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The Effect of Machiavelli Leadership on Destructive Organizational Behaviors Through Mediation Job Stress

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ABSTRACT

The purpose of this study was to investigate the effect of Machiavelli leadership on destructive organizational behaviors through mediation job stress. This study is an applied and correlation research method based on structural equation modeling. 191 elementary school teachers of Sarbaz city were studied by stratified random sampling method. To collect information, three questionnaires were used: Machiavelli leadership, job stress and destructive organizational behaviors. For data analysis the Pearson correlation coefficient and structural equation modeling were used by SPSS and Lisrel software. Based on the results the direct effect of Machiavelli leadership on destructive organizational behaviors, the direct effect of Machiavelli leadership on job stress and the direct effect of job stress on destructive organizational behaviors was positive and significant. The indirect effect of Machiavelli leadership on destructive organizational behaviors was also positive and significant with the mediator role of job stress. Thus, can conclude that managers with high Machiavelli increase staff job stress and job stress, in turn, increases destructive organizational behaviors.

Keywords:
Machiavelli leadership, destructive organizational behaviors, job stress.

1. Introduction

Destructive work behaviors, known as deviant behaviors in the workplace, are voluntary behaviors that violate organizational norms and threaten the health of the organization and its members (Moslemi Kaviri, Karimi & Nikmanesh, 2019). Five types of destructive behaviors include misbehavior to others, deviation from production, stealing including taking and using the organization's assets for personal requirements or damaging the organization, sabotage, and time-wasting behaviors. These behaviors are not limited to a certain geographical area and are global in nature (Nasre Esfahani & Heidari, 2019). When people in an organization show destructive behaviors instead of working in compliance with employment rules in the organization, they impose challenges to achieving the organization's goals. An organization, in which employees damage the organization facilities, show various verbal and non-verbal aggressive behaviors, are deliberately absent from work or late, and have many other deviant behaviors, will not succeed in achieving its goals and accomplishing its missions (Golmeymi, Fayaz & Nasri, 2019).

Machiavelli leadership is one of the factors influencing destructive organizational behaviors. Such leaders are less willing to persuade ways or follow moral and spiritual standards (Younus, Danish, Sair, Ramzan & Sheikh, 2020). Leaders who are described as high Machiavellian people are genuine politicians, analyzers, and strategists in their thoughts. They can lead power dynamism in the organization in attempt to abuse power without feeling guilty or ashamed (Stradovnik & Stare, 2018). People with high Machiavellian characteristics

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may use aggressive, profitable, and deviant behaviors to achieve personal and organizational goals, thereby paying less attention to others' welfare. Moreover, Machiavellians do not consider common morals and are commonly known as immoral people (Mohammadi, 2019). In general, lying and being predisposed to deception, controlling the situation in their favor, being ambitious, implementing real impersonation, making division, hurting one's pride, respecting people possessing wealth, power, and fame, role-playing, and doing people favors to achieve goals are among Machiavellian individuals' characteristics (Kazemi, Nazari, Zare & Ramazan, 2020).

One of the possible consequences of Machiavelli leadership is job stress. If there is an imbalance between job status and personal characteristics, job stress occurs in a way that the person can not meet the demands of the workplace (Kouhnavard, Hosseinpour, Honarbakhsh, Ahmadiazad & Pashangpour, 2020). Responsibility uncertainties, high workload, role conflict, bad personal relationships, ineffective communications, work issues, and family are all among stressful agents (Dehghani, Bahariniya, Khaleghi & Servat, 2020). Teaching is considered among stressful jobs. According to some studies, teaching is regarded as one of the ten most stressful jobs in the world. One-third of teachers believe that professional teaching is a stressful job (Sadidi, 2019). Teachers' job stress is associated with different job outcomes, such as relocation intention, low job satisfaction, job burnout, inefficiency in teaching, and inefficiency in classroom management (Hamidi & Shamloo, 2021).

The schools' leadership style plays a significant role in school quality, teachers' job satisfaction, organizational culture, and teacher's motivation (Barani & Nastiezaie, 2020). However, leadership does not always have a bright and positive aspect, and its dark and negative aspects should be highlighted. One of the negative leadership styles is Machiavelli leadership. The Machiavelli's leadership is destructive and a voluntary behavior from the leader and most employees see it as deviant and harmful behavior that has costs for people or organizations (Mohammadi, 2019). In many schools, there are signs of destructive and despotic leadership, such as lack of clear goals for teachers and the principal, hostile relationships between the principal, teachers, students, and parents, strong emphasis on organizational rules and mission, mistrust and dishonesty in conversations, emphasis on working independently (instead of teamwork and participation), greater use punishment, feelings of insecurity and lack of support, controlling interactions and conversations between colleagues, and being risk aversion (Epitropoulos, 2019). Such school principals create job stress for teachers. According to studies, most teachers are under severe stress and a large part of this stress is due to their profession; in terms of job stress, 30.5 percent of teachers are in high risk area and 3.2 percent of them are in very high risk area (Habibi, Basharat & Fadayi, 2007). School principals who use Machiavelli's leadership style not only create more job stress for teachers but also lead to appearing more deviant behaviors for the teachers including wasting class time, delays in entering the classroom, early completion of the class, excessive absenteeism, disobeying the rules, arbitrary treatment with the students, biased evaluation of students, inattention to weak students, lack of coöperation and coördination with colleagues and school agents, communicating with parents without school information, lack of seriousness and carelessness in performing tasks, aggression and physical punishment, giving inappropriate information, pulling the rug from under somebody's feet, disclosing confidential information, taking bribes from students or parents, abusing one's position, tolerating in school property maintenance, backbiting behind colleagues, verbal confrontation with the colleagues, labeling colleagues, tainting and reproaching (Rafiee & Barghi, 2018). Given the complex nature and multidimensional of Machiavelli leadership and destructive organizational behaviors, the relationship between these two variables is not linear and direct, and variables such as job stress intervene in their relationship. Therefore, the main purpose of the current study was to investigate the effect of Machiavelli leadership on destructive organizational behaviors through the mediation of job stress. This study addressed several research hypotheses:

- Machiavelli leadership has a positive and significant effect on the destructive organizational behavior.
- Machiavelli leadership has a positive and significant effect on job stress.
- Job stress has a positive and significant effect on the destructive organizational behavior.
- Machiavelli leadership has a positive and significant effect on the destructive organizational behavior through mediation job stress.

1.1. Theoretical perspective

Machiavellianism is defined as a social behavior strategy that requires influencing others to achieve personal interests and is often against others' interests. Machiavellianism is also viewed as an individual's behavior toward achieving individual goals. Such people do not pay attention to morals and are usually known as immoral people (Götz, Bleidorn & Rentfrow, 2020). Machiavellians are also intensively predisposed to influence, force, control, and find others and do not have effectiveness in interpersonal relationships and common morals (Collison, Vize, Miller & Lynam, 2018). Highly Machiavellian people ignore moral norms to achieve personal goals. One of their characteristics is to be emotionally cold with no closeness in their relationships. Moreover, Machiavellian people are less emotionally involved with people and situations, i.e. they care less about feelings, rights, and requirements of others (Muris, Merckelbach, Otgaar & Meijer 2017). In their interactions with others, they are receptive to cold approaches apart from others and only focus on their interests which are against those of others. Further, Machiavellians are less conscientious since they are more successful in unstructured environments where norms are less explicitly, thereby changing the situation in their own favor (March & Springer, 2019).

Studying immoral behaviors of organizations' employees has a weaker background than studying their efficiency-focused positive behaviors. Destructive organizational behaviors are inappropriate voluntary exercises repeatedly performed by employees. Such exercises oppose incidental and unwanted destructive exercises. Destructive organizational behaviors aim at hurting the organization or its members (Moslemi Kaviri et al., 2019). Such behaviors are observed to be destructive because they disturb or at least impair and corrupt relationships among people and their organizations (Golmeymi et al., 2019). Some examples of destructive work behaviors are organizational invasions, anti-citizen behaviors, crimes, deviation, revenge, bullying, stealing, sabotage, isolation, beating, bothering, abuse, violence, and trying to hide information with no willingness to share information (Nasre Esfahani & Heidari, 2019). Mulki, Jaramilo and Locander (2006) believe that person and positional factors (e.g. job, leadership style, and organizational space and culture) play a significant role in creating destructive behaviors.

