interests and needs of the student during the teaching-learning process. This is regarded as a waste of time (Ornstein & Hunkins, 2009). Since the learning process requires hard work and discipline, the student can only develop his/her skills and mind by fulfilling what is written in the books and what the teacher teaches (Sönmez, 2020: 93). Essentialism recommends using traditional measurement and evaluation tools to determine what and how much individuals have learned (Daşçı, 2021).

Progressivism is identified with the thoughts of John Dewey, an American philosopher and educator. The philosophy of pragmatism lies at the heart of this educational philosophy (Uludağ, 2019). This philosophy requires that education teach the ever-changing life rather than the traditionally continuing standards and invariance in society (Ergün, 2021: 53). Learning is based on interest unlike passive assimilation, which is a process by which experience is developed using scientific methods. This process is initiated and directed by the student under the teacher's guidance (Akpınar, 2019; Kazu, 2007). In the philosophy of progressive education, the students does not directly memorize knowledge, but construct it in his/her mind. Progressivism aims to urge the student to establish a link between the knowledge s/he has learned and to ask questions and seek their answers (Aktan, 2019: 108). In this philosophy, the teaching-learning process is organized by considering the interests and needs of the students (Aslan, 2017; Alanoğlu, Aslan & Karabatak, 2021).

Activities are organized for students to learn by doing (Sönmez, 2020). Progressivism attaches importance to the evaluation of formative and personal development. Evaluation is usually ushered, monitored, and completed by the student (Daşçı, 2021: 89). The teacher is not the only authority; on the contrary, s/he is the person who guides the students in the teaching-learning process and who designs this process together. This educational philosophy suggests a more democratic classroom environment (Cevizci, 2016).

Reconstructionism is a remarkable educational philosophy that regards schools as the center of the solution to social problems (Daşçı, 2021). The idea of recreating the cultural and social structures of societies is at the heart of reconstructionism (Erkılıç, 2013), which argues that there is a constant change in life, therefore individuals should reshape every moment of their lives (Ergün, 2021). The main purpose of education in reconstructionism is to change and reshape the society and to bring democratic values to the society (Sönmez, 2020). Besides, the main objectives of education in this educational philosophy are making peace and love prevail worldwide, activating social change through practice, ensuring cooperation between individuals, and improving individuals' critical thinking skills (Daşçı, 2021). High-level methods such as travel, observation, experimentation and research must be employed in teaching-learning. Reconstructionism requires process-based and formative evaluation in terms of measurement and evaluation. The questions posed to the students in the teaching-learning process should be able to determine whether they use the critical thinking skills and scientific method (Sönmez, 2020).

The philosophy of existentialism is built on the uniqueness and freedom of human beings, and it argues that the individual should bear the responsibility of existence and self-definition (Guttek, 2014). According to this idea, which emerged as a result of social traumas, an individual should educate himself/herself not for society or humanity, but for himself/herself (Ergün, 2021; Kazu, 2018). Existential education aims to teach students that their freedom is superior to everything else and to offer them an opportunity to develop their individuality and personality (Kasapoğlu, 2021: 51). Existentialism advocates the development of individuals' self-awareness (Epçaçan, 2018). An educational approach adopting existentialism shows that the learner is at the center and active, unlike traditional educational approaches. In addition, there is an educational environment in which individual differences are considered. Rather than an authoritarian and oppressive behavior style on students, it offers students freedom and a rich learning environment (Guttek, 2014). The teacher is the guiding person who allows students to create their truths with the questions they ask (Sönmez, 2020). Since freedom is at the forefront, this philosophy argues that an individual should be aware of all kinds of factors that limit their freedom and neutralize them (Tozlu, 2003). Thus, the individual discovers himself/herself and learns to take responsibility through education. One should evaluate how much s/he can realize themselves (Sönmez, 2020; Uludağ, 2019). Therefore, humans realize that they are conscious beings and have a life based on what they have learned from their experiences (Biçer, 2014). Existentialism supports student-centered understanding that will enable students to think and research rather than the teacher-centered, rote system in education and disciplining the student (Günay, 2018).

2.2. Curriculum Design Orientations

Humanity has thought about a significant issue since ancient times related to how education and training should be carried out. Discussions on conducting instruction in a planned and programmed way have brought the concept of the education program to the agenda. The book "Curriculum", written by John Franklin Bobbitt in 1818, is the first book to deal with all phases of curriculum development in education (Wiles & Bondi, 2007). This book underlines that education and training activities should be carried out within the framework of a plan and program (Bobbitt, 2017). The concept of curriculum has been scientifically handled thanks to this book.

Curriculum can be defined as *"the mechanism of learning experiences provided to the learner through planned activities in school and outside the school"* (Demirel, 2017: 4). Curricula are developed in line with the countries' education policies. They clue about what kind of people countries aim at raising. In this regard, curricula have a significant role in countries' education systems. Curriculum design is one of the most decisive elements of the curriculum development process in education (Türkan, 2021). According to Wiles and Bondi (2007), curriculum design ensures that the curriculum cycle is implemented sequentially to successfully complete the curriculum. Petrina (2004) pinpointed that curriculum design involves the forming of educational content and the contents of educational forms with the responses to the questions "What should be learned?" and "How

should it be organized for teaching?" Ornstein and Hunkins (2009) highlighted that curriculum design involves interpretation and selection of objectives, organization of content, decisions about how to teach the content, and judgments about how to evaluate the success of the developed curriculum. The relevant literature suggests that curriculum design approaches in education are divided into three as subject-centered designs, learner-centered designs and problem-centered designs (Adıgüzel, 2017; Alcı, 2019; Ornstein & Hunkins, 2009).

The subject-centered curriculum design is the oldest known design. It is required to transfer the subjects to the learner. Subject-centered curriculum design is grounded on the relationships between concepts, subjects and courses (Türkan, 2021). In subject-centered curriculum designs, there is a logical connection between the subjects of each course and learning the subjects is considered as both a tool and a goal (Çubukçu, 2011). Knowledge and concepts are at the center of the subjects in this curriculum design, and it is of great importance to transfer knowledge and concepts to students. In contrast, the curriculum is being designed (Saylor, Alexander & Lewis, 1981). The subjects in the subject-centered curriculum design are arranged linearly from simple to complex (Demeuse & Strauven, 2013). Teachers are regarded as experts on the subject, conveying information directly, while students are passive receivers deprived of content choice (Vasuthavan & Kunaratnam, 2017). Subject-centered curriculum designs are based on perennialism and essentialism as the reflection of realist and idealist educational philosophies (Henson, 2006; Sönmez, 2020). The subject-centered curriculum design is teacher-centered and textbooks are indispensable teaching materials of the teaching-learning process (Akpınar, 2014; Tucker, 2011). This approach is known as the most used curriculum design orientation. Subject-centered curriculum design is built on perennial and essentialist educational philosophies; moreover, this design has seven classifications: discipline design, broad fields design, subject design, correlation design, conceptual design, descriptive curriculum design and process design (Akpınar, 2014; Ornstein & Hunkins, 2009).

The student-centered curriculum design gained prominence in response to the weaknesses of the subject-centered curriculum design (Ornstein & Hunkins, 2009). This design advocates that learners' interests and needs should be considered as well as their cognitive development characteristics (Türkan, 2021). In the student-centered curriculum design, it is of important to design activities that center the student. In this approach, Rodrigo (2017) argued that teachers' are to provide students with more opportunities for active and deep learning by allowing them to realize their own learning. Hence, teachers are only facilitators of learning, and students take responsibility for their learning. In other words, this approach should include activities that allow students to learn by doing and experience and to account for their learning (Duman & Kocatürk-Kapucu, 2020). In the student-centered curriculum design, students' individual differences are also taken into account. Thus, curriculum is not prepared in advance. It is organized in the process by considering individual differences and determining students' interests (Adıgüzel, 2017). In this approach, the teacher does not convey information directly but guides the student in the teaching-learning process (Gökalp, 2020). In a learner-centered curriculum, teachers not only welcome the students' self-actualization goal but should also offer them a flexible environment with opportunities in this direction (Ellis, 2014). Student-centered curriculum design is based on progressivism, reconstructivism and existentialism, and it is divided into child-centered design, experience-centered design, romantic(radical) design and humanistic design (Mc Neil, 2006; Ornstein & Hunkins, 2009; Karacaoğlu, 2018).

Problem-centred curriculum design is an approach that "advocates that students learn about their future thoughts, the causes and consequences of events, and social relationships, work constructively and cooperatively for the development of society, and acquire skills related to development strategies and techniques" (Adıgüzel, 2017: 195). Demirel (2017) stated that problem-centered design is organized to reveal the existing needs of the society by increasing the cultural and traditional values. Accordingly, this design focuses on students' interests, abilities, needs and social problems. Çubukçu (2011) pointed out that this design focuses on continuity in social life, social problems, social values and living spaces, and aims to raise capable individuals with knowledge, skills and ideas in solving problems for the society. Similarly, Rodrigo (2017) claimed that students identify the causes of the problems, look for solutions and decide which solution is the most workable one. Problem-centered design is tackled within the context of developing critical thinking and problem-solving skills related to current social issues in education (Karacaoğlu, 2018; Tucker, 2011). This approach emphasizes that teachers should provide opportunities for students to try and make mistakes and

that they should also create uncertain situations for students and guide them in resolving these situations (Alcı, 2019). In the problem-centered curriculum design, students focus on how to look at a problem and develop a solution, which is expected to improve students' ability to solve problems that they may encounter in real life (Duman & Kocatürk-Kapucu, 2020). According to Aykaç (2014), this curriculum design aims to solve individual and social problems. In a general sense, it focuses on both social and individual problems. In this respect, problem-solving method is related to the problem-centered curriculum design, and curriculum design should be developed with this method (Odabaşı, 2014). Based on progressivism and reconstructionism, this approach includes three different types of design, namely life situation design, core design, and reconstructive design with social problems (Henson, 2006; Ornstein & Hunkins, 2009; Soenmez Sönmez, 2020).

3. Method

3.1. Research Design

This study employed the correlational survey model, one of the survey models. The correlational research model is defined as "a quantitative research model in which various statistics are used to measure and define the relationship between two or more variable/score groups in non-experimental studies" (Creswell, 2014). The correlational survey model examines the relationships between two or more variables (Fraenkel, Wallen & Hyun, 2014). This study used the correlational survey model since the relationship between the primary school teachers' educational beliefs and their preferences for the curriculum design orientations was analyzed using various statistical techniques.

3.2. Population and Sample

The study's target population consisted of primary school teachers working in a province in the Mediterranean Region. The sample was chosen by the stratified sampling method. In stratified sampling, the population is divided into strata based on some specific characteristics and a sample is selected from each stratum (Creswell & Guetterman, 2018: 140). As stated by Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz, and Demirel (2017: 89), the purpose of using the stratified sampling method is to ensure that each of the subgroups in the population is represented in the sample in accordance with their proportions in the population. The schools (public and private) were taken as a stratum within the scope of the study. The target population of the study is composed of 1603 primary school teachers. According to the information from the Provincial Directorate of National Education, 64 primary school teachers work in private schools and 1539 in public schools. Accordingly, 4% of the target population works in private schools and 96% in public schools. Johnson and Christensen (2017) implied that if the target population is 1600, the sample must be 310 at the 95% confidence level. Gürbüz and Şahin (2018) pointed out that the sample identified with the stratified sampling method should be selected according to the ratios of the strata in the target population. Based on this reference, of the 310 identified participants, 12 (4%) should be chosen from teachers working at private schools and 298 (96%) from those working at public schools. 514 primary school teachers were contacted for the study. Of all the teachers, 64 work at private schools and 450 work at public schools. These values suggest that the number of participants is satisfactory for reflecting the target population. The study participants comprised 263 (51%) female teachers and 252 (49%) male teachers.

3.3. Data Collection Tools

This study deployed two data collection tools. These are as following:

Educational Belief Scale: The "Educational Belief Scale" developed by Yılmaz, Altınkurt and Çokluk (2011) was used in the present study. The researchers used an exploratory factor analysis. The tool was conducted with 305 pre-service teachers and 154 teachers. The scale was determined to have five factors, including "Progressivism," "Reconstructionism," "Existentialism," "Perennialism," and "Essentialism," with a total of 40 items, as a result of the researchers' exploratory factor analysis. The progressive item of the scale accounted for 16.45% of the overall variation, existentialism 11.42 percent, reconstructionism 8.42 percent, perennialism 7.03 percent, and essentialism 6.25 percent (Yılmaz, Altınkurt, & Multitude, 2011). Item factor loadings in the related scale varied between .42 and .73, and the item-total correlations ranged between .22 and .57 (Yılmaz, Altınkurt & Çokluk, 2011). Yılmaz, Altınkurt and Çokluk (2011) confirmed the scale's five-factor construct through exploratory factor analysis. The results of the confirmatory factor analysis affirmed that the fit indices were at an acceptable level (AGFI=0.83, GFI=0.85, RMSR≤0.05, RMSEA≤0.05, RMR and SRMR≤0.08, CFI≥0.95,

NFI and NNFI \geq 0.95, PGFI=0.75) (Yılmaz, Altinkurt & Çokluk, 2011). The total score of the scale is not obtainable. Therefore, the items in the scale cannot be interpreted over the total score. The scores are calculated according to each educational philosophy in the scale. Based on the scores obtained from the scale factors, the participation level in that factor can be interpreted. The researchers also examined the internal consistency coefficients of the scale. The analysis results revealed that the Cronbach's Alpha coefficients of the factors varied between .70 and .91. The items were arranged for response on a five-point Likert type scale (Yılmaz, Altinkurt & Çokluk, 2011).

The researcher obtained the necessary permission from the researchers who developed the scale and used the instrument in the study. In the present study, the Cronbach alpha reliability coefficient of the factors was examined. Accordingly, the Cronbach alpha reliability coefficients for the factors progressivism, reconstructivism, existentialism, and perennialism were found to be .72, .80, .80, .70, and .75, respectively. These results indicate an acceptable level of internal reliability coefficients (Fraenkel, Wallen & Hyun, 2014).