Today, job stress has become one of the most common and costly problems in the workplace. The International Labor Organization has considered stress job as the most known phenomenon threatening labor health. According to the World Health Organization, over a half of employees in industrialized countries complain about job stress, with about 10 million people suffering from job stress only in the United States (Ghanei Gheshlagh, Valiei, Rezaei & Rezaei, 2013). According to the occupational safety and health administration, job stress consists of harmful physical and mental responses that are created as a result of non-compatibility and non-coordination between job requirements, resources, and individual abilities (Park, 2007). Job stress can result from disequilibrium between demands and resources or as an overpressure on people beyond their comprehensibility (Dolatshad, Maher, Hosseini & Aghili, 2020). The stress cognitive assessment theory explains inhibiting and challenging stress. Rahimian Aghdam, Safaiyan, Rasoulzadeh & Alizadeh (2020) have suggested that inhibiting stress agents are stressful demands and are evaluated as personal growth and goal achievement destroyers (e.g., role ambiguity, role conflict, and job security). Challenging stress agents involve stressful demands as obstacles, which should be eliminated for enhancing learning, control, personal growth, and success (e.g., high responsibility, challenges, job complications, and high workload).

1.2. Conceptual perspective

One of the characteristics of Machiavellian leaders is violent behavior toward and treatment of their employees and subordinates. When destructive leaders treat their employees destructively and violently, they intentionally or unintentionally urge employees to develop destructive behaviors through creating resentment and negative emotions like anger (Li, Ling & Liu, 2009). The second path through which Machiavellian leaders encourage employees to practice destructive behaviors is the simple message by such leaders that destructive behaviors are relatively common and tolerable. When leaders allow themselves to behave destructively and abusively, employees may also be prone to destructive behaviors (Golparvar & Salahshour, 2016). Thus, the first research hypotheses can be stated as follows: Machiavelli leadership has a positive and significant effect on the destructive organizational behavior.

Destructive and despotic leaders control subordinates through hostile and continuous verbal and nonverbal behaviors (Tepper, 2000). Such leaders engage in behaviors such as disrupting employees, trying to achieve

goals other than intended purposes, stealing organizational resources such as assets, equipment, money, or time, encouraging employees to engage in these activities, and neglecting or even deliberately impeding organizational goals (Tepper et al., 2008). Tandon and Mishra (2017) found that such leaders would threaten the legitimate right of the organization by neglecting or disrupting the goals, resources, tasks, motivation, mental health, and job satisfaction of followers. As a result, employees will experience more job stress by employing a despotic and destructive leadership style in the organization. Thus, the second research hypotheses can be stated as follows: Machiavelli leadership has a positive and significant effect on job stress.

Job stress, which is developed based on role conflict, role ambiguity, role overload, lack of support from colleagues and supervisors, and conflict with them, disturbs one's mental and physical balance. Thus, when people feel that job stress has disturbed their physical and mental balance, they will be apt to practice destructive behaviors if they fail to efficiently cope with experienced stress (Anton, 2009). Fox, Spector, and Miles (2001) found that destructive behaviors or anti-productive behaviors such as isolation, absenteeism, inattention, and disobedience were consequences of stressors and emotions caused by them. Moreover, Boyas and Wind (2010) have suggested that stressful factors in the workplace, such as limited authority, responsibilities and resources, conflict, ambiguity, and inadequate coping skills lead to emotional exhaustion. Then, this feeling of emotional exhaustion tends to direct individuals toward demonstrating destructive organizational behaviors in the form of various negative emotions such as hopelessness, anxiety, and depression. Thus, the third research hypotheses can be stated as follows: Job stress has a positive and significant effect on the destructive organizational behavior.

In the Machiavellian and exploitative leadership style, the leader has little confidence in their subordinates and leader-follower relationships are based on fear and intimidation. In such an environment, employees have little control over what they do and thus have low self-esteem. Under these circumstances, managers force employees to do specific assigned tasks within a short time, or they exercise strict control over employees. In such a situation, employees will experience job stress (Beiginia & Kalantari, 2008). Due to weaknesses in their positive behavioral and functional capacities in establishing healthy human relationships, such leaders provide a psychosocial stressful environment in the workplace, which results in the incidence of destructive behaviors in employees. Thus, the third research hypothesis can be stated as follows: There is a positive relationship between Machiavellian leadership and job stress (Golparvar & Salahshour, 2016) .Thus, the fourth research hypotheses can be stated as follows: Machiavelli leadership has a positive and significant effect on the destructive organizational behavior through mediation job stress .The relationships between Machiavelli leadership, job stress, and destructive organizational behaviors can be illustrated as follows:

Figure1. Model of the research

2. Methods

2.1. Research Model and Group

The study is a cross-sectional survey. The statistical population included 377 teachers (278 males and 99 females) in elementary schools in Sarbaz City, Sistan and Baluchestan Province, Iran. Given that the individuals were not equal in number in terms of gender (73.74% male and 26.26% female), 191 teachers (141 males and 50 females) were randomly selected in proportion to gender and Cochran's sample size formula.

The sample selection method was such that the researcher obtained the list of primary school teachers by referring to the Sarbaz City Education Organization. Give each teacher a code and randomly select the appropriate sample according to the gender of the teachers so that everyone has an equal chance of being selected. Table 1 provides the demographic information of the participants.

Table 1. *Demographic İnformation of the Participants*

Variable		Frequency	Variable		Frequency
Gender	Male	141	Educational Degree	Diploma & Associate	60
	Female	50		Bachelor	99
Marital Status	Married	130		Master	32
	Unmarried	61			
Employment Status	Permanent	139	Work Experience (years)	<11	82
	Contractual	52		11-20	93
				>20	16

2.2. Instrument

Three questionnaires including Machiavellian Leadership Questionnaire, Job Stress Questionnaire, and Organizational Destructive Behavior Questionnaire were employed for collecting data.

Machiavellian Leadership Questionnaire: It was adapted from the study by Wilson et al. (1996). The questionnaire evaluates Machiavellian leadership using 12 items in four dimensions including over-control, dishonesty, suspicion, and power maintenance willingness (three items for each dimension). Based on 5-point Likert scale from "never" (1) to "always" (5), the questionnaire organized. The minimum and maximum scores in the questionnaire are 12 and 60, respectively, with scores closer to 60 showing a higher Machiavellian leadership style. Two of the items are: 1) The principal tends to tell the teachers what to do and what not to do, and 2) the principal tends to be suspicious about the teachers' abilities.

Job Stress Questionnaire: It was adopted from the Health and Safety Executive Stress Questionnaire (2004). The questionnaire contains 19 items in three micro-scales of role ambiguity (five items), non-control (six items), and work demand (eight items). Based on 5-point Likert scale from "never" (1) to "always" (5), the questionnaire organized. The minimum and maximum scores of the questionnaire are 19 and 95, respectively, with scores closer to 95 demonstrating higher job stress. Two of the items are: 1) I do not clearly know what the workgroup expects from me, and 2) I have to ignore some of my tasks due to the high workload.

Organizational Destructive Behavior Questionnaire: It was adapted from the study by Khorasani Taroghi et al. (2018). The questionnaire consists of 14 items in three dimensions of inappropriate behavior (four items), unfavorable political behaviors (six items), and narcissism (four items). Based on 5-point Likert scale from "never" (1) to "always" (5), the questionnaire organized. The minimum and maximum scores are 14 and 70, respectively, with scores closer to 70 indicating more destructive behaviors in the organization. The following expressions are among the items: 1) Teachers are disrespected in the school, and 2) there is a climate of flattery in the school.

By using the Cronbach's alpha test, the reliability was 0.883, 0.926, and 0.894 for Machiavellian leadership, job stress, and organizational destructive behavior questionnaires, respectively.

2.3. Data analysis technique

Descriptive statistics, including frequency, percentage, mean, standard deviation, skewness, and kurtosis, as well as inferential statistics, including Pearson correlation coefficient and structural equation modeling (SEM), used to analyze the data in SPSS 21 and LISREL.

3. Findings

SEM was used to investigate the hypotheses of the study. Table 2 represents the descriptive indices of the variables including mean, standard deviation, as well as skewness and kurtosis.

Table 2. *Descriptive Statistics for the Study Variables*

Variable	Mean	SD	Skewness	Kurtosis
Machiavelli Leadership	22.188	6.471	0.697	0.113
Job Stress	35.743	12.356	1.051	0.811
Organizational Destructive Behavior	25.062	7.286	0.927	1.294

In causal modeling, the distribution of variables should be normal. Thus, the absolute value of the skewness and kurtosis of the variables should not be greater than 2. As shown in Table 2, the absolute value of the skewness and kurtosis of all the variables was in line with the desired standard. Thus, the assumption normality of the variables confirmed. In addition, before implementing SEM, the relationship between the variables of the study was investigated using the Pearson correlation coefficient test:

Table 3. Correlation coefficient of variables

Variable	Machiavelli Leadership	Job Stress	Organizational Destructive Behavior
Machiavelli Leadership	1		
Job Stress	0.601	1	
Organizational Destructive Behavior	0.611	0.656	1

As shown in Table 3, a significant relationship observed between Machiavellian leadership with job stress and destructive organizational behaviors (r=0.601 and 0.611, respectively), while job stress was positively related to destructive organizational behaviors (r=0.656).

Moreover, a structural equation model used to test the relationship between the variables of the study. Model fit assessed before investigating the assumptions of the study. The size of model fit used in determining the relationship between the overt and covert variables. According to researchers, fit indices include goodness-of-fit index (GFI), comparative fit index (CFI), root mean square error of approximation (RMSEA), and root mean residual (RMR). Regarding the last three indices, the proper amount of fit was less than 0.8, 0.08, and 0.05, respectively (Kareshki, 2016). As shown in Table 3, the fit results were proper.

Table 4. *Fit İndexes of the Theoretical Model of the Study*

	$\chi 2$/df	GFI	CFI	RMR	RMSEA
Optimal amount	<3	>0.94	>0.9	<0.05	<0.1
Value obtained	1.43	0.92	0.98	0.049	0.074

To analyze the data, the theoretical model for each assumption should be processed to determine the amount with which the collected data can support the theoretical model. To answer this question, the quantitative indices of model fit (CFI, GFI, SRMR …) were used. If the general indices are acceptable or, in other words, the theoretical model is approved, in-model relationships are assessed. These mutual relationships are the regression coefficients related to assumption and factor loads of each item. Figure 2 displays all the relationships between the covert variables and factor loadings of each item.

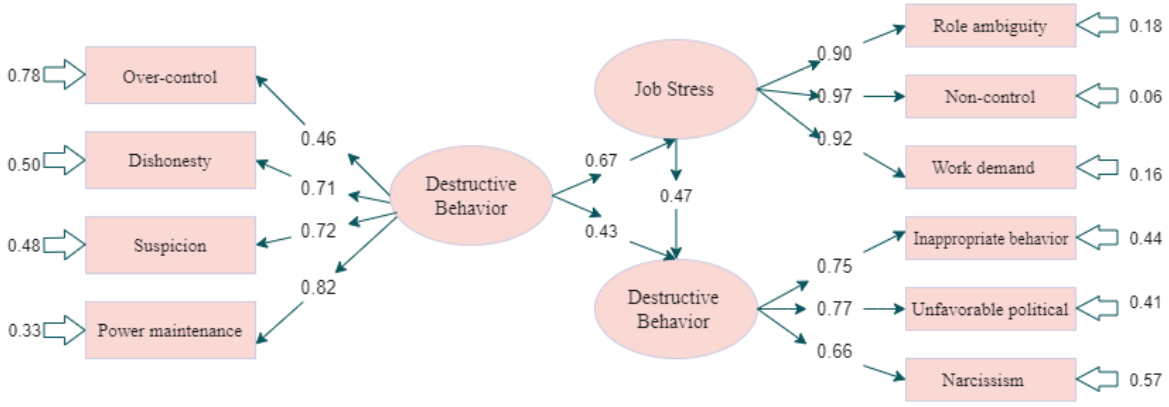

Figure 2. Fitted model of the study (standard cofficients)

According to the model (Figure 2), the research hypotheses can be analyzed as follows:

Table 5. *Path Coefficients for the Study of Research Hypotheses*

Hypotheses	Path coefficients	t	Conclusion
Machiavelli Leadership → Destructive Organizational Behavior	0.43	3.67	Accept
Machiavelli Leadership → Job Stress	0.67	5.51	Accept
Job Stress → Destructive Organizational Behavior	0.47	5	Accept
Machiavelli Leadership → Job Stress → Destructive Organizational Behavior	0.314	3.70	Accept

According to the model and table 5, the direct effect of Machiavelli leadership on organizational deviant behaviors (β=0.43, t=3.67), the direct effect of Machiavelli leadership on job stress (β=0.67, t=5.51), and the direct effect of job stress on organizational deviant behaviors (β=0.47, t=5) was positive and significant. Also, to investigate the indirect effect of Machiavelli leadership on organizational deviant behaviors mediated by job stress the Sobel test used. The Sobel t-test value was 3.70 (p-value = 0.001). Therefore, the indirect effect of Machiavelli leadership on organizational deviant behaviors mediated by job stress (β=0.314, t=3.70) was also positive and significant. Also, the analysis of variance (VAF) was used to evaluate the effect of the mediating variable, which is obtained by dividing the indirect effect by the total effect and its value was 0.422.

4. Conclusion and Discussion

The present study aimed to investigate the relationship between Machiavellian leadership and destructive organizational behaviors with the mediating role of job stress. The findings indicated Machiavellian leadership has a positive and significant effect on destructive organizational behaviors. In other words, leaders with high Machiavellianism tended to control, influence, threaten, force, and deceive people and to be self-centered. They showed behaviors toward the organization and people, which consequently caused the employees to practice destructive organizational behaviors. Shaw, Erickson and Nassirzadeh (2014) believe that leaders with destructive behaviors can negatively influence productivity, financial processes, and employees' spirits in the organization. According to Schyns and Schilling (2013), leaders with destructive behaviors are considered as duty models by their followers. They believe that negative behaviors are necessary within the organization. In fact, destructive behaviors of leaders can lay the ground for employees' deviant behaviors. Followers of leaders with destructive behaviors face more stress and hopelessness, have less self-steam, and tend to accomplish tasks with reduced quantity and quality. They rarely share their information and knowledge in the organization and have high political interests. Mojtahedzadeh (2009) demonstrated that inappropriate leadership styles could result in employees' deviation and that destructive leadership styles would enhance the probability of official corruption among employees by increasing the feeling of job insecurity, causing non-commitment, and reducing incentives. Further, Yousefi, Sharifiyan, Ghahraman Tabrizi and Zaraki (2016) showed that immoral criteria of coaches as leaders of teams and people would cause aggressive tendencies among athletes. Golparvar et al. (2012) believe that leaders who treat their subordinates inappropriately and cruelly increase the probability of immoral behaviors such as deviant, anti-productive, and anti-social behaviors.

In addition, Machiavellian leadership has a positive and significant effect on job stress. In fact, leaders with high levels of destructive behaviors, hostility, and negative emotions were more likely to provide their staff with a stressful environment. Such leaders are a potential source of stress. Leaders' destructive behaviors can impair organizational productivity, financial performance, and staff spirit and thus increase job stress in employees (Khorasani Toroghi, 2018). Furthermore, according to the social exchange theory, leaders who mistreat their staff (e.g., ridiculing and humiliating them, using obscene language toward staff, showing anger to the innocent, mocking staff, making staff feel incapable, constantly reminding them of their errors, faults, and failures, trampling their obligations toward the staff, violating employees' privacy, etc.), cause them experience a set of behavioral, emotional, and perceptional states (Tepper, 2000), the most common of which are job stress, job burnout, and job alienation (Harvey, Stoner, Hochwarter & Kacmar, 2007).

Furthermore, job stress has a positive and significant effect on destructive organizational behaviors. In other words, according to the stress/non-equilibrium/compensation approach, job stress can eliminate individuals' emotional, cognitive, and behavioral equilibrium. Disequilibrium has a motivational nature and makes individuals restore their lost equilibrium and show different behaviors. Additionally, according to the

stress/non-equilibrium/compensation approach, equilibrium loss is associated with the survival threat. Thus, it involves a motivational nature. Hence, when individuals feel that job stress violates their mental and physical equilibrium and they are not able to efficiently handle their experienced stress, destructive behaviors may be considered as one of their behavioral choices (Golparvar, Kamkar & Javadian, 2012). In support of the theoretical explanation provided on the relationship between job stress and destructive organizational behaviors, many studies also reported a positive relationship between them (Salami, 2010, Van Jaarsveld et al., 2010, Hershcovis et al., 2007).