Curriculum Design Orientations Preference Scale (CDOPS): This study employed the "Curriculum Design Orientations Preference Scale" developed by Baş (2013). An exploratory factor analysis was used during scale development process. The tool was conducted with 300 teachers. As a result of the exploratory factor analysis performed by the researcher, the scale was found to include three factors and 30 items. The factors were identified as "student-centered", "problem-centered" and "subject-centered". The student-centered factor of the scale explained 19.98% of the total variance, the problem-centered for 18.32% and the subject-centered for 13.71% (Baş, 2013). Item factor loadings of each factor were examined and presented as following. The student-centred factor ranged from .76 to .53, the factor loading on the problem-centred factor ranged from .82 to .46, and the subject-centred factor ranged from .73 to .57 (Baş, 2013). Baş (2013) also performed confirmatory factor analysis and determined that the fit indices were at an acceptable level (AGFI=0.80, GFI=0.83, RMSR \leq 0.05, RMSEA \leq 0.05, RMR and SRMR \leq 0.08, CFI \geq 0.95, NFI and NNFI \geq 0.95) (Baş, 2013). The scale's total score is not calculated; therefore, the items in the scale cannot be interpreted over the total score. Scores are calculated according to each curriculum design orientation in the scale. Participants' preference levels in this factor can be interpreted based on the scores obtained from the factors in the scale. The researcher also examined the internal consistency coefficients of the scale. In this regard, the Cronbach's Alpha coefficients of the factors varied between .87 and .89. The items were arranged for response on a five-point Likert type scale (Baş, 2013).

The researcher obtained the necessary permission from the researchers who developed the scale and used the instrument in the study. In the present study, the Cronbach alpha reliability coefficient of the factors was examined. Accordingly, the Cronbach alpha reliability coefficients for the factors student-centred, problem-centred, and subject-centred were found to be .73, .73, and .67, respectively. These results indicate an acceptable level of internal reliability coefficients (Fraenkel, Wallen & Hyun, 2014).

3.4. Data Collection

The data were collected online between 20/03-15/06/2020 due to the COVID-19 pandemic. Therefore, the researcher prepared the data collection tool on Google Form. The researcher shared the online form with the primary school principals with the support of the Provincial Directorate of National Education. The principals were requested to share the online form with their primary school teachers. Official permission was obtained from the Provincial Directorate of National Education for the implementation of the study. Ethics committee decision was also taken (Date: 13/02/202, No: 874329561050.991/87-4). All ethical principles were complied by the researcher during the data collection process. An article indicating that the participants voluntarily participated in the study was added to the online form.

3.5. Data Analysis

The research data were analyzed through use of the statistical package program. The normality assumption was tested before analyzing the obtained data. Kolmogorov Smirnov test was used to determine whether the data demonstrated a normal distribution. The analysis results of the Kolmogorov-Smirnov test show that the factors of the scale such as progressivism (K- SW =.108, p <.05), reconstructivism (K- SW =.124, p <.05), existentialism (K- SW =.252, p <.05), perennialism (K- SW =.105, p <.05), and essentialism (K- SW =.073, p <.05) were not normally distributed. Likewise, the factors of curriculum design orientation preferences scale such as

the student-centered (K-SW=.105, $p<.05$), problem-centered (K-SW=.116, $p<.05$) and subject-centered (K-SW=.090, $p<.05$) did not show normal distribution. Can (2020) recommended that skewness and kurtosis coefficients be examined to determine normality. According to Tabachnick and Fidell (2007), skewness and kurtosis values must be between +1.5 and -1.5 to accept the normal distribution. On the other hand, George and Mallery (2010) noted that the skewness and kurtosis coefficients must be between +2 and -2 for normality. Within the study, the skewness coefficient of the progressivism factor in the educational beliefs scale was -.53, the standard error .11, the kurtosis coefficient -.53, and the standard error .22; the skewness coefficient of the reconstructionism factor was -.41, the standard error .11, the kurtosis coefficient -.77, and the standard error .22; the skewness coefficient of the existentialism factor was found to be -1.27, the standard error .11, the kurtosis coefficient .56, and the standard error .22; the skewness coefficient of the perennialism factor was -.47, the standard error .11, the kurtosis coefficient .60, and the standard error .22; the skewness coefficient of the essentialism factor was determined to be .43, the standard error .11, the kurtosis coefficient .06, and the standard error .22. Similarly, the skewness coefficient of the "student-centeredness" factor in the "curriculum design preferences" scale was determined to be -.54, the standard error was .11, the kurtosis coefficient was -.37, and the standard error was .22; the skewness coefficient of the "problem-centeredness" factor was -.38, the standard error was .11, the kurtosis coefficient was -.80, and the standard error was .22; the skewness coefficient of the subject-centered factor was .34, the standard error was .11, the kurtosis coefficient was -.19, and the standard error was .22. The values indicated that the data demonstrated a normal distribution. Besides, Field (2005) claimed that the Q-Q graph should be examined to determine normality. According to Field (2005), the data in the Q-Q graph must be collected on a slope of 45 degrees. As seen in Annex 1, the data were collected on a 45 degree slope, meaning that the data showed a normal distribution. Pearson Product Moments Correlation and Multiple Linear Regression (MLRA) analyzes were used during data analysis. To perform the Pearson Product Moments Correlation analysis, univariate normality must first be provided. As mentioned above, this assumption is met. The other assumptions for making this analysis are that the related variables are continuous variables and covariance is provided between the variables (Green & Salkind, 2013). Thus, Pearson Product Moments Correlation analysis was used as these assumptions were met in the study. Pearson Product Moment Correlation coefficient ranges between -1 and +1 (Kilmen, 2020). The Pearson Product Moment Correlation coefficient between the variables is low between .00-.29; medium between .30-.70; high between .71-1.00 (Büyüköztürk, 2013: 32). MLRA was used in the current study. Some assumptions are to be met to use MLRA. It is necessary to reach a sufficient number of samples for making MLRA. Pallant (2016) noted that at least 90 participants are needed in case of five independent variables. This assumption was met since 515 participants were included in the study. The assumption of multiple co-collinearity must also be met for MLRA (Shavelson, 1996). According to Tabachnick and Fidell (2007), the fact that the relationship between independent variables is above .90 leads to the violation of the multiple co-linearity assumption. They recommend examining the relationships between independent variables, tolerance and VIF values. The analysis results signified that the relationship between the independent variables was below .90, the tolerance values were not lower than .10 (Field, 2009: 297), and that the VIF value was below 10 (Pallant, 2016). Based on these results, it can be said that this assumption is met. The absence of extreme scores and the assumption of multivariate normality must also be met to perform MLRA. Hence, it is recommended to examine the Mahalahobis and Cook's distances. Seğer (2015) underpinned that the Mahalahobis distance must be below 20.52 if there are five predictor variables. Pallant (2016) suggested the Cook's distance be close to zero. In this way, extreme values were identified and these extreme values were excluded from the study before MLRA. MLRA was performed on 453 data, with the extreme values removed. Standardized Beta (β) coefficients were taken as the basis for the interpretation of the multiple linear regression analysis, and t-test results regarding the significance of these coefficients were taken into account. The significance level of .05 was taken into account during data analysis.

3.6. Ethical

In this study, all rules stated to be followed within the scope of "Higher Education Institutions Scientific Research and Publication Ethics Directive" were followed. Ethical Review Board Name: Suleyman Demirel University Ethics Committee. Date of Ethics Evaluation Decision: 13.02.2020 Ethics Assessment Document Issue Number: 87/4

4. Findings

This section covers whether there is a significant relationship between the primary school teachers' educational beliefs and their curriculum design orientation preferences and whether their education beliefs predict curriculum design orientation preferences.

Table 1 depicts the findings regarding the relationship between primary school teachers' educational beliefs and their curriculum design orientation preferences.

Table 1. *The Relationship Between Primary School Teachers' Educational Beliefs and Their Curriculum Design Orientation Preferences*

Variables	Student-centered	Problem-centered	Subject-centered
Progressivism	.67**	.57**	.00
Existentialism	.55**	.57**	-.10**
Reconstructionism	.45**	.54**	.18**
Perennialism	.35**	.35**	.30**
Essentialism	-.19**	-.08	.49**

N=453, **p<.01

While there was a positive, medium-level, and significant relationship between primary school teachers' progressivism philosophy of education and their preferences for student-centered ($r=.67$, $p<.01$) and problem-centered ($r=.57$, $p<.01$) curriculum design orientations, there was no significant relationship between their preferences for subject-centered ($r=.00$, $p>.05$) curriculum design. The instructors' existentialism education philosophy and their preferences for student-centered ($r=.55$, $p<.01$) and problem-centered ($r=.57$, $p<.01$) curriculum design had a positive, medium-level, and significant relationship. Subject-centered ($r=-.10$, $p<.01$) curriculum design, on the other hand, had a negative, low-level, and significant association. A positive, medium level and significant relationship were found between the reconstructionism education philosophy adopted by the teachers and their student-centered ($r=.45$, $p<.01$) and problem-centered ($r=.54$, $p<.01$) curriculum design preferences, while a positive and low-level significant relationship in terms of the subject-centered ($r=.18$, $p<.01$) curriculum design preference. The findings also revealed a positive, medium level, and significant relationship between the primary school teachers' perennialism education philosophy and their preferences of student-centered ($r=.35$, $p<.01$), problem-centered ($r=.35$, $p<.01$) and subject-centered ($r=.30$, $p<.01$) curriculum designs. A low and negative correlation was found between elementary teachers' essentialist educational philosophy and their preference for student-centred curriculum design ($r=-.19$, $p<.01$), while a positive, medium and significant correlation was found between preference for subject-centred curriculum design ($r=.49$, $p<.01$) and preference for subject-centred curriculum design ($r=.49$, $p<.01$). Besides, there was a negative, low level, and insignificant correlation between their essentialist philosophy of education and problem-centered ($r=-.08$, $p>.05$) curriculum design preference.

Table 2 displays whether the educational philosophies adopted by the primary school teachers predicted the student-centered curriculum design orientation preference.

Table 2. *Multiple Linear Regression Analysis Results Regarding the Prediction of the Adopted Educational Philosophies on Student-Centered Curriculum Design Orientation Preference*

Predicted Variable	Predicting Variable	B	Standard Error	β	t	p	Binary r	Partial r
Student-centered	Stable	1.17	.20		5.64	.00		
	Progressivism	.39	.04	.38	8.11	.00	.62	.35
	Existentialism	.22	.05	.20	4.39	.00	.55	.20
	Reconstructionism	.07	.02	.10	2.41	.01	.45	.11
	Perennialism	.06	.03	.09	2.21	.02	.35	.10
	Essentialism	-.04	.01	-.11	-3.00	.00	-.19	-.14
R= .679		R ² = .461	F(6-452)= 76.547	p=.00				

The results of the multiple linear regression analysis conducted to show how elementary teachers' educational philosophies predicted their preference for student-centred curriculum design indicated that the variables progressivism, existentialism, reconstructionism, perennialism, and essentialism had a significant relationship

($R=.676$, $R^2=.461$) with preference for student-centred curriculum design ($F(5-452)=76.547$, $p < .01$) These variables mentioned above were determined to explain 46% of teachers' student-centered curriculum design orientation preference. Considering the binary and partial correlations between the predicting variables (progressivism, existentialism, reconstructionism, perennialism and essentialism) and the predicted variable (student-centered), a medium-level positive correlation was identified with progressivism ($r=.62$) [when the effects of other predictor variables are controlled ($r=.35$)], existentialism ($r=.55$) [when other predictive variables are controlled ($r=.20$)], with reconstructionism ($r=.45$) [when other predictive variables are controlled ($r=.11$)] and perennialism ($r=.35$) [when the effect of other predictive variables is controlled ($r=.10$)]. At the same time, a negative and low-level correlation was found with essentialism ($r=-.19$) [when the effect of other predictor variables is controlled ($r=-.14$)]. The standardized regression coefficients showed the order of importance of the predictor variables on the preference of student-centered curriculum design as progressivism ($\beta=.39$), existentialism ($\beta=.22$), reconstructionism ($\beta=.07$), perennialism ($\beta=.07$), and essentialism ($\beta=-.04$). In the analysis of the significance tests of the regression coefficients, it was found that the variables progressivism, existentialism, reconstructivism, perennialism, and essentialism were the significant predictors of the preference of student-centered curriculum design. According to the results of the multiple linear regression analysis, the regression equation predicting the student-centered curriculum design orientation is as follows:

$$\text{Student-Centered} = (.39 \times \text{progressivism}) + (.22 \times \text{existentialism}) + (.07 \times \text{reconstructionism}) + (.06 \times \text{perennialism}) + (-.04 \times \text{essentialism}) + (1.17 \times \text{stable})$$

This study shed light on whether the educational philosophies adopted by the primary school teachers predicted their problem-centered curriculum design orientation. The results are presented in Table 3.