Finally, Machiavellian leadership has a positive and significant effect on destructive organizational behaviors with the mediating role of job stress. In this regard, abusive supervision, which is a result of the Machiavellian leadership style, can impose stress on people in different manners. From the cognitive appraisal perspective, the relationship between abusive supervision and job stress among employees can be explained through experience of failure, perceived unfairness, and inability. Based on this perspective, when supervisors mistreat employees differently and in various positions, they, in fact, destroy the image, capability and competency of employees. Capability and competency destruction create a feeling of unfairness among employees and weakens their self-efficacy. In the process of an intra-psychological chain, individuals gradually lose their qualifications and skills required for employment and thus are more likely to experience job stress (Tepper, 2000). In support of this view, Harris, Kacmar and Zivnuska (2007) demonstrated that abusive leadership was negatively associated with formal performance assessment and performance assessment by the supervisor. Furthermore, Harvey, Stoner, Hochwarter and Kacmar (2007) suggested that abusive leadership was significantly related to job stress among employees. In turn, job stress may be followed by destructive organizational behaviors. According to the job tress/emotion/anti-productive behavior (which is a form of destructive behaviors) model, destructive behaviors in an organization can essentially be a response to job stress agents in the workplace. According to this model, after evaluating events of the workplace, individuals consider factors threatening their well-being as job pressures, which cause them to show emotional reactions such as anger and stress. Accordingly, this assessment may involve different responses such as mental and physical pressure, as well as reactions such as destructive behaviors (Fox et al., 2001). Theoretically, when people face occupational stress, they deal with it and try to reduce its physical and psychological consequences. These coping efforts consume a great deal of energy; they make teachers emotionally exhausted and increase their deviant behaviors (Golparvar, et al., 2012). According to the conserving of resources theory, human beings have different psychological, personal, and social resources to protect themselves and cope with any condition they face (Babakus, Yavas, & Ashill, 2009). When resources available to individuals are threatened by various factors such as occupational stress, a possible reaction is to feel anxiety, worry, and insecurity (Seiger & Wiese, 2009). On the other hand, the feeling of job insecurity, which itself acts as a stressor, threatens resources to survive a job, thereby causing deviant reactions to the situation (Chirumbolo, 2015). On the other hand, if people experience less occupational stress and feel job security, they avoid deviant behaviors since such behaviors can play role as a threat to job security and survival resources (Yi, & Wang, 2014).

In summary, Machiavellian leadership is positively and significantly associated with destructive organizational behaviors both directly and indirectly with the mediating role of job stress. Thus, proposed to managers and policy makers in organizations to provide educational plans and organize training workshops to identify signs of Machiavellian behaviors in managers, job stress, and destructive organizational behaviors, and to provide solutions to such problems. The study had some limitations. Since the education department of Sarbaz City provided the researchers only with information about the teachers' gender, they selected only based on gender. Other researchers are recommended to consider other demographic characteristics of teachers such as age, education level, education field, and management experience in future works. Another limitation was that the data collected only through questionnaires. Thus, given that the responses were self-reported, biases may have occurred despite ensuring the participants about the confidentiality of the data. In future studies, researchers are recommended to use qualitative tools such as interviews and document reviews. The other research limitation was that the study was geographically limited to a specific area of Iran. Views of teachers in Sarbaz City cannot be fully representative of teachers' views throughout the country, and this restricts the spatial generalization of the research. To increase the generalizability of the results, similar research should be conducted in other cities and on other teachers. It should also be acknowledged that the findings of the study are not fully definitive because the relationships found among the research variables cannot be considered as causal (cause and effect) relationships and are merely correlation.

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Validity and Reliability of Adolescents Academic Inertia Scale

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ABSTRACT

The aim of the current study is to conduct the validity and reliability studies of the Academic Inertia Scale for Adolescents (AAIS). Inertia is that occurs from not adapting to the current situation, lack of motivation, insufficient self-control and lack of socializing. It has been stated that living in inertia is a result of the individual's preferences. Increasing academic expectations from adolescents causes fatigue in this process. In order for the adolescents to receive effective psychological support, this state of exhaustion and neglect must be first detected, evaluated, and necessary support provided. Based on the relevant knowledge in the literature, this situation is to be first evaluated and then inertia considered. However, in the literature, to our best knowledge, there is no valid and reliable measurement tool to determine inertia in adolescents. The development of the academic inertia scale will be effective in identifying and evaluating the adolescents' situation and making more research on this subject. The study group of the current research is composed of a total of 410 students (234 females and 176 males) attending high school in Konya in 2019-2020 school year and selected through the convenience sampling method. The factor structure of the scale was investigated with explanatory and confirmatory factor analyses and a five-dimensional construct explaining 46.96% of the total variance was obtained and the fit of this construct was found to be good. In order to determine the reliability of the scale, internal consistency and test-retest reliability analyses were run and acceptable values showing that the scale is reliable were obtained. The findings of the current study was concluded that the Academic Inertia Scale for Adolescents is a reliable and valid scale that can be used in the process of determining the academic inertia level of high school students.

Keywords:
Adolescent, inertia, inertia scale.

1. Introduction

There is a decline in the fulfilment of school-related duties and responsibilities with the change of interests during adolescence, coinciding high school years, a period of transition from childhood into adulthood (Larson et al., 2002). Adolescents who experience intense stress and anxiety want to continue their childish life and try on the other to take on adult roles. There are various factors inside and outside school that contribute to the quality of academic performance of students. Moreover, increased academic expectations during this period may also lead to fatigue in adolescents (Faroog et al., 2011). Cognitive ability (Subotnik et al., 2011), motivation (Guay et al., 2008), and self-control (Kuhnle et al., 2012) are the important factors affecting the academic achievement of adolescents. An individual who is not actively pursuing a given task can have low momentum, and this condition is associated with inertia. The withdrawal of adolescents from academic activities during this period is considered to be explained with inertia (Deemer et al., 2019).

Inertia refers to the tendency of individuals to repeat the same actions, to live according to previous knowledge and experiences, and to be in a static mode (Pierce, Gardner, & Dunham, 2002: Cited Karayel, 2014). Students experience stress arising from the necessity to do some activities within a structured program for a specific

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educational purpose (Salanova et al., 2009). In this context, the planned, programmed, and compulsory uniform education program may also affect the inertia levels of the students.

Inertia is defined as using previously acquired knowledge and experience, indifference to changes, neglect of duties, and even laziness (Kinnear & Roodt, 1998). Inertia in physics means inactivity, not taking action in personal development towards a goal. The problem of people who dream for years to be successful, set goals, make plans but cannot take the first step is that they live in inertia (Sekman, 2007). People in inertia do not make the smallest attempt to do their responsibilities well. They do not follow publications related to their field, do not follow the latest developments and are indifferent and unwilling to fulfil their duties (Soysal, 2007). People in inertia tend to act generally slowly. Laziness, frustration, indolence and weariness are among the characteristics of inertia. People who experience inertia often postpone, make excuses, and behave reproachfully, recklessly, pessimistically, critically, and anxiously while performing a certain task. Therefore, their joy of life and energy for a living is low (Sekman, 2007).

Eymen (2007) defines inertia as a condition in people that occurs from adapting to the current situation and from insufficient motivation, self-control, empathy, and socializing. It has been stated that living in inertia is a result of the individual's preferences. However, the organizational climate and cultural factors in which individuals live in will also affect the inertia level of the individual (Şaştım, 2019 & Kutlu, 2004). As a part of the organization, students, just like the employees, are a part of the school where systematic reactions are expected from them on many issues at certain times and in a certain order. It is also possible for students to experience problems arising from the organizational structure of the school they are enrolled at. Therefore, motivation that affects organizational inertia (Bingöl, 1997) and organizational climate (Soysal, 2010) can also lead to inertia.

Bingöl (1997) stated that motivation affects the inertia level of individuals. Students' motivation decreases from time to time due to the educational duties and responsibilities encountered during the educational process. These may lead them to experience inertia. The formation of inertia in the school can be prevented with a positive school climate and communication between students, teachers, administrators, and parents (Soysal, 2010). As a part of the school climate, students may experience inertia depending on the school climate and the interaction among the entities forming that climate. The student's academic activities, main duties, and responsibilities may also be negatively affected by this situation. Students during their adolescent years are under pressure and stress due to their developmental tasks, emotional tides, relationships with family and friends, future expectations, career plans, and exam processes (Cırcır, 2018). As a result of these conditions, students may experience fear of uncertainty, difficulty in giving up negative habits, insecurity, and fear of making mistakes. These feelings and thoughts in individuals may result in inertia.

The study of academic inertia may explain how behavioral movement on academic tasks is engendered, which could further illuminate how and to what degree career-related interests and goals are pursued. However, because academic inertia is a newly proposed construct, there are currently no instruments designed to measure it. Therefore, measuring academic inertia in various states of psychological momentum may allow researchers to tap unique sources of variance that reflect heightened perceptions of competence and efficacy expectancies (Deemer et al., 2019). Studies on the concept of inertia are quite limited. Studies on inertia have generally been conducted related to organizational psychology. In the literature, to our best knowledge, there are no studies about a measurement tool to determine the inertia levels of adolescents.

Şaştım (2019) concluded that the relationship between inertia and burnout was moderate; male teachers, teachers who graduated from the faculties of education, classroom teachers, and graduate teachers experienced low levels of inertia and burnout. Çankaya and Demirtaş (2010) examined the relationship between university climate and inertia by referring to prospective teachers' opinions and concluded that the university climate significantly predicted the inertia level in terms of motivation and social opportunities in prospective teachers. Çankaya (2010) have considered the opinions and suggestions of primary school administrators for schools to cope with inertia. The research concluded a significant relationship between quick decision-making processes within the organization, access to new information resources, meeting members' needs quickly, effective cooperation in the social milieu, sustainable resources, and continuing success and inertia.