Table 3. Multiple Linear Regression Analysis Results Regarding the Prediction of the Adopted Educational Philosophies on Problem-Centered Curriculum Design Orientation Preference

Predicted Variable	Predicting Variable	B	Standard Error	β	t	p	Binary r	Partial r
Problem-centered	Stable	1.25	.20		6.20	.00		
	Progressivism	.23	.04	.24	5.10	.00	.57	.17
	Existentialism	.29	.04	.28	6.03	.00	.57	.21
	Reconstructionism	.16	.02	.26	5.07	.00	.54	.19
	Perennialism	.02	.02	.03	.74	.05	.35	.02
	Essentialism	-.00	.01	-.00	-.23	.81	-.08	-.00
R= .675 R ² = .455		F ₍₅₋₄₅₂₎ = 74.644		p=.00				

As a result of the multiple linear regression analysis conducted to determine how elementary teachers' educational philosophies predicted their preference for problem-centred curriculum design, a significant relationship ($R=.675$, $R^2=.455$) was found between the variables progressivism, existentialism, reconstructionism, perennialism, and essentialism and preference for problem-centered curriculum design ($F(5-452)=74.644$, $p < .01$). These variables as mentioned above were found to explain 45% of teachers' problem-centered curriculum design orientation preference. Considering the binary and partial correlations between the predicting variables (progressivism, existentialism, reconstructionism, perennialism and essentialism) and the predicted variable (problem-centered), a medium level positive correlation was identified with progressivism ($r=.57$) [when the effects of other predictor variables are controlled ($r=.17$)], existentialism ($r=.57$) [when other predictive variables are controlled ($r=.21$)], with reconstructionism ($r=.54$) [when other predictive variables are controlled ($r=.19$)] and perennialism ($r=.35$) [when the effect of other predictive variables is controlled ($r=.02$)], while a negative and low level correlation was found with essentialism ($r=-.08$) [when the effect of other predictor variables is controlled ($r=-.00$)]. The standardized regression coefficients revealed that existentialism ($=.28$), reconstructionism ($=.26$), progressivism ($=.24$), perennialism ($=.03$), and essentialism ($=-.00$) were the most important predictor variables on the preference for problem-centered curriculum design. The variables progressivism, existentialism, and reconstructivism were found to be significant predictors of preference for problem-centered curriculum design after testing the significance tests of the regression coefficients.. However, the predicting variables of perennialism and essentialism were not the significant predictors of the problem-centered curriculum design orientation preference. According to the results of the

multiple linear regression analysis, the regression equation predicting the problem-centered curriculum design orientation is as follows:

$$\text{Problem-Centered} = (.23 \times \text{progressivism}) + (.29 \times \text{existentialism}) + (.16 \times \text{reconstructionism}) + (.02 \times \text{perennialism}) + (-.00 \times \text{essentialism}) + (1.25 \times \text{stable})$$

Table 4 displays findings related to whether the educational philosophies adopted by the primary school teachers predicted their subject-centered curriculum design orientation.

Table 4. Multiple Linear Regression Analysis Results Regarding the Prediction of the Adopted Educational Philosophies on Subject-Centered Curriculum Design Orientation Preference

Predicted Variable	Predicting Variable	B	Standard Error	β	t	p	Binary r	Partial r
Subject-centered	Stable	1.91	.34		5.54	.00		
	Progressivism	.00	.08	.00	.10	.91	.00	.00
	Existentialism	-.22	.08	-.13	-2.62	.00	-.10	-.12
	Reconstructionism	.10	.04	.11	2.22	.02	.18	.10
	Perennialism	.21	.05	.20	4.33	.00	.29	.20
	Essentialism	.25	.02	.42	9.91	.00	.49	.42
R= .550 R ² = .302 F ₍₅₋₄₅₂₎ = 38.740 p=.00								

A significant relationship ($R=.550$ $R^2=.302$) was found between the variables progressivism, existentialism, reconstructionism, perennialism, and essentialism and preference for subject-specific curriculum design ($F(5-452)=38.740$, $p=.01$) in a multiple linear regression analysis conducted to determine how elementary teachers' educational philosophies predict their preference for subject-specific curriculum design. These five variables explained 30% of teachers' subject-centered curriculum design orientation preference. As is seen in binary and partial correlations between the predicting variables (progressivism, existentialism, reconstructionism, perennialism and essentialism) and the predicted variable (subject-centered), a low-level positive correlation was determined with progressivism ($r=.00$) [when the effects of other predictor variables are controlled ($r=.00$)], with reconstructionism ($r=.18$) [when other predictive variables are controlled ($r=.10$)] and perennialism ($r=.29$) [when the effect of other predictive variables is controlled ($r=.20$)], while a positive and medium level correlation was found with essentialism ($r=.49$) [when the effect of other predictor variables is controlled ($r=.42$)]. Furthermore, a negative and low-level relation was identified with existentialism ($r=-.10$) [when other predictive variables are controlled ($r=-.12$)]. The standardized regression coefficients revealed that essentialism ($=.42$), perennialism ($=.20$), reconstructionism ($=.11$), progressivism ($=.00$), and existentialism ($=-.13$) were the most important predictor variables for subject-based curriculum design choice. Perennialism, essentialism, existentialism, and reconstructivism were revealed to be significant predictors of the preference for subject-centered curriculum design when the regression coefficients were tested for significance. However, the predicting variable of progressivism was not the significant predictor of the subject-centered curriculum design orientation preference. According to the results of the multiple linear regression analysis, the regression equation predicting the subject-centered curriculum design orientation is as follows:

$$\text{Subject-Centered} = (.00 \times \text{progressivism}) + (-.22 \times \text{existentialism}) + (.10 \times \text{reconstructionism}) + (.21 \times \text{perennialism}) + (.25 \times \text{essentialism}) + (1.91 \times \text{stable})$$

5. Discussion

The design of the classroom environment, the approaches teachers use to maintain classroom discipline, the teaching methods, techniques, and models they use to change student behavior, and the measurement and assessment tools they use to determine how much students are learning are all influenced by teachers' pedagogical beliefs (Aslan, 2017). Their beliefs also play a significant role in an effective and efficient implementation of curricula. They design the curriculum in accordance with their educational beliefs and put this design into practice (Can, 2020; Kozikoğlu & Uyan, 2018). Curricula include educational goals that are provided for students (Hewitt, 2016). In this respect, the educational philosophies adopted by teachers also affect students' training. Thus, the present study attempts to examine the relationship between primary school teachers' educational beliefs and their curriculum design orientation preferences as they will design and

implement the curricula within the framework of the educational philosophies. This will affect the training of students within the framework of the knowledge, skills, and competencies the students acquire.

The first sub-problem of the study investigated the relationship between the primary school teachers' educational beliefs and their preferences for curriculum design orientation. The findings revealed a positive, medium level and significant relationship between the teachers' progressivism, existentialism and reconstructionism educational philosophies and their student-centered and problem-centered curriculum design orientation preferences. A positive, medium level, and significant relationship were identified between the essentialist educational philosophy adopted by the primary school teachers and their choice of subject-centered curriculum design orientation. These results are congruent with the relevant literature. Ornstein and Hunkins (2009) emphasised that student-centred and problem-centred curriculum design are based on the educational philosophies of progressivism and reconstructionism. Similarly, (2015) emphasised that student-centred curriculum refers to progressive and existential educational philosophies. Akpınar (2014) also stated that the subject-oriented curriculum depends on perennialism and essentialism, while the student-oriented and problem-oriented curriculum is based on progressivism, reconstructivism, and existentialism. Based on this evidence, this study clearly established a relationship between the contemporary educational philosophies of progressivism, reconstructionism, and existentialism and student- and problem-based curricula. A similar result emerged between essentialism and the subject-oriented curriculum design. This paved the way for the idea that if primary school teachers' scores on adopted contemporary educational philosophies increase, their scores on student-oriented and problem-oriented curriculum design preferences will also increase. Similarly, if the primary school teachers' scores towards adopting essentialism increase, their subject-centered curriculum design preference scores will also increase. This study also identified a positive, medium level and significant relationship between the perennialism educational philosophy adopted by the teachers and their preferences for student-centered, problem-centered and subject-centered curriculum design orientations, which emerges as an important result. Literature shows that student-centered and problem-centered curriculum design are based on progressivism, reconstructionism, and existentialism, while subject-centered curriculum design is based on perennialism and essentialism (Goekalp, 2020; Oliva, 2009; Ornstein & Hunkins, 2009). Unlike this theoretical basis, the current study obtained a different result. In the study conducted by Kozikoğlu and Uyan (2018), no significant relationship was found between the perennialism adopted by teachers and their preferences for student-centered and problem-centered curriculum design orientations. This may be because the data were collected via an online form. Teachers mostly answer online questionnaires over their mobile phones. In this case, they likely do not read the items in the scale carefully and express their reactions correctly.

This study also highlighted whether the primary school teachers' educational beliefs predicted their curriculum design orientation preferences. The results illuminated that the teachers' progressivism, reconstructivism and existentialism significantly predicted their student-centered and problem-centered curriculum design orientation preferences. The teaching-learning process is organized according to the interests and needs of the students in the progressive education philosophy. It is ensured that students learn through experience in the teaching environment, namely, by doing (Henson, 2006). Reconstructionism necessitates to prepare students for change in life and creating a fair society by changing the society (Hewitt, 2016). Existentialism advocates that students be able to think freely and be allowed to realize themselves (Başarer, 2018). In the student-centered curriculum design orientation, students' interests and needs are considered while preparing the curriculum design, and learning opportunities are provided for students to realize themselves (Demirel, 2017). Likewise, curricula are designed to solve the problems of the society in the problem-centered curriculum design orientation, and in this way, it is advocated to change and transform the society (Adıgüzel, 2017). The results of the study overlap with the related literature. When elementary school teachers adopt modern educational philosophies like progressivism, reconstructivism, and existentialism, they can be said to consider students' interests and needs when planning the teaching-learning process, organizing activities that allow students to realize themselves, solve societal problems, and developing democratic curriculum designs. Kozikoğlu and Uyan (2018) concluded that the contemporary educational philosophies adopted by teachers predicted student-centered and problem-centered curriculum design orientations. This result is parallel to that of the present study.

The results also suggested that perennialism and essentialism adopted by the primary school teachers significantly predicted their choice of subject-centered curriculum design orientation. Perennialism is a

teacher-centered education philosophy. In the perennialism education philosophy, real unchanging knowledge must be transferred from generation to generation. A strict understanding of discipline must be applied in the classroom environment (Erdener & Sezer, 2019). Essentialism is also a teacher-centred educational philosophy. Learning requires hard work. The teacher can punish students when necessary. Students should memorize the subjects (Köse, 2019; Ornstein & Hunkins, 2009; Sönmez, 2020). The subject-centered curriculum design orientation also makes students memorize the subjects. The most important tool used by the teacher in the classroom is the textbook (Alcı, 2012; Karacaoğlu, 2018). In this regard, it can be stated that the study results are in line with the literature. Namely, suppose the primary school teachers adopt perennialism and essentialism. In that case, they will not consider the interests and needs of the students while organizing the teaching-learning process, and they will design the curriculum concerning the memorization of the subjects. Kozikoğlu and Uyan (2018) noted that the traditional educational philosophies adopted by the teachers predicted the subject-centered curriculum design orientation, which is similar to that of the current study.

6. Conclusion

The results of the study revealed a moderately strong and significant relationship between the educational philosophies of progressivism, reconstructivism, and existentialism, known as the contemporary educational philosophies adopted by elementary teachers, and their preferences in student-centred and problem-centred curriculum design. Similarly, a significant relationship was determined between perennialism and essentialism, which are the traditional education philosophies, and the subject-centered curriculum design orientation preferences. The results also demonstrated that the contemporary education philosophies adopted by the primary school teachers predicted the student-centered and problem-centered curriculum design orientation preferences. In contrast, the traditional education philosophies predicted the subject-oriented curriculum design. This is considered as a significant result of the present study. Thus, primary school teachers may be expected to design and implement student-centered and problem-centered curriculum designs if they adopt contemporary educational philosophies. Likewise, they will design and implement a subject-centered curriculum design when they adopt traditional educational philosophies.

7. Recommendations

Based on the research findings, various recommendations were provided:

- Primary school teachers can be instructed on preparing curricula following contemporary educational philosophies within the scope of in-service training. Therefore, student-centered curricula can be prepared, and students are provided multiple opportunities to have self-realization; moreover, students can be trained following the requirements of the age.
- The study findings revealed a medium-level and significant relationship between teachers' education philosophies and their student-centered and problem-centered curriculum design orientation preferences. It is recommended to conduct studies to determine how this relationship has emerged.
- Studies may be carried out to examine the educational beliefs of teachers from different branches and their preferences for curriculum design orientations.
- It is also recommended to conduct qualitative studies that examine teachers' educational philosophies and curriculum design orientation in depth.

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Annex 1. Q-Q Charts of the Factors of the Scales

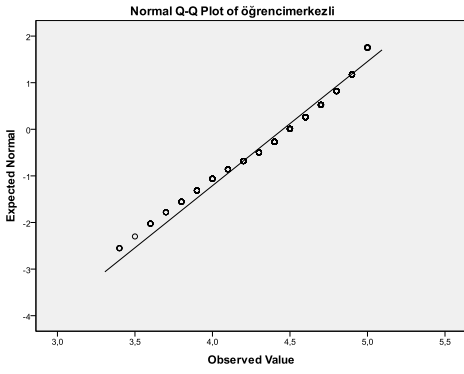


Figure 1. Student-centered

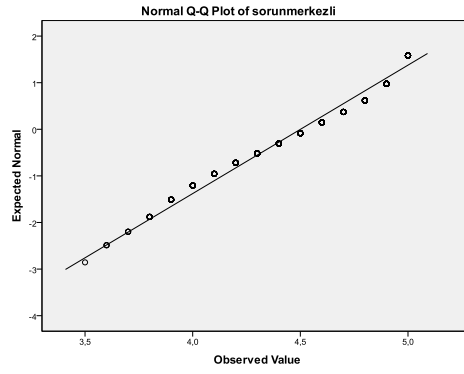


Figure 2. Poblemler-centered

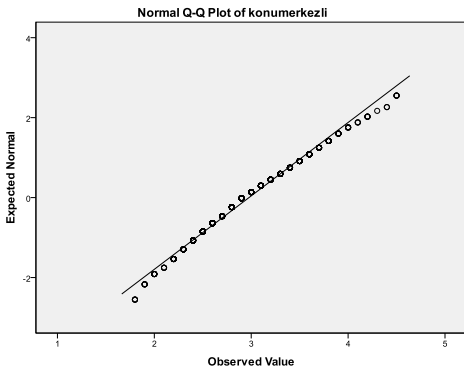


Figure 3. Subject-centered

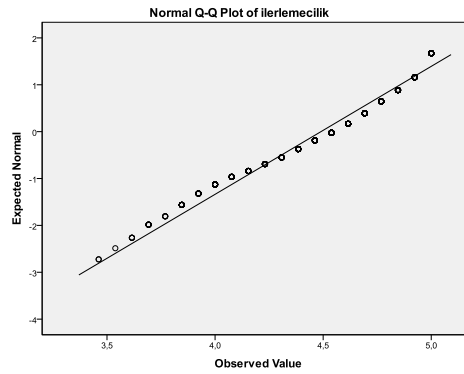


Figure 4. Progressivism

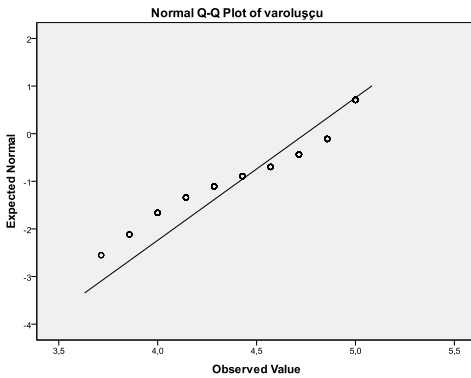


Figure 5. Existentialism

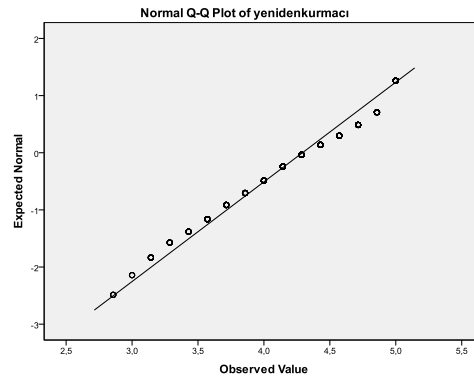


Figure 6. Reconstructionism

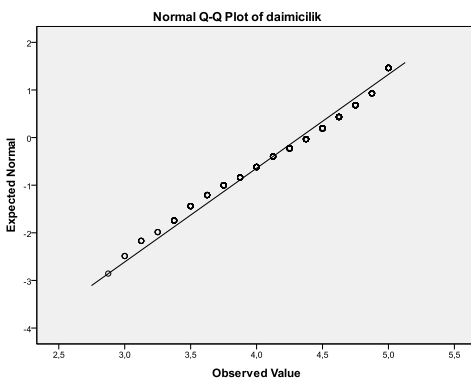


Figure 7. Perennialism

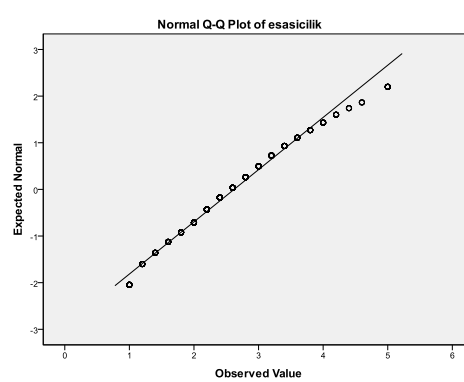


Figure 8. Essentialism



Effect of Peer Teaching on the Academic Achievement of Fourth Grade Primary School Students

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ABSTRACT

This research aims to examine the effect of peer teaching on the academic success of primary school fourth grade students. The biggest difference of this research from other researches is the application of a different method in peer teaching. This research is in the pretest-posttest experimental design with an unequal control group. The research sample consists of fourth-grade students in a primary school in the province of Alanya, Antalya, Turkey. There are two fourth-grade classes in the primary school. One of these classes was determined as the experimental group and the other as the control group. There are 32 students in the experimental group. There are 28 students in the control group. The primary school fourth grade academic achievement test developed by the researchers was used as a data collection tool. The research was carried out in December 2021 and January 2022. A seven-week application was made in the fourth grade of a primary school in Alanya as part of the study project. Students in the fourth grade of a primary school participated in an experimental technique.SPSS 25 program was used in the analysis of the data. The statistical test computed was a t-test analysis, indicating that the peer teaching experimental group have a mean of 62,96 on the academic achievement scale. But the control group has a mean of 47,85, a difference of 15,11 points between the two groups. The two-tailed significance test indicates a two-tailed p-value of $p=,001$. This p value is statistically significant because it is less than $\alpha =,05$. Peer teaching increased students' academic achievement significantly.

Keywords:

Peer teaching, primary school, fourth grade, academic achievement.

1. Introduction

Peer teaching is a teaching technique that is applied intentionally or unconsciously at all learning levels. Sometimes the teacher applies this technique consciously. In some cases, students use it among themselves consciously or unconsciously. If a student does not understand the subject, the teacher may ask their friend sitting next to them to explain it. The student who does not understand any subject can get help from their friend sitting next to them for learning. In short, peer teaching is a technique people often use throughout their education.

For a better understanding of the subject, it is helpful to define the concepts of peer teaching, and peer teaching. Peer; age, occupation, social status, etc. are equal in terms of each other means. Teaching is giving the necessary information according to a certain purpose, training, education. It is defined as the work of organizing activities that will facilitate learning, providing materials and guiding (Turkish Language Institution, 2022). Peer teaching is a method in which one student serves as the instructor and the other as the student, with the

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instructor instructing the student on a particular subject. It is a teaching strategy in which dual student groups work together to develop academic, social, and behavioral skills (Ministry of National Education, 2020, p. 9). Peer teaching is defined as acquiring knowledge, skills through active assistance, and support between two persons. It includes similar social groups who are not professional teachers who help each other learn by this (Topping & Ehly, 1998; Topping, 2005, p. 631; Topping, 2008, p. 767; Ünver & Akbayrak, 2013, p. 214). Peer teaching can also be defined as students of the same or different ages and levels helping each other learn (Türkmenoğlu & Baştuğ, 2017, p. 38). Peer teaching is a method in which one student acts as a teacher/teacher and the other as a learner/teacher (Topping & Ehly, 1998). Peer teaching is an organized learning experience in which one student acts as a teacher or instructor and another student as a learner or student. Peer tutoring is a strategy in which a student who has acquired certain skills helps his classmates acquire knowledge and skills. Peer teaching is a learning experience in groups of two or more students, in which one student acts as a teacher or teacher and another student or student as a learner. Peer teaching can be applied among students of the same or different age groups. In peer tutoring, a student with high academic performance is a teacher, and a student with low academic performance is a learner (Ministry of National Education, 2020, p. 9). When the definitions of peer teaching are examined, it is seen that the process takes place with at least two students. In addition, a student undertakes the role of instructor.

Peer teaching is characterized by the assumption of instructor or student roles. Frequently, there are also clear interaction procedures. Which individuals receive general and/or specialized instruction. Some peer instruction strategies facilitate interaction with structured materials. Others predict structured interactive behaviors. That can be applied effectively to any related material (Topping, 2008, p. 767). Peer teaching is the role of teacher and learner with the educational task given in peer teaching, and peer teaching practices are carried out by the one-to-one work of these two students (Parr and Townsend, 2002, p. 410; Webb, Troper, & Fall, 1995). In peer teaching processes, the instructors exhibit various skills: giving feedback, explaining, creating scaffolding, and giving the learner the chance to manage the timing and participating actively in the process (Chi, Siler, Jeong, Yamauchi, & Hausmann, 2001). In general, the trainer is more advanced and knowledgeable than the learner. But in some peer teaching conditions, this difference in expertise is not so great (Roscoe & Chi, 2007).

According to Vygotsky's concept of proximal development, social interaction and collaboration with peers facilitate learning. Promotes children's mental development (Vygotsky, 1978). The application of the peer teaching method to the course is particularly simple and economical (Gök, 2018, p. 20). Interactions between peers in the classroom are a normal and important part of the learning process that affects students' lifelong learning habits (Burross & McCaslin, 2002, p. 1864). Where much older aides work with much younger students, the difference in ability and interest may be insufficient for aides who are cognitively less likely to win. The assistant being "learning by teaching" and at the same time a closer and reliable model (Topping, 2008, p. 767). To persuade students' peers that their discussions break up monotonous lessons, students are encouraged to consider concept questions and to use information rather than presenting pre-prepared information (Yldrm & Canpolat, 2019, p. 129). On the subject, various researches were conducted by Akay (2011), Can (2009), Demirel (2013), Fuchs and Fuchs (2005), Fuchs, Fuchs, and Kazdan (1999), Fuchs, Fuchs, Mathes, and Simmons (1997), Mazlum (2015), Mazur (2013), Yardım (2009). It is known that peer teaching increases student success in studies conducted in various disciplines (Ding & Harskamp, 2011; Tao, 1999). According to the research findings of Güvey Aktay and Gültekin (2015), students in the classroom and during breaks; cooperate in the form of helping, pointing out the mistake of their friends, doing together, looking, discussing, sharing, and making suggestions; peer collaborative interactions during reading and writing activities and also during recess. When we evaluate the results of studies on peer teaching in general, it is seen that peer teaching method contributes positively to students' scientific process skills, concept learning success, and problem-solving success (Crouch & Mazur, 2001; Sayer, Marshman & Singh, 2016). Some research results have shown that the interest and participation of the students studying with the peer teaching method increases and also increases their motivation (Fagen, Crouch, & Mazur, 2002). Fuchs, Fuchs, Mathes, & Simmons (1997) show that peer teaching is effective. Also, academic gains occur for both the teacher and the learner (Simmons, Fuchs, Fuchs, Mathes & Hodge, 1995). However, the teacher has a minor role in these achievements. Shanahan (1998) reported on studies that found that peer teaching led to more positive interpersonal relationships. Peer teaching is effective in promoting self-learning. Students' school concepts and attitudes were raised (Roswal, Mims, Evans & Smith et al., 1995). However, most approaches agree that

students who surround themselves with their peers will also value their learning. They agree that they will make an effort to improve their education (Burross & McCaslin, 2002, p. 1865). Peer teaching gains in reading and mathematics (Cohen, Kulik, & Kulik, 1982). In reciprocal or peer-to-peer teaching, King, Staffieri, and Adelgais (1998) describe learning outcomes as role switching that engages students in further questioning, explaining, monitoring, and organizing learning.

This research aims to examine the effect of peer teaching on the academic success of primary school fourth-grade students. It is thought that the research results contribute to the field of primary education. In addition, it is thought to have an important benefit in the field of teaching techniques. Since the research is an experimental study, it is important to determine the effect of peer teaching on academic achievement. The most significant difference of this research from other research is the application of a different method in peer teaching. The most significant limitation of this research is that it was conducted with primary school fourth-grade students.

2. Methodology

2.1. Research Model

This research is in the pretest-posttest experimental design with an unequal control group. In the pre-test and post-test experimental design with the unequaled control group, the researcher applies the pre-test to the two existing groups. After the experimental intervention is applied to the experimental group, the post-test is applied to both the experimental group and the control group (McMillan & Schumacher, 2006, p. 274). The difference between the pre-test and post-test scores shows how effective the intervention is (Christensen, Johnson, & Turner, 2015). The symbolic representation of the pre-test post-test experimental design with the unequaled control group is as in Figure 1 (McMillan & Schumacher, 2006, p. 274; Karasar, 1994, p. 102):

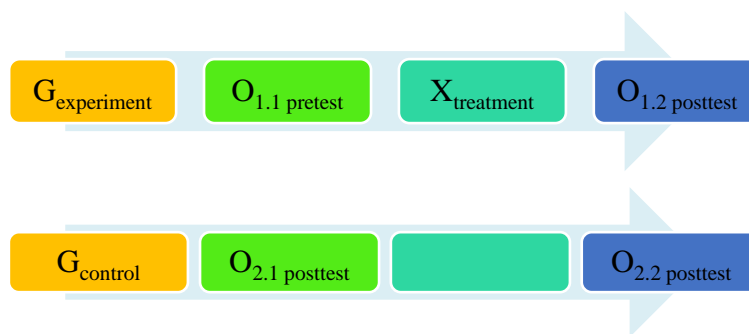


Figure 1. Research Design

In the pre-test post-test experimental design with unequaled control group in Figure 1, the case of $O_{2.2\text{posttest}} > O_{1.2\text{posttest}}$ is considered to be due to "X_{treatment}" (Karasar, 1994, p. 102).

2.2. Research Sample

The research population consists of fourth grade primary school students studying in Antalya, Turkey. The research sample consists of fourth grade students in a primary school in the province of Antalya, Alanya. There are two fourth grade class in the primary school. One of these groups was designated as the experimental group, while the other was designated as the control group. 32 students comprised the experimental group. 28 students make up the control group. The experimental and control groups are comprised of eighth- and ninth-grade students. The majority of students are from middle-income families. Students have no prior experience with peer instruction. Students were first informed about peer teaching.

2.3. Data Collection Tools and Procedure

The primary school fourth grade academic achievement test developed by the researchers was used as a data collection tool. The academic achievement test consists of 20 questions. The questions are multiple choice. Each question has four answer choices. The score for each question is 5. The minimum score that can be obtained from the achievement test is 0. The maximum score that can be obtained is 100. The higher the score obtained from the achievement test, the higher the student's academic success. Five questions in the academic

achievement test are from the field of language and arts. Five questions are math questions. Five questions are from the field of science. Five questions are from the field of social studies.

The research was conducted in December 2021 and January 2022. In the fourth-grade of an Alanya primary school, a seven-week application was submitted. The school is heated with a heating system. The school has 628 students enrolled. Both experimental and control group students are located on the school's first floor. The classroom is a bright environment. A smart board is present in the classroom. Students are seated in the configuration depicted in Photos 1 and 2.