Increasing academic expectations from adolescents enrolled in the secondary education process during adolescence causes fatigue in adolescents. For the adolescents to receive effective psychological support, this state of exhaustion and neglect must be first detected, evaluated, and necessary support provided. Therefore, measuring academic inertia in various states of psychological momentum may allow researchers to tap unique sources of variance that reflect heightened perceptions of competence and efficacy expectancies. Based on the relevant knowledge in the literature, this situation is to be first evaluated and then inertia considered. However, in the literature, there is no valid and reliable measurement tool to determine inertia in adolescents to our best knowledge. The present study aims to solve this necessity and fulfil this gap in the relevant area. Hence, the validity and reliability studies of the developed Adolescents Academic Inertia Scale are conducted.

2. Method

2.1. The Study Group

The present study participants consisted of three different groups enrolled at various high schools within Konya Province. They took part in the study for the preparation of a scale to measure inertia experienced by adolescents. These study groups were determined using the convenient sampling method. The convenient sampling method enables the application of a questionnaire to the participants within the researcher's reach (Balcı, 2001). These study groups are given below.

2.1.1. The First Study Group: The first study group received the 60-item (out of the 63-item) Adolescent Academic Inertia Scale (AAIS); three items were removed in line with the views of specialists. A total of randomly selected 30 participants (19 females and 11 males) enrolled at different class levels at High Schools within the Konya district throughout the 2019-2020 academic year took part in the study. 8 (26%) students were 14; 13 (43.3%) students were 15, and 9 (30%) students were 16 years' old

2.1.2. The Second Study Group: In the second study group, the 60-item scale was administered to collect data about explanatory factor analyses of the Adolescents Academic Inertia Scale (AAIS). The application was carried out in two high schools in the city centre, which are easy to reach and have a large student group. The scale was applied to 473 students determined randomly enrolled at various high school classes. Among the scales applied, 63 with incomplete data and not answered attentively were excluded during the evaluation process. Of the remaining 410 participants, 234 were female, and 176 were male. 81 (19.7%) were 14; 207 (50.5%) were 15; 57 (13.9%) were 16, and 65 (15.9%) of them were 17 years old.

2.1.3. The Third Study Group: The 25-item scale was administered to the third group to collect data about confirmatory factor analyses of the Adolescents Academic Inertia Scale (AAIS). In addition, the Tuckman Procrastination Scale was applied to this group, and criterion-related validity was used with the data. The application was carried out in a high school in the city centre, which is easy to reach and has a large student group. The scale was applied to 351 students determined randomly enrolled at various high school classes. Among the scales applied, 6 with incomplete data and not answered attentively were excluded during the evaluation process. Of the remaining 345 participants, 182 were female, and 163 were male. 12 (%3,48) were 13; 68 (%19,7) were 14; 80 (%23,2) were 15, and 75 (%21,7) of them were 16 years old.

2.1.4. The Fourth Study Group: Data were collected twice at a four-week interval from a total of randomly determined 45 students (21 females and 24 males) enrolled at different classes in an Anatolian High School in Konya during the 2019-2020 academic year to determine the test-retest reliability coefficient of AAIS. 5 (11.1%) were 13; 19 (42.2%) were 14; 8 (17.8%) were 15, and 13 (28.9%) of them were 16 years old.

2.2. Data Collection Tools

2.2.1 The Tuckman Procrastination Scale

The Tuckman Procrastination Scale was developed to assess students' procrastination tendencies (Tuckman, 1991), and this scale was adapted to Turkish Culture by Özer, Saçkes, and Tuckman (2009). The Turkish scale has a single factor structure consisting of 14 items, which explains 44.26% of the total variance. The Turkish version of TPS with a new scoring system with a five-point Likert scale (1 = strongly agree, 2 = agree, 3 = unsure, 4 = disagree, 5 = strongly disagree) was used. Özer et al. (2013) reported that the internal consistency coefficient for the TPS was $\alpha = 0.90$, and 4 weeks' test-retest reliability correlation for the TPS was 0.80.

2.3. Procedure

During preparing the *Adolescents Academic Inertia Scale* (AAIS) items, national and international literature on inertia was examined; thus, the items were determined (Deemer et al., 2019; Sekman, 2007; Soysal, 2007). An item pool of 63 items, considered to be inertia related features, was determined. Four experts analysed these 63 items – 2 lecturers with a doctoral degree in educational management – 2 associate professors from guidance and psychological counselling. The AAIS was limited to 60 items in line with the feedback given by the experts and submitted to a Turkish Language expert for linguistic and comprehensibility evaluation. The necessary amendments were made based on the suggestions. Then a pilot study was conducted. In this study, adolescents were asked to answer the questions through the researcher, and they were asked to mark items that they found difficult to understand or found meaningless. Reports were received from 30 adolescents. Since there was no unclear item, the 60-item scale was prepared for use as a draft scale. The main AAIS application was conducted throughout the 2019-2020 academic year to 410 volunteering students. The scale was applied in 40 minutes, which is approximately one class period. Before the AAIS administration, the researcher provided the necessary information on how to fill out the scale and its purpose. Subsequently, the AAIS was applied to the volunteering students. The authors declare that they have carried out the research within the framework of the Helsinki Declaration and with the participation of volunteer students. Informed consent was obtained from all individual participants included in the study. All participants were debriefed in the research process.

2.4. Data Analysis

Confirmatory factor analysis was conducted to test whether the explanatory and related variables will provide the expected outcomes on the factors determined to evaluate the factor structure of the AAIS (Sümer, 2000). For the scale's construct validity, data obtained from 410 students attending high schools in Konya were used. The Cronbach Alpha internal consistency coefficient was determined within the scope of the reliability studies of AAIS. Moreover, the test-retest reliability of the AAIS was determined based on the administration of the scale to 50 students enrolled at a four-week interval and calculated using the data obtained. SPSS-22 and Lisrel 8.71 programs were used to evaluate the data obtained in the present study. The significance threshold level in the present study was considered to be $p < .001$.

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: Mehmet Akif Ersoy University Ethics Committee. Date of Ethics Evaluation Decision: 07.07.2021 Ethics Assessment Document Issue Number: GO 2021/285

3. Findings

The statistical processes administered to the study groups' data are presented in this section of the study.

3.1. Findings Related to the Validity Study of the Adolescents Academic Inertia Scale (AAIS)

Explanatory Factor Analysis

Within the scope of validity studies of AAIS, scope validity and structure validity were studied. Four experts were consulted for content validity. 63 items were written for the first trial version of AAIS, and thus an item pool was created. The 63-item AAIS was examined by four experts related to inertia, and their feedback was considered. Therefore, in line with the feedback provided by the experts, five items were removed, and two items were added to AAIS before it was piloted with 30 students. The pilot study result has shown that the items of the scale were understandable. Subsequently, AAIS was administered to a study group of 410 students for explanatory factor analysis for the main study. The sufficiency of the data for factor analysis was examined using the Kaiser-Meyer-Olkin (KMO) Coefficient and Barlett test. A high KMO value means that other variables can perfectly predict each variable in the scale. It is stated that if the KMO value is lower than .50, explanatory factor analysis cannot be performed (Çokluk et al., 2012). The results of the tests have shown that the KMO value for AAIS was .809, and the Barlett test (2657,319; $p = 0.00$) is also statistically significant. The first analysis showed that the scale was distributed to 24 factors with an eigenvalue greater than one. Furthermore, 35 items with factor loads below .40 or close to each other in more than one factor were removed.

The remaining items were analysed again with the Promax Rotation Technique. As a result of this analysis, five factors considered to be conceptually appropriate were determined, and the scale items were decreased to 25. Five factors in the obtained eigenvalue graph are evaluable (Figure 1 below).