Photo 1. Classroom and Students



Photo 2. Classroom

The treatment was administered to primary school fourth-grade students. The students carried out peer teaching activities and practices. In these applications, the teacher managed the process. It enabled students to perform peer teaching on a regular basis. Where necessary, corrections and contributions were made by the teacher. Researchers provided consultancy services to primary school teachers during the experimental process. In the experimental process, a box was prepared by the researchers. Above this box is written "question pool". The box is divided into four parts. In these sections, "Turkish", "Mathematics", "Science", and "Social Studies" are written. Students throw a question that they cannot do into the required lesson section in the question pool. The student writes his/her name under it while throwing the unfamiliar question into the box. Then, the student who can solve these questions explains how to solve the question to his friend who cannot solve the question. Photographs of the experimental process are presented in Photo 3, Photo 4, and Photo 5.



Photo 3. Question Pool



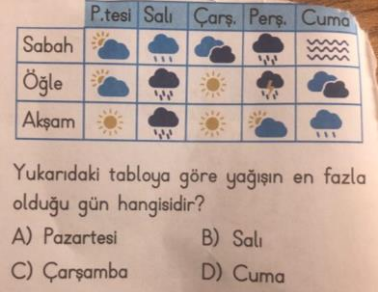
Photo 4. Student



Photo 5. Peer Teaching

The students threw the questions they did not know into the question pool. The student who was able to solve the question in the question pool explained it to his friend, who could not solve the question. Examples of questions that students do not know in the peer teaching process are presented in Table 1.

Table 1. Examples of Questions in the Peer Teaching Process

Lesson/Language	Turkish	English
Science	<p>Aşağıdaki karışımlardan hangisini ayırmak için diğerlerinden farklı bir yöntem kullanılır?</p> <p>A) un + kepek B) kum + taş C) su + pirinç D) bulgur + nohut</p>	<p>A different method is used to separate which of the following mixtures?</p> <p>A) flour + bran B) sand + stone C) water + rice D) bulgur + chickpea</p>
Turkish	<p>"Bu kötü fikir, ihtiyar adamı çok kızdırdı." Yukarıdaki cümlede renkli yazılmış sözcüklerden hangisinin zıt anlamı yoktur?</p> <p>A) ihtiyar B) fikir C) kötü D) çok</p>	<p>"This bad idea, made the old man very angry." Which of the words in color in the sentence above do not have antonyms?</p> <p>A) old B) idea C) bad D) very</p>
Mathematics	<p>Aşağıdaki karşılaştırmalardan hangisinde yanlışlık yapılmıştır?</p> <p>A) $\frac{5}{6} < \frac{6}{6}$ B) $\frac{3}{8} > \frac{1}{8}$ C) $\frac{1}{12} > \frac{10}{12}$ D) $\frac{1}{2} < \frac{3}{2}$</p>	<p>Which of the following comparisons is wrong?</p> <p>A) $\frac{5}{6} < \frac{6}{6}$ B) $\frac{3}{8} > \frac{1}{8}$ C) $\frac{1}{12} > \frac{10}{12}$ D) $\frac{1}{2} < \frac{3}{2}$</p>
Social Studies	 <p>Yukarıdaki tabloya göre yağışın en fazla olduğu gün hangisidir?</p> <p>A) Pazartesi B) Salı C) Çarşamba D) Cuma</p>	<p>According to the table above, which day has the most precipitation?</p> <p>A) Monday B) Tuesday C) Wednesday D) Friday</p>

2.4. Data Analysis

The data was analyzed in SPSS 25 program. The scores of the students from the academic achievement test were entered into the SPSS 25 program. The normal distribution of the data was evaluated with the Kolmogorov-Smirnov test since the group had more than 50 people (Büyüköztürk, 2012). As a result of the Kolmogorov-Smirnov test, $p=.20$ was found. After it was determined that the data showed a normal distribution, the t-test was applied.

2.5. Ethical

In this study, all rules stated to be followed within the scope of the "Higher Education Institutions Scientific Research and Publication Ethics Directive" were followed.

Ethical Review Board Name: Yozgat Bozok University Ethics Committee

Date of Ethics Evaluation Decision: 15.12.2021 Ethics Assessment Document Issue Number: 28/16

3. Findings

Before the experiment, it was first checked to see if the academic skills of the experimental group and the control group were the same.. The pretest academic achievement scores of the experimental and control groups are presented in Table 2.

Table 2. *T Test for Independent Samples for Pre-test on Academic Achievement*

Variable	Number of cases	Mean	Standard Deviation	Std. Error Mean		
Academic achievement score						
Control group	28	46,96	15,77	2,98		
Experimental group	32	47,18	13,13	2,32		
Mean difference= 0,22						
Levene's Test for Equality of Variances F=1,209, Significance=0,26						
Variances	t value	df	2-tail significance	Std. Error Difference	95% Confidence Interval	Effect size
Equal	-,060	58	,95	3,73	Lower:-7,69 Upper:7,24	-

In Table 2, the academic achievement pre-tests are compared. This analysis utilized t-tests. The experimental group's mean score on the academic achievement test was 47.18. The mean of the control group is 46,96. 95 is the t-test p-value. Statistically, this p-value is not significant. Because it exceeds 0.05. According to the results of the pre-test for the academic achievement test, the experimental and control groups are equivalent.--The t-test results of the pre-test and post-test scores applied to the control group are presented in Table 3.

Table 3. *T Test For Paired Samples of Control Group for Pretest and Posttest on Academic Achievement*

Variable	Number of cases	Mean	Standard Deviation	Std. Error Mean	
Academic achievement score					
Control group pretest	28	46,96	15,77	2,98	
Control group posttest	28	47,85	15,42	2,91	
Mean difference= -0,89					
Variances	t value	df	2-tail significance	95% Confidence Interval	Effect size
Equal	-1,41	27	,17	Lower:-2,19 Upper:,40	-

Table 3, compared the pre-test and post-test of the control group on academic achievement. Computed was a t-test analysis. The control group pre-test have a mean of 46,96 on the academic achievement scale. The control group post-test has a mean of 47,85. The t-test p-value is ,17. This p-value is statistically not significant because it is more than alpha =,05. According to the pre-test and post-test results of the academic achievement test, it is seen that the control group's academic achievements are equal to each other.

The t-test results of the post-test academic achievement scores of the experimental and control groups are presented in Table 4.

Table 4. *T Test for Independent Samples for Posttest on Academic Achievement*

Variable	Number of cases	Mean	Standard Deviation	Std. Error Mean		
Academic achievement score						
Control group	28	47,85	15,42	2,91		
Experimental group	32	62,96	13,96	2,46		
Mean difference= -15,11						
Levene's Test for Equality of Variances F=,267, Significance=0,60						
Variances	t value	df	2-tail significance	Std. Error Difference	95% Confidence Interval	Effect size
Equal	-3,98	58	,001	3,79	Lower:-22,70 Upper:-7,51	0,22

Table 4, compared peer teaching on academic achievement. The computed was a t-test analysis. The peer teaching experimental group has a mean of 62,96 on the academic achievement scale. But the control group have a mean of 47,85. The t-test p value is ,001. Effect size is ,22. This p-value is statistically significant because it is less than alpha =,05. Peer teaching increased students' academic achievement significantly.

The t-test results of the pre-test and post-test scores applied to the experimental group are presented in Table 5.

Table 5. *T-Test oor Paired Samples of Experimental Group for Pretest and Posttest on Academic Achievement*

Variable	Number of cases	Mean	Standard Deviation	Std. Error Mean	
Academic achievement score					
Experimental group pretest	32	47,18	13,13	2,32	
Experimental group posttest	32	62,96	13,96	2,46	
Mean difference= -15,78					
Variances	t value	df	2-tail significance	95% Confidence Interval	Effect size
Equal	-8,45	31	,001	Lower:-19,58 Upper:-11,97	0,70

Table 5 compares the pre-test and post-test academic achievement scores of the experimental group. The analysis computed was a t-test. The average pre-test score for the experimental group is 47.18 on the academic achievement scale. The mean post-test score of the control group is 62,96. The p-value for the $t=-8.45$ test is.0001. This p value is statistically significant given that it is less than $\alpha =.05$ According to the academic achievement test's pre-test and post-test results, it can be seen that peer teaching significantly increased students' academic achievement.

4. Conclusion and Discussion

This study aims to examine the impact of peer instruction on the academic success of fourth-grade students in elementary schools. The primary distinction between this study and others is the use of a different method for peer teaching. Before beginning the experimental procedure, the academic accomplishments of the experimental and control groups were compared. Compared pre-test academic performance. There was a t-test analysis performed. The experimental group's mean score on the academic achievement test is 47.18. The mean score for the control group is 46,96. The p value of the t test is.95. This p value is not significant statistically. Because it is greater than.05 According to the results of the pre-test for the academic achievement test, the experimental and control groups are equivalent.

This study compared the academic achievement of the control group's pre- and post-tests. The average pre-test score for the control group on the academic achievement scale is 46,96. The average post-test score for the control group is 47,85. The p value of the t test is.17. This p value is not statistically significant since it exceeds $\alpha =.05$ According to the pre-test and post-test results of the academic achievement test, the academic achievement of the control group is equivalent. The effect of peer teaching on academic achievement was compared in research. The analysis conducted was a t-test. The average academic achievement score for the peer teaching experimental group is 62.96. The mean of the control group, however, is 47.85. The p value of the t test is.001. The effect size is.22 This p value is statistically significant given that it is less than $\alpha =.05$ Peer instruction significantly increased students' academic achievement. It is known that peer teaching increases student success in studies conducted in various disciplines (Ding & Harskamp, 2011; Tao, 1999). According to Güvey Aktay and Gültekin (2015), students in the classroom and during breaks; cooperate in the form of helping, pointing out the mistake of their friends, doing together, looking, discussing, sharing, and making suggestions; peer collaborative interactions during reading and writing activities and also during recess. When we evaluate the results of studies on peer teaching in general, it is seen that peer teaching method contributes positively to students' scientific process skills, concept learning success, and problem-solving success (Crouch & Mazur, 2001; Sayer, Marshman & Singh, 2016). Peer teaching is an effective teaching strategy that is supported by research and costs little (in terms of time, effort, etc.). Peer teaching is effective in the development of academic success and academic skills. Students in the learner role can more easily ask their friends about the things they do not understand about the subject, and they have the opportunity to do more exercises on the subject covered in the lesson. Instructors reinforce their learning by reviewing and rearranging their knowledge. Learners, on the other hand, have the opportunity to be personally involved (Ministry of National Education, 2020, p. 14).

Finally, the research compared the pre-test and post-test academic achievement scores of the experimental group. The analysis computed was a t-test. The average pre-test score for the experimental group is 47.18 on the academic achievement scale. The mean post-test score of the control group is 62,96. The p value of the t test is.001. This p value is statistically significant because it is less than $\alpha = .05$. According to the pre-test and post-test results of the academic achievement test, it is seen that peer teaching increased students' academic achievement significantly. Fuchs, Fuchs, Mathes, & Simmons (1997) show that peer teaching is effective. Also, academic gains occur for both the teacher and the learner (Simmons, Fuchs, Fuchs, Mathes & Hodge, 1995). However, the teacher has a minor role in these achievements. In peer teaching, students have to participate more actively in their learning processes, discuss the subject and concepts related to the lesson, and make logical explanations in their own words (Ministry of National Education, 2020, p. 15). Shanahan (1998) reported on studies that found that peer teaching led to more positive interpersonal relationships. Peer teaching is effective in promoting self-learning. Students' school concepts and attitudes were raised (Roswal, Mims, Evans & Smith et al., 1995). However, most approaches agree that students who surround themselves with their peers will also value their learning. They agree that they will make an effort to improve their education (Burross & McCaslin, 2002, p. 1865). Peer teaching gains in reading and mathematics (Cohen, Kulik, & Kulik, 1982). In reciprocal or peer-to-peer teaching, King, Staffieri, and Adalgais (1998) describe learning outcomes as role switching that engages students in further questioning, explaining, monitoring, and organizing learning. Peer teaching develops students' time management, planning, self-control, and study skills. It ensures that the learned knowledge and acquired skills are more permanent (Ministry of National Education, 2020, p. 16).

5. Recommendations

Based on the research findings, the following recommendations are made: It is recommended that primary school students benefit from more peer teaching. It is recommended that peer education increase the academic success of students who are academically unsuccessful. It is recommended that peer teaching be done outside of school, at the student's home or library. This study was conducted with elementary school students. It is recommended to work with middle school, high school, and university students in future studies. This research is experimental in nature. It is recommended that future research be conducted in the form of phenomenology and case studies.

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The Effect of Critical Thinking Course Carry Out with Distance Education on Critical Thinking Skills and Dispositions

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ABSTRACT

The purpose of this study is to examine the effects of a distance learning course in critical thinking on the critical thinking skills and dispositions of university students. The diversification model was adopted in the study, which was carried out in line with the mixed research method, which combines the results of the data obtained by collecting both quantitative and qualitative data and allows comparisons to be made. The data of the study conducted with 30 senior university students were obtained with the "California Critical Thinking Disposition Scale" and open-ended questions about "What is critical thinking" and "Why is critical thinking important". Parametric and non-parametric analysis methods were used in the analysis of the quantitative data obtained from the data collection tools that were transferred to the online environment and applied to the participants before and after the critical thinking course. The content analysis method was used to analyze qualitative data gathered via open-ended questions. As a result of the analyses conducted, it was determined that there was a significant difference between the pre-test and post-test in terms of the participants' critical thinking dispositions. It was determined that there were no significant gender or departmental differences in the participants' critical thinking dispositions. As a result of the content analysis carried out within the framework of open-ended questions, it was determined that there were differences in the views of senior university students towards critical thinking before and after the critical thinking course. Within the framework of the results, it was suggested that more activities and practices for critical thinking should be included in undergraduate courses.