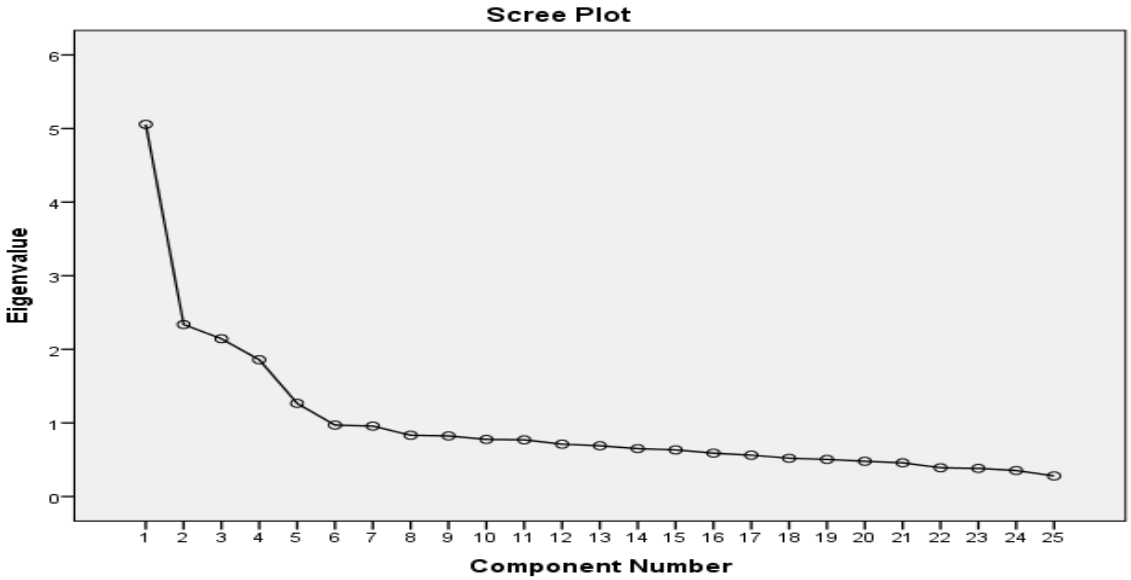

Figure 1. *Explanatory Factor Analysis Eigenvalue Graphic (Scree Pilot)*

As in Figure 1, there are five factors with sudden decreases in the eigenvalues of the factors. There is a steep decline from the first factor and a less steep decline after the second, third, fourth, and fifth factors. Since there were no rapid decreases in the following factors, AAIS is considered to have five factors. As a result of the explanatory factor analysis, five factors were determined to meet the necessary criteria. The items included in each factor were examined in terms of content. The factors were named based on the knowledge in the literature related to inertia.

Table 1. *Sub Factors and Item Factor Loads According to Explanatory Factor Analysis*

Items	Factor 1 Planned Work	Factor 2 Fear of Failure	Factor 3 Procastination	Factor 4 Family Support	Factor 5 School Burnout
m1	,693				
m2	,707				
m3	,776				
m4	,755				
m5		,635			
m6		,821			
m7		,624			
m8		,516			
m9			,777		
m10			,565		
m11			,660		
m12			,648		
m13			,633		
m14				,466	
m15				,685	
m16				,755	
m17				,742	
m18				,739	
m19				,569	
m20				,582	
m21					,647
m22					,657
m23					,781
m24					,850
m25					,497

Accordingly, four factors referring to planned study are labelled Planned work (PW), four items indicating anxiety about failure are labelled as Fear of Failure (FF), five items referring to procrastination are labelled as Procrastination (P), seven factors referring to family support are labelled as Family Support (FS), and the five factors referring to school-related burnout were named School Burnout (SB). It was seen that the items included in the analysis had five factors with eigenvalues greater than one. The total variance rate explained by these five factors is 50.65%. 7.43% of the total variance consisted of Planned Study, 5.06% of Fear of Failure, 8.58% of Procrastination, 20.23% of Family Support, and 9.35% of School Burnout.

On examining Table 1, it can be seen that the item load values of the first factor (PW) range between .693 and .776, of the second factor (FF) between .516 and .821, of the third factor (P) between .565 and .777, of the fourth factor (FS) between .466 and .755, and the fifth factor (SB) between .497 and .850. It can be seen that the total item factor load values of AAIS range between .466 and .850. Tabachnick and Fidell (2001) stated that item factor load values should be higher than .32 during the scale development process. In line with these values obtained, it can be said that the item factor load values of all five-factor structures of the scale are sufficient.

Confirmatory factor analysis

Confirmatory factor analysis (CFA) aims to assess how the factors formed from many variables are consistent with the real data by getting support from the theoretical infrastructure. With CFA, statistical data regarding what extent the model put forward regarding the relationships between factors fit the observed data can be reached (Sümer, 2000). CFA is a specially constructed form of the Structural Equation Model (SEM) (Fayers & Hand, 1997) and provides evidence to determine the construct validity of the scale (Lewis, Francis, Shevlin, & Forrest, 2002; McIntire & Miller, 2000).

Confirmatory factor analysis (CFA) was conducted to test the structural validity of AAIS. In this process, data obtained from the second research group were employed. In the model, the hypotheses that items will be represented by five factors and that four items will be categorised under 'planned study', four under 'fear of failure', five under 'procrastination', seven items under 'family support', and five items under 'school burnout' have been confirmed. When Figure 2 below is examined, it can be seen that the chi-square value of the confirmatory factor analysis (CFA) index is $X^2 = 620.58$. Since the chi-square statistic is affected by the sample size (Brown, 2006), the chi-square value is evaluated by dividing it by the degree of freedom. The value below 3 is considered an indicator of a good fit (Schumacher and Lomax, 2004). It is seen that the chi-square value of AAIS is (X2 = 620,58, sd = 270, p = .000; X^2 / df = 620,58 / 270 = 2,29; 2,29 <3.0) and hence statistically significant.

According to the CFA result, the fit indices of the model are RMSEA = 0.061, GFI = 0.87, AGFI = 0.85, CFI = 0.95, NNFI = 0.95, RMR = 0.012 and SRMR = 0.0072'. Among these indexes mentioned above, RMSEA and RMR are expected to give values close to 0 and values equal to, or less than 0.05 indicate a very good fit. Values below 0.08 and 0.10 can be accepted considering the model's complexity (Sümer, 2000). SRMR's being less than 0.08 indicates an acceptable fit (Hu & Bentler, 1999). It can be said that the model tested here has an acceptable level of compliance because it consists of a multidimensional structure and the RMSEA is less than 0.05, and the RMR and SRMR values are between 0.05 and 0.10.

GFI, another index indicating fit, reveals the obtained factors' similarity to the theoretically suggested factors and has been developed to evaluate the fit independently from the sample size. Schumacher and Lomax (2004) stated that a GFI value of .85 and above indicates a very good fit, and a fit between 0.90-0.95 indicates a satisfactory fit. Since Schermelleh-Engel, Moosbrugger, and Müler (2003) stated that an AGFI fit index above 0.90 is a good fit and 0.85-0.90 is an acceptable fit, GFI (0.91) and AGFI (0, 89) values can be said to be acceptable for AAIS compliance.

CFI and NNFI values, which are the incremental fit indices, indicate a very good fit, and between 0.90-0.95 indicates an acceptable fit (Gypsy & Gerard, 2002; Sümer, 2000). According to CFI (0.94) and NNFI (0.93) values calculated in this study, it was understood that the model had an acceptable level of fit. When fit indices

were examined, all indicators showed a fit between the model and the observed data. The findings obtained from the Confirmatory Factor Analysis showed that the model fit of the AAIS was sufficient.

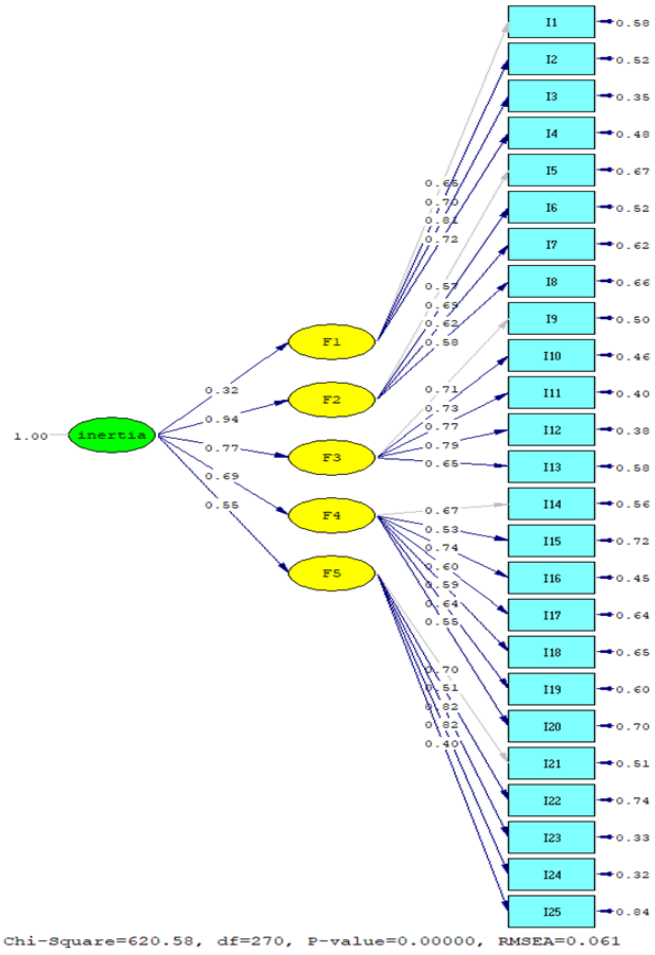

Figure 2. *Confirmatory Factor Analysis*

As a result of the second level DFA, no modification was made because the model fitted well. As shown in Figure 2, the factor loads of the model range from .35 to .58 for the planned work sub-dimension, between .52 and .67 for the fear of failure sub-dimension, between .38 and .58 for the procrastination sub-dimension, between .56 and .72 for the family support sub-dimension, and between .32 and .84 for the school burnout sub-dimension. After the standard solutions, the t-values between the factors and the items were checked, and it was determined that there was no red arrow. Joreskog and Sörbom (1996) state that the absence of a red arrow related to the t-value is significant at the .50 level for all items. In this context, it can be said that all the scale items gave a significant result at the .50 level.

Criterion-Related Validity

The correlation between the Tuckman Academic Procrastination Scale was examined to examine the criterion-related validity of the Academic Inertia Scale in Adolescents, and the results are presented in Table 2 below.

Table 2. *Correlation Values Between Inertia and Academic Procrastination*

	1	2	3	4	5	6	7
1-Planned work	1						
2-Fear of failure	,419**	1					
3-Procrastination	,354**	,500**	1				
4-Family Support	,353**	,569**	,410**	1			
5-School burnout	,243**	,307**	,384	,379**	1		
6-Academic Inertia	,606**	,761**	,759**	,774**	,671**	1	
7-Academic Procrastination	,487**	,562**	,798	,451**	,438**	,766**	1

***p<.01*

When Table 2 is examined, the Tuckman Academic Procrastination Scale scores and Adolescent Academic Inertia Scale's total score and procrastination sub-dimension have a high and strong positive correlation. It is seen that the Academic Inertia Scale for Adolescents has a moderate positive correlation with the Planned Study, Fear of Failure, Family Support, and School Burnout sub-dimensions

3.2. Findings Related to The Reliability Study of the Adolescents Academic Inertia Scale (AAIS)

To determine the reliability level of the scale, Cronbach Alpha, item-total and item-remainder correlation, independent groups t-test, test-retest correlation, and dependent groups t-test analyses between the upper 27% and lower 27% groups were performed. The "Cronbach alpha reliability coefficient" is widely used to determine the reliability of the scales used to measure psychological characteristics. The alpha coefficient method, which Cronbach developed in 1951, is an internal consistency estimation method that is convenient when the items are not scored as true-false (two-state dichotomous) and ordinally scored such as 1-3, 1-4, 1-5. The Cronbach alpha coefficient is a weighted standard average of change found by proportioning the total variances of k items in the scale to the general variance (Dawson, 2004; Haladyna, 1999)

Within the scope of the reliability studies of the scale, the item-total correlation and item-remainder correlation of the scale were calculated after the Cronbach's alpha internal consistency coefficient. Item-total correlation explains the relationship between the scores obtained from the items in the measurement tool and the total score. The fact that the item-total correlation is high and positive indicates that the items in the measurement tool exemplify similar behaviors, and the scale's internal consistency is high. It is also stated that the item-total correlations of 0.30 and above will be sufficient for the items in the measurement tool and that the items with these values are good (Büyüköztürk, 2017; Tavşancıl, 2002). The findings of the item-total correlation and item-remainder correlation of the scale are presented in Table 3 below.

Table 3. *Item-Total Correlation and Item-Remaining Correlation Values of Academic Inertia Scale for Adolescents*

Item number and ıts' factor		Item-total corelation (r)	Item-remainder corelation (r)	Item number and its' factor		Item-total corelation (r)	Item-remainder corelation (r)
1		,685**	,454**	14		,629**	,452**
2	Planned Work	,741**	,508**	15		,640**	,499**
3		,772**	,562**	16	Family	,709**	,592**
4		,750**	,510**	17	Support	,709**	,570**
5		,694**	,441**	18		,682**	,546**
6	Fear of failure	,765**	,542**	19		,677**	,510**
7		,636**	,364**	20		,617**	,457**
8		,742**	,473**	21		,719**	,523**
9		,676**	,480**	22		,649**	,438**
10		,665**	,441**	23	School	,776**	,617**
11	Procrastination	,720**	,524**	24	Burnout	,793**	,635**
12		,732**	,544**	25		,584**	,359**
13		,639**	,400**				

***p<0.01*

When Table 3 is examined, the item-total correlations of the Planned Study sub-dimension are between r=.685 and r=.772. The item-total correlations of the items in the Fear of Failure sub-dimension are between r=.636 and r=.765. The item-total correlations of the items in the Procrastination sub-dimension are between r=.685 and r=.772. Item-total correlations of items in the Family Support sub-dimension are between r=.617 and r=.709.

Finally, the item-total correlations of items in the School Burnout sub-dimension are between r=.584 and r=.793. It is seen that the item-total values are significant at the .001 level. Considering that 0.30 and above are acceptable values for item-total correlation by Büyüköztürk (2017) and Tavşancıl (2002), it can be said that all 18 items in the scale are above the desired item-total correlation value and representing good items.

While calculating the item-remainder correlation coefficient, the item-remainder value was found by subtracting the item's score from the scale score. The correlation coefficients obtained were tested whether they were significant or not. Accordingly, the item-remainder correlations of the items in the Planned Study sub-dimension are between r=.454 and r=.562, between r=.364 and r=.542 in the Fear of Failure sub-dimension, between r=.454 and r=. in the Procrastination sub-dimension, between r=.400 and r=.544, between r=.452 and r=.592 in the Family Support sub-dimension, and between r=.359 and r=.617 in the School Burnout sub-dimension.

The total scores of the 410 students who make up the second study group were ranked from largest to smallest to reveal the distinctive features of each of the five factors that make up the scale. Then, the lower and upper 27% groups were determined according to this order. Independent group t-test analysis was performed to determine whether there is a difference between the arithmetic mean scores of the adolescents in the lower and upper 27% of the study group. Analysis results are presented in Table 4 below.

Table 4: *T-Values between Lower and Upper Group Means of Academic Inertia Scale for Adolescents*

Factor	Group	n	Mean	ss	t	sd	p
Planned work	Üst	111	3,18	,29	5,960	220	.000
	Alt	111	1,75	,23			
Fear of failure	Üst	111	2,23	,80	17,205	220	.000
	Alt	111	1,67	,58			
Procrastination	Üst	111	3,46	,81	16,142	220	.000
	Alt	111	1,74	,67			
Family Support	Üst	111	3,79	,71	16,354	220	.000
	Alt	111	2,32	,64			
School Burnout	Üst	111	2,71	,87	19,275	220	.000
	Alt	111	1,27	,31			
Inertia Total	Üst	111	3,69	,79	40,734	220	.000
	Alt	111	1,92	,56			

p<0.01

For "item analysis based on the difference between lower and upper group means", for each item, the t-value of the difference between the mean attitude scores of the upper and lower groups was calculated. The difference between the upper and lower groups according to all sub-dimensions of the scale and total average scale scores was significant at the 0.01 level for all items.

Test-retest analysis was used to determine the stability of the scale. The test-retest application was applied to 43 students at four-week intervals. In Table 5 below, the test-retest correlation coefficients and the findings related to the dependent groups t-test are given.

Table 5. *Test-Retest Reliability Coefficients of AAIS and Dependent Groups t-test results*

Factors of AAIS	Group	n	r	p	Mean	Ss	t	sd	p
Planned Work	Pretest	43	,83	.000	3,8953	,73443	-,393	42	,697
	Posttest	43			3,9244	,86866			
Fear of failure	Pretest	43	,64	.000	2,1395	,85618	3,477	42	,001
	Posttest	43			1,7791	,73438			
Procrastination	Pretest	43	,79	.000	2,4186	,86279	1,721	42	,093
	Posttest	43			2,2605	,97934			
Family support	Pretest	43	,80	.000	1,3123	,38213	,272	42	,787
	Posttest	43			1,3023	,38460			
School burnout	Pretest	43	,63	.000	1,9023	,65665	-1,953	42	,058
	Posttest	43			2,0837	,73967			
Total score	Pretest	43	,77	.000	2,1972	,38171	1,226	42	,227
	Posttest	43			2,1460	,41467			

For the test-retest reliability of AAIS, data were collected twice at a four-week interval from 43 students enrolled at three different High Schools. The test-retest reliability coefficient obtained for AAIS was .83 for the Planned Study subscale; .64 for the Fear of Failure sub-dimension; .79 for the Procrastination subscale, .80 for the Family Support subscale; .63 for the School Burnout sub-dimension, and 0.77 for the whole AAIS. The reliability coefficient obtained is at an acceptable level. As a result of the dependent groups t-test performed between the factors and the total score, there is no significant difference at the .05 level, except for the fear of failure.