Keywords:

Critical thinking, critical thinking disposition, distance education

1. Introduction

Thinking is one of the most important features distinguishing individuals from other living things. The meaning of vital events is revealed by making sense of the things in the mind through thinking (Yılmaz, 2021). Thinking, which helps individuals live together within the framework of social cohesion, contributes to their individual development, provides solutions to the problems they encounter, leads a more conscious life, and is among the most basic skills of the individual (Semerci, 2003). Through thinking, individuals determine the goals of their lives, plan their goals accordingly, and make smart decisions to reach their goals thanks to their thoughts (Chaffee, 1994). In other words, thinking affects individuals' behaviors such as making sense, summarizing, classifying, analyzing, comparing, interpreting, generalizing, and evaluating. In this respect, most countries focus on studies to improve individuals' thinking skills (Güneş, 2012).

Considering the needs of the 21st-century world, it has become a need for people to skills acquisition for thinking (Seferoğlu & Akbıyık, 2006). Beyer (1988) identifies three stages of thinking skills: problem-solving, critical thinking, and information processing. Özden (2000) states that thinking skills include critical thinking, scientific thinking, creative thinking, reading comprehension, and problem-solving. According to Semerci

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(2003), there are numerous dimensions to thinking, including critical thinking, reflective thinking, and creative thinking. It is seen that thinking, which is generally handled in different dimensions, has many aspects such as reflective, creative, critical, inductive, and analytical. This study focuses on critical thinking (CT).

In the report published by the World Economic Forum held in 2020, CT is among the top ten skills of 2025 within the framework of evaluations for future professions (World Economic Forum, 2020). Again in the same report, CT skill comes first among the skills that will increase their importance the most according to different skill groups. National Association of Colleges and Employers (NACE) Job Outlook 2020 (NACE, 2019), The Foundation for Young Australians' (FYA) report The New Work Smarts (FYA, 2017), and the Future of Education and Skills 2030 (Taguma & Barrera, 2019) reports published by the Organization for Economic Co-operation and Development (OECD) are some reports emphasizing the importance of CT. As in business life, CT is an issue that should be emphasized in education life (Facione, 1990). In the 21st century, which is characterized as the information age, CT skills are among the skills that should be acquired to raise good and qualified individuals among the objectives of education (Aybek, 2007). According to Lau and Chan (2018), CT plays an undeniable role in developing presentation skills together with language in the new knowledge economy, encouraging individuals to be productive, and establishing the basis of science and democracy.

CT is a rich concept that continues its development and progress from the ancient Greek period 2500 years ago to the present day (Arısoy & Aybek, 2021). It is stated that the word "critical" comes from the Greek word "kritikos" which means to evaluate, make sense of, judge and analyze (Kaya, 1997). Kritikos can be expressed as understanding the people and people around us by questioning and making sense by analyzing the ideas and thoughts of others as well as our thought processes (Emir, 2012). The fact that the function and elements of CT have a complex structure and contain different approaches has led to the inability to make a clear definition accepted by everyone (Yılmaz, 2021). Norris and Ennis (1989) describe CT as acceptable and reflective thinking that focuses on deciding what to believe or do within a logical framework. Elder and Paul (1994) describe CT in the simplest way as the ability to take responsibility for one's thoughts or to be responsible for what one thinks. Cüceloğlu (1995) defines CT as an effective and orderly mental process that anticipates our thinking processes, considers the thinking processes of others, applies what is learned, and aims at the concept of ourselves and the events around us. With CT being a part of education, it can be said that students become more successful academically and more helpful, positive, and sensitive socially (Kökdemir, 2003). In the literature, it is seen that studies have been done in this direction.

Ennis (2015) and Fisher (1995) both say that CT and attitudes help people do better in school. Slavin (2014) emphasizes that a teacher should understand and use various methods, techniques, and teaching strategies to develop students' CT, problem-solving, and performance skills. Seferoğlu and Akbıyık (2006), on the other hand, concluded that there are significant differences in general academic achievement between the group with high CT dispositions and the group with low CT dispositions in their study at the ninth-grade level. Gök and Erdoğan (2011) concluded that there is no relationship between CT dispositions and academic achievements in their study with first-year primary school students. Similarly, Emir (2012) revealed that there is no significant difference in academic achievement in the CT dispositions of education faculty students. On the other hand, Can and Kaymakçı (2015) examined the participants' CT dispositions in terms of various variables in their study on science and classroom teacher candidates. At the end of the study, it was found that pre-service teachers' CT dispositions were low. It was suggested that activities, methods, and courses for CT should be given in undergraduate courses to develop pre-service teachers' CT dispositions positively.

While Kaloç (2005), Özdemir (2005), Myers and Dyer (2006), Gök and Erdoğan (2011), Franco and Almedia (2015), Salahshoor and Rafiee (2016), Bagheri and Ghanizadeh (2016) indicated that there was no significant gender difference in students' CT dispositions, Facione et al. (1995), Hayran (2000), Kökdemir (2003), Hamurcu et al. (2005), and Zayif (2008) state that CT dispositions differ according to gender. Walsh and Hardy (1999) emphasized that females achieved better results than males in the open-mindedness and maturity sub-dimension of the California Critical Thinking Disposition Inventory (CCTDI). Zetriuslita et al. (2016) concluded that there is no significant difference by gender in individuals with medium and low CT ability, while there is a significant difference in CT abilities according to gender in individuals with high CT skills. Gülveren (2007), in her study with teacher candidates studying at the faculty of education, concluded that pre-school teacher candidates are more successful in terms of CT skills than teacher candidates from other departments. Similarly, in the study conducted by Emir (2012), it was stated that there is a significant

difference between the CT dispositions of teacher candidates in the classroom teaching department and other departments. In their study, Ricketts and Rudd (2004) emphasized that the CT skills of students studying at different faculties differ according to the departments they study. There are remarkable differences between the students of the faculty of agriculture and those outside the faculty of agriculture in terms of CT. Contrary to the studies of Gülveren (2007), Emir (2012), and Ricketts and Rudd (2004), in the study conducted by Franco and Almedia (2015) at the university level in the fields of humanities and engineering, it was concluded that there was no significant difference in CT skills of university students according to departments.

In the literature, it is seen that studies on the effect of the CT course are also carried out with university students studying in the nursing department of universities. Kanbay and Okanlı (2017) carried out one of these studies. In the study, the effect of CT education on the problem-solving skills of nursing students was examined. As a result of the study, it was revealed that CT education improves problem-solving. In another study on the effect of CT courses, Çalışkan et al. (2020) tried to determine the effect of the CT course on the CT dispositions and motivations of nursing students. The study conducted with 116 university students studying in the nursing department and taking the CT course concluded that the CT course increased the CT disposition of the students. Niu et al. (2013) conducted a meta-analysis of studies on the impact of instructional initiatives on university students' CT skills. The study emphasized that instructional interventions longer than 12 weeks were more effective in improving the CT skills of university students than shorter-term interventions. It was concluded that the development of CT skills is possible through classroom teaching.

1.1. The Aim of the Study

In general, it can be seen that the studies done for CT are meant to find out the levels of the participants and whether or not there are differences in different variables. In other words, it can be said that most of the studies are aimed at determining the critical skill levels of the participants and revealing a descriptive situation in terms of different variables. There are not enough studies in the literature on the effectiveness of the CT course (Çalışkan et al., 2020). When the studies on CT skills in the literature are examined, it can be stated that there is a need for studies on how to develop CT skills. Can and Kaymakçı (2015) state that pre-service teachers have a low tendency towards CT and emphasize that there should be techniques, methods, and courses for developing CT skills at the undergraduate level. In addition, most universities emphasize the importance of CT as a general skill at the center of their education (Davies, 2011). However, some studies show that university students' CT skills are insufficient and emphasize that students' CT skills do not develop enough during their education (Arum & Roksa, 2011; Can & Kaymakçı, 2015; Solbrekke et al., 2016). In this context, this study aimed to examine the effect of the CT course given through distance education on university students' CT skills and tendencies.

Although it is generally accepted that it is necessary to develop university students' CT skills and tendencies, discussions on how CT can be developed through education continue (Niu et al., 2013; Tiruneh et al., 2014). With this study, it can be said that by contributing to the literature on how to develop CT skills, the importance of the CT course at the university level will be revealed.

1.2. Research Problem

What is the effect of the CT course on the CT dispositions of university students?

1.3. Sub Problems

1. Is there a significant difference between the CT dispositions of the participants before and after the CT course?
2. Is there a significant difference between the CT dispositions of the participants before and after the CT course, based on their departments and gender?
3. Is there a difference in the participants' views on CT before and after the CT course?

2. Methodology

2.1. Research Model

The mixed research method was adopted in this study, in which the effect of the CT course on the CT skills and dispositions of university students was examined. The mixed research design, in which qualitative and

quantitative methods are used together, provides researchers with a stronger data collection opportunity (Silverman, 2010). Creswell (2009) determined that mixed research design is a method in which researchers collect data about problems, analyze them, present findings, and make inferences using qualitative and quantitative approaches. On the other hand, Johnson et al. (2007) define mixed methods research as a type of research in which researchers collect and integrate qualitative and quantitative data in line with the depth and breadth of understanding and validation. It is thought that qualitative or quantitative data alone will not be sufficient in examining the effect of CT courses on CT skills and tendencies of university students. In this direction, the diversification (combination) model, one of the mixed research methods and allows comparisons by combining the results of the data obtained by collecting both quantitative and qualitative data, has been adopted.

The variation design aims to combine the results of the data obtained by qualitative and quantitative methods. While Creswell & Plano Clark (2010) consider the variational design as a convergent parallel design, they state that this design can be used when quantitative results want to be compared with qualitative findings. The model of the research design according to Creswell & Plano Clark (2010) is presented below:

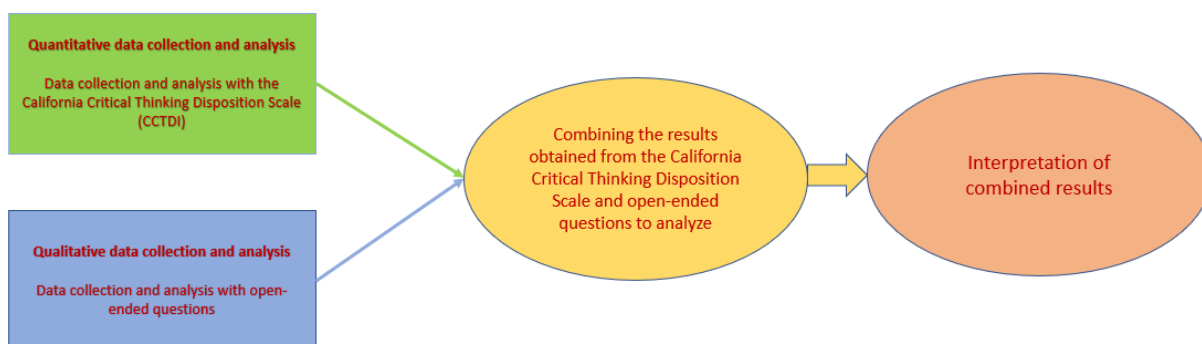


Figure 1. Prototype model of the research method (Creswell & Plano Clark, 2010)

In Table 1, the models used for quantitative and qualitative methods are presented:

Table 1. Methods and Models Used in the Research

Method	Model
Quantitative	One-group pretest-posttest model (Experimental Design)
Qualitative	Case Study

In the quantitative dimension of the research, the "one-group pre-test-post-test model" was preferred among the experimental designs. Since it is impossible to randomly assign individuals to groups in most educational studies, it is difficult to use real experimental designs in educational research (Cohen, Manion & Morrison, 2005). In this context, in the study, a single group pre-test-post-test model was preferred in the framework of the lack of randomness and matching in group determination and the CT course being carried out with one group. This model provides some information as it allows us to know whether there is a difference between the pre-test and post-test (Johnson & Christensen, 2014). In the qualitative aspect of the study, a case study was preferred, which aims to provide a detailed analysis and explanation of university students' views on critical thinking.

2.2. The Study Group

The study group of the research consists of 30 senior university students receiving education at a state university in Turkey through distance education. In the study, the criterion sampling method, which is one of the non-random purposeful sampling methods, was preferred. The main purpose of criterion sampling is expressed as the study of situations created by the researcher or meeting pre-existing criteria (Yıldırım & Şimşek, 2016). In this context, since the study aims to determine the effect of the CT course on CT skills and dispositions, the fact that the participants take the CT course is the criterion for the selection of the study group. The distribution of the study group by department and gender is presented in the table below:

Table 2. Demographic Characteristics of the Working Group

Department	Female	%	Male	%	Total	%
Pre-school Teaching	13	76.47	4	23.53	17	56.67
Computer and Instructional Technologies Education (CEIT)	6	85.71	1	14.29	7	23.33
Mathematics Teaching	2	50.00	2	50.00	4	13.33
Industrial Engineering	0	0.00	2	100.00	2	6.67
Total	21	70.00	9	30.00	30	100

17 pre-service teachers studying in the fourth grade of Preschool Education constitute 56.67% of all participants. 13 of the pre-school teacher candidates are female (76.47%) and four are male (23.53%). Seven pre-service teachers from Computer and Instructional Technologies Education (CEIT) who participated in the research constitute 23.33% of all participants. Six of the pre-service teachers in CEIT are female (85.71%) and one is male (14.29%). Four pre-service teachers from the mathematics teaching department participated in the research and constituted 13.33% of the whole group. Of the pre-service mathematics teachers are two female (50%) and two male (50%). Two male engineer candidates from the Industrial Engineering department, constituting 6.67% of all participants, participated in the research.

2.3. Data Collection Tools

California critical thinking disposition scale (CCTDI): The California Critical Thinking Disposition Scale (CCTDI) developed by Facione et al. (1998) was adapted into Turkish by Kökdemir (2003). The reliability of the scale, which was adapted into Turkish, was calculated as .88 using the Cronbach alpha method. CCTDI, which is a six-point Likert type, consists of 51 items. The scale consists of six sub-dimensions: analyticity, inquisitiveness, open-mindedness, self-confidence, systematicity, and truth-seeking. The CCTDI was chosen for this study because it is one of the most commonly used scales in studies revealing CT skills and because it is "a scale for measuring critical thinking dispositions at the university level" (Can & Kaymakçı, 2015, p.69). In accordance with the study's pre- and post-tests, the Cronbach alpha reliability value was calculated to be 0.90.

When the sub-dimensions of the scale are examined; "Truth-seeking" is defined as an orientation to evaluate different thoughts or alternative thoughts. "Open-mindedness" is expressed as being sensitive to one's mistakes in the face of different thoughts or approaches. "Analyticity" is the tendency to be attentive to potentially problematic events and use reasoning and objective evidence in all situations. "Systematicity" is defined as the disposition of careful and planned research in an organized manner. "Self-confidence" refers to the confidence one has in one's reasoning process. "Inquisitiveness" reflects the desire to procure knowledge and learn new things without any interest or expectation.

Open-ended questions: Two open-ended questions were asked to reveal the opinions and disposition of the participants towards CT in parallel with the scale applied. With questions about what CT is and why it is important, it is aimed that the participants express their feelings and thoughts about CT in detail. Two experts, one Prof. Dr., and one Dr. Lecturer, were consulted for two open-ended questions. In line with the opinions received, the questions were finalized.

2.4. Data Analysis

Since the CT course was carried out through distance education, data collection tools were transferred to the online environment through the Google forms application. Before implementing the data collection tools, the participants were explained in detailed text how they should mark the scale items, the importance of reflecting real views and thoughts to achieve the purpose of the application, and that the research was carried out voluntarily.

2.4.1. Quantitative Data Analysis

The data obtained in line with the Google forms application were taken from Microsoft Office programs in Excel format, and the quantitative data (demographic information of the participants and the data obtained from CCTDI) were transferred to the SPSS application. The items of CCTDI, which is a 6-point Likert scale for the data transferred to SPSS, are rated as "Strongly Disagree":1, "Disagree":2, "Partly Disagree":3, "Partly Agree":4, "Agree": 5 and "Totally Agree": 6. Reverse coding was performed for 21 negative items on the scale. After the coding for each item in the scale, the total scores for the 6 sub-dimensions in the scale were taken,

divided by the total number of items, multiplied by 10, and standard scores were obtained for each sub-dimension, with the lowest 6 and the highest 60 points. Accordingly, the lowest and highest scores for each sub-dimension are fixed. When the scale is considered as a whole, the lowest 36 points and the highest 360 points are taken. When evaluating the CT dispositions of the participants, it can be said that those with less than 240 have low CT dispositions and those with more than 300 have high dispositions (Kökdemir, 2003). In line with this scoring, the participants' CT disposition level before the CT course was determined.

In order to determine the difference between the pre-test and post-test scores of the CCTDI for the analysis of quantitative data, firstly, the normality of the data group was examined. The purpose of examining the normality is to arrive at the result using an alternative analysis method in the event that the assumptions are not met. This is accomplished by determining whether the data group meets the assumptions for the distribution in order to determine the analysis method to be used (Can, 2014). In this context, by examining the normal distribution, it should be decided whether the analysis method to be applied in determining the difference, parametric or non-parametric methods, will be preferred (Büyüköztürk, 2013). There are many tests such as Anderson-Darling, Chi-square, D'Agostino-Pearson, Jargue-Bera, Kurtosis, Skewness, Kolmogorov-Smirnov, Lilliefors, and Shapiro Wilk tests for examining the normality of data groups (Özer, 2007). Kolmogorov-Smirnov and Shapiro Wilk tests were used for this study's normality analysis of the data groups. The normality of the data groups was examined by considering the Shapiro Wilk test when the data groups were below 30, and the Kolmogorov-Smirnov test when the data groups were more than 30 (Can, 2014).

As a result of the analysis of normality tests, it was observed that the pre-test and post-test scores of the CCTDI were normally distributed in terms of the gender variable ($p > .05$), while the pre-test and post-test scores did not show normal distribution according to the departments ($p < .05$). The t-test for related samples was used to determine the significant difference between the pre-test and post-test scores of the CCTDI. Since the pre-test and post-test scores of the CCTDI did not show normal distribution according to the departments, the Kruskal Wallis H test, one of the non-parametric analysis methods, was used to determine the significant difference between the departments.

2.4.2. Qualitative Data Analysis

In the qualitative data analysis, the content analysis method was used to evaluate the data obtained from the answers to the two open-ended questions directed to the participants. The main purpose of content analysis is to obtain conception and relationships that can represent the obtained data (Selçuk et al., 2014). What is basically done for content analysis is to gather the data that seem different from each other within the framework of specific concepts and themes and present them in an organized way that the readers can understand (Yıldırım & Şimşek, 2016). As a result of the content analysis, the themes of what CT is, the codes were grouped within the framework of six themes: truth-seeking, open-mindedness, analyticity, systematicity, self-confidence, and inquisitiveness, which are sub-factors of the CCTDI. In the analysis of the views on why CT is important, the themes of exploring, agreeing, deciding, and problem-solving, which are the skills that emerged as a result of the concept analysis on CT by Çıtak and Uysal (2012), were used. In other words, these skills were determined as the analysis themes of the views on why CT is important. The reliability of the resulting codes was calculated using the safety level formula of Miles and Huberman (1994, p. 64) (reliability = number of agreements/total number of agreements+disagreements). The reliability of the coding carried out by the researcher at different times was calculated as 88%. A reliability level of 70% and above is considered sufficient for the reliability of the results (Yıldırım & Şimşek, 2016).

In order to respect the privacy and confidentiality of the participants (Creswell, 2009) and to protect their identities, the participants were coded as P1, P2, P3... and the opinions of the participants were presented accordingly.

2.5. Ethical

In this study, all rules stated to be followed within the scope of the "Higher Education Institutions Scientific Research and Publication Ethics Directive" were followed. Ethical Review Board Name: Balıkesir University Science and Engineering Sciences Ethics Committee. Date of Ethics Evaluation Decision: 14.01.2022 Ethics Assessment Document Issue Number: E.107739

3. Findings

3.1. Findings Regarding the First Sub-Problem

The first sub-problem concerns the participants' level of CT disposition before and after the CT course, as well as whether there is a significant difference between their CT dispositions. In this context, the table below shows the CT disposition levels of the participants prior to the CT course:

Table 3. *The CT Disposition Levels of the Participants Before the CT Course*

Department	Low	%	Middle	%	High	%	Total
Pre-school Teaching	4	23.53	11	64.71	2	11.76	17
CEIT	2	28.57	5	71.43	0	.00	7
Mathematics Teaching	1	25.00	2	50.00	1	25.00	4
Industrial Engineering	0	.00	2	100.00	0	.00	2
Total	7	23.33	20	66.67	3	10.00	30

According to Table 3, it was concluded that 23.33% of the participants had a low level of CT disposition before the CT course and that the majority of the participants (66.67%, n=20) had a moderate level of CT disposition. It is seen in Table 3 that people with a high level of CT disposition are in the pre-school and mathematics teaching departments. Almost 25% of teacher candidates have a low level of CT disposition.

Within the framework of the first sub-problem, the findings regarding the critical thinking dispositions of the participants after the critical thinking lesson are presented in Table 4:

Table 4. *The CT Disposition Levels of the Participants After the CT Course*

Department	Middle	%	High	%	Toplam
Pre-school Teaching	13	76,47	4	23.53	17
CEIT	7	100.00	0	.00	7
Mathematics Teaching	2	50.00	2	50.00	4
Industrial Engineering	2	100.00	0	.00	2
Total	24	80.00	6	20.00	30

When Table 4 is examined, it is seen that there is no university student with a low level of CT disposition after the CT course. Most participants (80%, n=24) have a moderate level of CT disposition. Compared to the pre-CT course, the number of university students with a moderate and high level of CT disposition has increased.

Table 3 and Table 4 determined the level of CT disposition of the participants before and after the CT course. In the continuation of the research, the difference between the CT dispositions of the participants before and after the CT course was examined. In this context, the findings obtained for the t-test analysis results for the related samples are presented in Table 5:

Table 5. *T-Test Analysis Results for Participants' CCTDI*

CCTDI	N	M	SD	df	t	p*
Pre Test	30	260.10	26.26	29	-5.54	.00
Post Test	30	282.90	19.49			

*p<.05

When Table 5 is examined, it is seen that the significance level (p=.00) is lower than the significance value (p<.05). In line with this finding, it can be said that there is a significant difference between the CT dispositions of university students before the CT course and their CT dispositions after the course (t=-5.54, p=.00, p<.05). Table 5 shows a significant difference between the participants' mean score for the CCTDI before the CT course (M_{pretest}=260.10) compared to the post-course average point (M_{posttest}=282.90). This shows that the CT course positively affects the CT disposition of university students.

3.2. Findings Regarding the Second Sub-Problem

The second sub-problem of the study is the difference in the CT dispositions of the participants by department and gender before and after the CT course. The results regarding the difference between participants' CT dispositions by the department before and after the CT course are shown in Table 6:

Table 6. *Kruskal Wallis H Analysis Results For The Departments According To The Pre-Tests*

CCTDI	N	Sum of squares.	df	χ^2	p
Pre-school Teaching	17	14.94	3	.95	.81
CEIT	7	16.00			
Mathematics Teaching	4	14.25			
Industrial Engineering	2	21.00			

$p > .05$

According to the Kruskal Wallis H test analysis performed in line with the pre-test data, there was no significant difference between the CT dispositions of the participants in terms of departments ($\chi^2 = .95$, $p = .81$, $p > .05$). According to the pre-tests, it was concluded that the mean score of the participants in pre-school teaching ($M_{\text{Pre-School}} = 259.71$), the mean score of the participants in CEIT ($\bar{X}_{\text{CEIT}} = 258.69$), and the mean score of the participants in mathematics teaching ($M_{\text{Mathematics}} = 257.28$) were very close to each other.

Significant differences were also examined according to the post-test scores of the participants for the departments. The analysis result of the Kruskal Wallis H test, which was performed according to the CCTDI post-test scores, is presented in Table 7:

Table 7. *Kruskal Wallis H Analysis Results For The Departments According To The Post-Tests*

CCTDI	N	Sum of squares.	df	χ^2	p
Pre-school Teaching	17	16.82	3	2.75	.43
CEIT	7	11.71			
Mathematics Teaching	4	18.75			
Industrial Engineering	2	11.00			

$p > .05$

When the analysis table of the Kruskal Wallis H test, which was performed in line with the post-tests, is examined, it is seen that the significance value ($p = .43$) is greater than the significance level ($p > .05$). In this context, it can be said that there is no significant difference between the CT dispositions of university students according to the departments in terms of post-tests ($\chi^2 = 2.75$, $p = .43$, $p > .05$).

The other aspect of the second sub-problem is to determine the participants' CT dispositions by gender prior to and after the CT course. In this regard, Table 8 displays the results of the t-test analysis for samples that were unrelated to data collected before and after the CT course:

Table 8. *T-Test Results According To Pre-Tests in Terms Of Gender*

CCTDI	N	M	SD	df	t	p
Female	21	260.31	30.39	28	.06	.95
Male	9	259.61	13.84			

$p > .05$

According to Table 8, before the CT course, there was no significant difference between the participants' CT dispositions by gender ($t = .06$, $p = .95$, $p > .05$). When the mean scores of females ($M_{\text{Female}} = 260.31$) and males ($M_{\text{Male}} = 259.61$) are examined, it is seen that the values in the two groups are very close to each other. This shows that there is no significant difference in the CT dispositions of the participants according to gender.

The results of a gender-based examination of the participants' CT dispositions following after the CT course are presented in Table 9:

Table 9. *T-Test Results According To Post-Tests in Terms of Gender*

CCTDI	N	M	SD	df	t	p
Female	21	284.33	22.62	28	.60	.55
Male	9	279.57	8.89			

$p > .05$

According to the analysis of the data obtained from the CCTDI applied to the participants after the CT course, there was no significant gender difference in terms of post-tests ($t = .60$, $p = .55$, $p > .05$). Although the mean score

of females ($M_{\text{Female}} = 284.33$) according to the post-tests is higher than the mean score of males ($M_{\text{Male}} = 279.57$), this is not sufficient for a significant difference.

3.3. Findings Regarding the Third Sub-Problem

The third sub-problem of the research is about qualitative data. In this context, the participants' views on CT before and after the CT course were examined. The findings obtained as a result of the content analyses are presented in the tables below. The content analysis of the participants' answers before the CT course to the question of what CT is, is presented in table 10:

Table 10. Views on CT Before the CT Course

Themes	Codes	f
Truth-seeking	Different points of view	5
	Deals with all aspects of the subject	4
	Neutral thinking	3
	Reaching the conclusion	1
Open-mindedness	Expressing an Opinion	2
Analyticity	Reasoning	5
	Analyzing	5
	Solution generation	1
	Analytical Thinking	1
Systematicity	Making Evaluation	2
Self-confidence	Express own thoughts	1
	Interpretation	1
	Making Assumptions	1
Inquisitiveness	Questioning	4
Total	14	36

When Table 10 is examined, according to the data obtained before the CT course, 36 opinions emerged in the content analysis in line with senior university students' views on what CT is. Table 10 shows that 14 different codes emerged from the content analysis of the participants' views under six themes on what CT is before the critical course. CT was mostly expressed as "Different points of view", "Reasoning" and "Analyzing" ($f=5$). It is seen that there are participants who stated that CT is analytical thinking before the course. In addition, a participant said, "Critical thinking is analytical thinking." It is also worth noting that he sees the opinion in the form of (P9) as the same as critical thinking and analytical thinking. Some participant views on the findings are presented below:

P5: "Avoid events/readings etc. It can be called a new perspective, I stopped looking from my own window and observing the world from other people's windows." (Different points of view)

P30: "I think critical thinking is a reasoning process." (Reasoning)

P11: "It is thinking by analyzing and investigating and examining in the face of an event or situation." (Analyzing)

P13: "It is the ability to question in the face of the events we encounter." (Questioning)

P6: "Taking all aspects of an issue and determining the aspects that do not suit us" (Taking the issue with all its aspects)

P10: "It is to evaluate an issue impartially, considering its pros and cons." (Impartial thinking)

P21: "A situation is a state of expressing a positive or negative opinion on an event or phenomenon" (Declaring an opinion)

P24: "He concludes by analyzing a subject or something by centered, that is, by expressing the relationship between the whole and its parts. In other words, it is to assess a subject or an idea." (Making evaluation)

The themes obtained as a result of the content analysis of the participants' views on why CT is important before the CT course are presented below:

Table 11. Findings Regarding the Importance of CT Before the CT Course

Themes	Codes	f
Exploring	Developing different perspectives	5
	Understanding life	3
	Getting the right results	1
	Recognizing deficiencies	1
Agreeing	Understanding different thoughts	3
	Inference	1
Deciding	Inquire	1
	Addressing the issue in all its aspects	1
	Generating new knowledge	1
Problem-solving	Problem-solving	1
	Analyzing	1
	Reasoning	1
No idea		11

When Table 11 is examined, it is striking that 11 participants do not have an idea about why CT is important. It was concluded that "developing different perspectives" (f=5) was the most mentioned expression among the codes within the four themes determined. Afterward, the most expressed opinion is that CT is necessary for "understanding life" and "understanding different thoughts". In general, it can be said that the majority of the participants do not have an opinion on why CT is important. Some participant views on the findings in Table 11 are presented below as an example:

P8: "We are different people after all, and it is important to look at it from different perspectives. Critical thinking will also allow us to look at it from different angles." (Developing different perspectives)

P13: "Critical thinking is important. Because we have to think critically to understand life and improve." (understanding life)

P28: "It is important because when you criticize a situation in a good way, that is, constructively, it makes things better and reveals many different opinions among people" (Understanding different thoughts)

The findings obtained as a result of the analysis of the participants' thoughts on what CT is and why it is important after the CT course are presented in Table 12 and Table 13:

Table 12. Findings Regarding CT After the CT Course

Themes	Codes	f
Truth-seeking	Different points of view	9
	Making the right decision in line with the mental process of knowledge	7
	Deals with all aspects of the subject	4
	Correct interpretation	4
	Making decisions based on facts	1
	Case Analysis	1
Open-mindedness	Expressing an Opinion	1
Analyticity	Reasoning	5
	Analyzing	5
	Reflection	3
	Higher Thinking	3
Systematicity	Making Evaluation	2
	Rational assessment	1
Self-confidence	Better decision making	1
	Inference	1
Inquisitiveness	Questioning	7
Total	16	55

According to Table 12, it can be said that after the CT course, the number of opinions expressed about what CT is and the total number of codes (n=16) increased. While "Questioning" comes after the "different points of view, reasoning and analysis" codes before the course, it appears as the third most frequently expressed code after the CT course. While "Making the right decision in line with the mental process of knowledge" was

not expressed before the course, it was the second most expressed opinion after the course (f=7). Before the course, a participant's view that equates analytical and CT changed after the course. The opinions of some participants regarding the findings obtained in Table 12 are given below:

P23: *"The individual's ability to evaluate the situation he/she encounters from a different perspective in line with his/her ability to question events."* (Different points of view)

P9: *"Critical thinking is the process of forming a logical inference by an individual's mind filtering a thought."* (Making the right decision in line with the mental process of knowledge)

P11: *"It is the ability to reason in the face of events and facts, to question and think, and to filter through the mind."* (Reasoning, questioning)

P7: *"Critical thinking is a form of evaluation that an individual uses in all areas of his life, analyzes and reveals his thoughts."* (Analyzing)

P26: *"It is a way of thinking that consists of mental processes such as reasoning, analysis, and evaluation."* (Reasoning, analyzing, making evaluation)

P18: *Critical thinking is a way of thinking that allows a situation's positive and negative aspects to be evaluated, judged, and differentiated. (Deals with all aspects of the topic)"*

P23: *"It can be expressed as a correct way of interpreting the facts by considering all aspects of the situations encountered"* (Correct interpretation)

The themes and codes determined in line with the analysis of the participants' views on why CT is important after the CT course are presented in Table 13:

Table 13. Findings Regarding the Importance of CT After the CT Course

Themes	Codes	f
Exploring	Accessing the right information	7
	Developing different perspectives	5
	Understanding life	3
	Achieve independence of thinking	1
Agreeing	Understanding different thoughts	3
Deciding	Make the right decision	11
	Ability to express own thoughts	4
	Have a critical perspective	3
Problem-solving	Problem-solving	4
	Providing logical solutions	3

After the CT course, all participants expressed their views on why CT is important. It is seen in Table 13 that the codes under the exploration theme are higher than the other themes. It was found that the most mentioned expression in the "exploring" theme was "Accessing the right information" (f=7), followed by "developing different perspectives" (f=5). The theme of "Agreeing" only includes "understanding different thoughts" and it is one of the least mentioned thoughts after the expression "reaching independence of thought". After the CT course, "making the right decision" (f=11), which is the most expressed opinion in the opinions about why CT is important, was evaluated under the theme of deciding. The concepts of "problem-solving" (f=4) and "providing logical solutions" were considered as concepts under the problem-solving theme, in which some participants expressed the importance of CT skills. The opinions of some participants regarding the findings in Table 13 are given below:

P7: *"Critical thinking is important because it enables us to make logical decisions and manage our lives properly."* (Make the right decision)

P1: *"With critical thinking skills, we reach the right information."* (Accessing the right information)

P29: *"As a teacher, it is important to evaluate each individual as himself. It allows me to take into account the perspective of each student and evaluate situations from their perspective."* (Developing different perspectives)

P21: *"It is important to be able to get ideas by filtering the event, thoughts, rather than the inferences of others."* (Ability to express own thoughts)

P27: "It is important because it enables problems to be solved by thinking in different ways." (Problem-solving)

4. Conclusion, Discussion, and Recommendations

In line with the findings, it was concluded that the CT course, which is carried out with distance education, positively affects the CT skills and tendencies of university students. This finding is consistent with Davies' (2011) view that CT can be taught through a separate course or indirectly across disciplines and with that of Niu et al. (2013), who suggest that the CT teachings put forward in their studies support the idea that university students develop their CT skills. It was determined that university students' CT dispositions were generally at a moderate level before the CT course. It was found that approximately 25% of the participants had a low level of CT disposition before the CT course. In other words, it can be said that only 10% of university students have a high level of CT disposition. While this situation supports Can and Kaymakçı's (2015) conclusion that pre-service teachers have low attitudes toward critical thinking (CT), Ozdemir (2005) with university students, Yorgancı (2016) with prospective mathematics teachers, and Fitriani et al. (2018) in their study with pre-service teachers in the biology education program found that the participants had moderate CT skills. Although CT is among the most important outcomes of higher education (Davies, 2011), there is little evidence that pedagogical interactions lead students to think critically (An Le & Hockey, 2022). The results obtained from the pre-tests show that the CT levels of university students are insufficient to support this idea. Senior university students do not have a high level of CT skills before the CT course because they did not take any courses for CT skills before or did not participate in enough activities and practices to develop their CT skills. In this context, in-class CT activities and practices should be included to develop the CT skills of university students (Niu et al., 2013).

It has been determined that the most mentioned descriptive tendencies of university students towards CT before the CT course held with distance education are within the framework of "different points of view", "reasoning," and "inquiry" under the themes of "Truth Search" and "Analyticity". In some studies, it is seen that participants achieved better results in the analytical sub-factor than in other factors (Alper, 2010; Phillips et al., 2004; Yorgancı, 2016). These results support that the most effort to define what CT is in the study is within the framework of the "Analytics" theme. In the analysis, the finding that CT is confused with analytical thinking is also striking. This finding supports the idea that analytical thinking has a meaning mixed with CT (Gürkaynak et al., 2009). Remarkably, 36.67% of the participants did not express an opinion on why CT is important. In this respect, it can be interpreted that university students do not have enough knowledge about why CT is important. This finding concludes that university students' CT dispositions are not high, but they generally have moderate CT dispositions. Developing CT is an important step in achieving the basic goals of education (Rimiene, 2002). In this context, CT enables individuals to think effectively as well as acquire knowledge (Facione et al., 1998). The fact that the majority of university students' CT attitudes are at a medium level and nearly a quarter of them are at a low level may be attributable to their lack of knowledge about what CT is and why it is important, or to the fact that they do not engage in sufficient CT-related activities, practices, or readings throughout their university education. (Ozdemir, 2005) In this context, activities that encourage students to read critically can help them acquire CT skills.

According to the quantitative results obtained from the CCTDI applied after the CT course held with distance education, it is seen that there is a positive change in the CT dispositions of university students. This finding is also supported by the content analyses carried out within the framework of qualitative data. It was determined that university students made more detailed definitions of what CT is than the pre-course application, and all participants expressed their views on the importance of CT after the course. It was concluded that there was a significant difference in CT dispositions compared to the pre-course. In this context, it can be said that the CT course is effective on students' CT skills and tendencies. This finding was reported by Caliskan et al. (2020) and supported the results of Kanbay and Okanlı (2007). Therefore, CT courses, which are offered as elective courses at the university level, should not be limited to only elective courses but should be spread into the curriculum. In other words, the CT skills and tendencies of the students can be increased by adding the activities to be carried out to gain CT skills and tendencies in the education programs at the university level (Seferoğlu & Akbıyık, 2006).

In most studies conducted with university students and using the CCTDI, it is reported that the least tendency of the participants is Truth-seeking (Alper, 2010; McBride et al., 2002; Rimiene, 2002; Phillips et al., 2004;

Yorgancı,2016). Within the context of this study, "truth-seeking" is the theme with the most opinions about what CT is in the most recent application. In this context, the theme in which students developed the most or in which their perspectives grew the most is the search for the truth. Phillips et al. (2004) suggest that experiences that support the idea of acquiring the best knowledge and challenging one's prejudices can be enhanced by truth-seeking. It can be said that the inclusion of ideas such as " Making the right decision in line with the mental process of knowledge", "Correct interpretation" and " Making decisions based on facts " under the theme of truth-seeking in the study supports the view of Phillips et al. (2004). It can be said that making the right decision, interpreting and making decisions according to the facts is a tool for obtaining the best information and overcoming one's prejudices. In this respect, behaviors such as making the right decision, interpreting correctly, and making decisions according to the facts will provide the best information to seek the truth.

In the study, it was also examined whether CT dispositions differed according to gender. From the results, it was concluded that there was no significant difference between the CT dispositions of university students according to gender before and after the course. While this result overlaps with the studies of Kaloc (2005), Özdemir (2005), Myers and Dyer (2006), Gök and Erdoğan (2011), Franco and Almedia (2015), Salahshoor and Rafiee (2016), Bagheri and Ghanizadeh (2016), It differs with the study of Facione et al. (1995), Hayran (2000), Kökdemir (2003), Hamurcu, Günay and Özyılmaz (2005) and Zayıf (2008). It was determined that most participants had a low and medium level of critical thinking before the critical thinking course and that the majority had a medium level of critical thinking disposition after the course. According to the findings, no significant difference was found in the critical thinking dispositions of the participants in terms of gender variables. These results support the opinion of Zetriuslita et al. (2016) that there is no significant difference in critical thinking skills of individuals with moderate and low levels of critical thinking disposition according to gender. It is suggested that the reason why there is no significant difference between the gender at CT is that the practical and theoretical courses taken by the older students are planned in the same direction in most departments, or that the practical courses for CT are not sufficiently carried out so that they do not bring about a change in the CT disposition of the students.

It was observed that there was no significant difference in the CT dispositions of university students according to departments. This finding differs from the studies of Ricketts and Rudd (2004), Gülveren (2007), and Emir (2012). Similarly, the reason for the emergence of different results in studies on CT in terms of departments may be due to the design of the education carried out based on departments or the fact that CT activities are carried out or not in practice courses. In studies where the differences in terms of departments are revealed, Gülveren (2007) states that pre-school teacher candidates are in their study, and Emir (2012) states that primary school teacher candidates have different CT compared to teacher candidates in other departments. The reason for this is that the CT skills of pre-school and primary school teacher candidates may differ from those of other departments if they are taught in a way that allows them to deal with the subject from a multidisciplinary and holistic perspective, with training for the teaching of various disciplines such as mathematics, science, and life sciences. In other words, there may be a difference in CT skills between a pre-service teacher who has a perspective within the framework of mathematics and one who can evaluate subjects in mathematics, science, and social studies from multiple perspectives. In this study, the study group includes pre-school teacher candidates. However, the inability to recruit an equal number of participants from each department, which can be viewed as a limitation of this study, may have prevented a clear demonstration of this difference. In subsequent studies, studies can be carried out with equal numbers of participants according to the departments, and it can be revealed from a more detailed perspective whether there is a difference in CT and dispositions between departments.

In today's education programs, CT is among the skills that individuals should acquire (Davies, 2011; Niu et al., 2013; Seferoğlu & Akbıyık, 2006). The conclusion that the CT disposition of university students is insufficient before the CT course indicates that the students did not encounter enough activities to develop their CT skills during their previous student years. Considering the emphasis on raising individuals who can think critically in curricula (MoNE, 2018), it is necessary to include activities and practices for CT in textbooks and curricula.

5. Limitations

This study was limited to 30 senior university students who took the critical thinking course and participated in the study voluntarily. The fact that the study was carried out during the COVID-19 pandemic period limited detailed interviews with students. Including two students from industrial engineering and four from mathematics teaching in the study is another limitation of the study. The results for the critical thinking dispositions of the departments are limited to two students from industrial engineering, four from mathematics teaching, seven from CEIT, and 13 from pre-school. In this context, to generalize the results obtained for the departments, it is recommended to examine the difference between the critical thinking dispositions among the departments with more participants in future studies. The critical thinking education carried out within the framework of the study is limited to a 14-week critical thinking undergraduate course.

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