4. Discussion, Results and Suggestions for Further Study

Academic inertia is a newly proposed construct; studies on the concept of inertia are quite limited. The study of academic inertia may explain how behavioural movement on academic tasks is engendered, which could further illuminate how and to what degree career-related interests, goals and academic performance are pursued (Deemer et al., 2019). The development of the academic inertia scale will effectively identify and evaluate the adolescents' situation and make more research on this subject. The current study aims to conduct the validity and reliability studies of the Academic Inertia Scale for Adolescents (AAIS). Nonetheless, the current scale also incorporates measuring dimensions of academic inertia that may include planned work, fear of failure, procrastination, family support, and school burnout.

A confirmatory factor analysis (CFA) was conducted to determine whether the five-factor and 25-item scale obtained with explanatory factor analysis (EFA) constitute a compatible model. Findings obtained from the Confirmatory Factor Analysis have verified the five-factor model of AAIS was sufficient. The correlation between the Tuckman Academic Procrastination Scale was examined to examine the criterion-related validity of the Academic Inertia Scale in Adolescents. Tuckman Academic Procrastination Scale scores, Adolescent Academic Inertia Scale's total score, and the procrastination sub-dimension have a high and strong positive correlation. Independent groups t-test, test-retest correlation, and dependent groups t-test analyses between the upper 27% and lower 27% groups were performed to determine the reliability level of the scale, Cronbach Alpha, item-total and item-remainder correlation. When EFA, CFA, and reliability studies were evaluated, it was determined that the Adolescents Academic Inertia Scale was a valid and reliable scale to determine the inertia levels of adolescents.

As a result of this study, the 25-item AAIS was developed. It consists of five sub-dimensions: Planned Study, Fear of Failure, Procrastination, Family Support, and School Burnout. The lowest score that can be obtained from this scale is 25, and the highest score is 125. While high scores in the Fear of Failure, Procrastination, Family Support, and School Burnout sub-dimensions indicate high inertia levels, low scores in the planned study sub-dimension indicate an increasing level of inertia. There are four items on the scale, items 1, 2, 3, and 4, which are scored reverse. As a result of this study, it was determined that the Adolescents Academic Inertia Scale, which consists of five sub-dimensions and 25 items, is a valid and reliable measurement tool.

It appears that inquiries into the influence of academic inertia may also hold promise for developing interventions aimed at helping students overcome academic and career obstacles. Based on these results, the following recommendations for researchers and those who will administer AAIS are made.

- Future research would do well by further exploring the task-dependent nature of academic inertia.

-Using the scale in studies that include different samples and students at different educational levels such as primary school, middle school, and university.

- It is recommended that school psychological counsellors determine the inertia level of the students with AAIS and carry out activities that will take measures to mobilise the students and reduce their inertia levels.

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	ERGENLERDE AKADEMİK ATALET ÖLÇEĞİ(EAAÖ)					
	Aşağıdaki her bir cümle sizin için: " Hiç uygun değil" ise 1 " Pek uygun değil" ise 2 " Biraz uygun" ise 3 " Çoğunlukla uygun" ise 4 " Tamamen uygun" ise 5 seçiniz.	**Hiç uygun değil**	**Pek uygun değil**	**Biraz uygun**	**Çoğunlukla uygun**	**Tamamen uygun**
1	Geleceğe yönelik planlama(üniversite, meslek ,iş vs.)yaparım.	1	2	3	4	5
2	Geleceğe yönelik beklentilerime ulaşabileceğime inanırım.	1	2	3	4	5
3	Geleceğe yönelik ulaşılabilir planlarım var.	1	2	3	4	5
4	Geleceğe yönelik somut planlarım var.	1	2	3	4	5
5	Derslerime planlı çalışsam da başarılı olamayacağımı düşünüyorum.	1	2	3	4	5
6	Yanlış yapma korkusuyla yapabileceğim şeyleri bile yapamıyorum.	1	2	3	4	5
7	Ailemin benden beklentilerinin yüksek olmasından dolayı başarısız olma korkusuyla ders çalışamam.	1	2	3	4	5
8	Küçük düşürülme korkusuyla derslere katılmam.	1	2	3	4	5
9	Yaptığım planlara uymakta güçlük yaşarım.	1	2	3	4	5
10	Derslerime nasıl çalışmam gerektiğini bilmiyorum.	1	2	3	4	5
11	Ders çalışmaya başladığımda farklı düşüncelere kapılıp odaklanamam.	1	2	3	4	5
12	Ders çalışmak için program yapmama rağmen genellikle yorgun hissedip çalışmayı bırakırım.	1	2	3	4	5
13	Teknolojik aletlere olan ilgimdendolayı derslerime çalışmak için zaman bulamam.	1	2	3	4	5
14	Ailemin baskısından dolayı derslerime çalışmak istemem.	1	2	3	4	5
15	Ailem ev işlerine yardımcı olmamı istediği için yeterince çalışmam.	1	2	3	4	5
16	Ailemin benimle ilgilenmemesinden dolayı ders çalışmam.	1	2	3	4	5
17	Aile içinde yaşanan şiddet nedeniyle derslerime odaklanamam.	1	2	3	4	5
18	Aile içinde yaşanan huzursuzluk nedeniyle derslerime odaklanamam.	1	2	3	4	5
19	Ailemin bana olan inancının düşük olmasından dolayı motivasyonum düşer.	1	2	3	4	5
20	Maddi imkansızlıktan dolayı verimli ders çalışma ortamına sahip değilim.	1	2	3	4	5
21	Okula devam zorunlu olmasa okula düzenli gitmem.	1	2	3	4	5
22	Okul ve ödevlerin yoğunluğundan bitkinim.	1	2	3	4	5
23	Okula gitsem de olur gitmesem de olur.	1	2	3	4	5
24	Okula gitmek bana çok gereksiz geliyor.	1	2	3	4	5
25	Ne kadar plan da yapsam her şey olacağına varır.	1	2	3	4	5

	Adolescents Academic Inertia Scale (AAIS)					
	Considering each of the sentences below is: " Not appropriate at all" choose 1 " Quite not appropriate" choose 2 " Somewhat appropriate " choose 3 " Mostly appropriate" choose 4 " Totally appropriate ″ choose 5.	Not appropriate at all	Quite not appropriate	Somewhat appropriate	Mostly appropriate	Totally appropriate
1	I make plans for the future (university, profession, job, etc.).	1	2	3	4	5
2	I believe that I can achieve my expectations in future.	1	2	3	4	5
3	I have achievable plans for the future.	1	2	3	4	5
4	I have concrete plans for the future.	1	2	3	4	5
5	I think that I won't succeed despite planned studying for my classes.	1	2	3	4	5
6	I can't do the activities that I can do because of the fright of doing wrong.	1	2	3	4	5
7	I can't study because of the high expectations of my family from me.	1	2	3	4	5
8	I can't join the classes because of being humiliated.	1	2	3	4	5
9	I have problems in following the plans that I have had made.	1	2	3	4	5
10	I don't know how to study for my classes.	1	2	3	4	5
11	I can't focus on my classes since I am lost in thoughts when I begin studying for my classes.	1	2	3	4	5
12	Although I have plans to study for my classes, I generally feel tired and quit studying.	1	2	3	4	5
13	I do not have the time to study for my classes due to my interest in technological devices.	1	2	3	4	5
14	I don't want to study because of the pressure of my family.	1	2	3	4	5
15	I can't study enough because my family wants me to help in the household chores.	1	2	3	4	5
16	I don't study because of the disinterest of my family in my doings.	1	2	3	4	5
17	I can't focus on my classes because of the violence experienced in my family.	1	2	3	4	5
18	I can't focus on my classes because of the unrest experienced in my family.	1	2	3	4	5
19	My motivation drops since my family does not believe in me.	1	2	3	4	5
20	I don't have a futile working environment because of financial needs.	1	2	3	4	5
21	If school would not be compulsory, I would not attend school regularly.	1	2	3	4	5
22	I am exhausted because of school and homework.	1	2	3	4	5
23	It would not make a difference If I would go to school or not.	1	2	3	4	5
24	Going to school seems to me as useless.	1	2	3	4	5
25	Regardless of how much I plan, everything turns out to be as destined.	1	2	3	4	5

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Cyber Bullying and Victimization among University Students*

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ABSTRACT

The study aimed to reveal the prevalence of cyber bullying and victimization among university students and to analyze whether levels of cyber bullying and victimization in students can be differentiated according to the level of problematic Internet use. Moreover, the study intended to examine the relationships between gender, year level, and level of income and cyber bullying and victimization. The team recruited 863 university students enrolled at different departments of Ege University, during academic year 2017–2018. The Revised Cyber Bullying Inventory, Problematic Internet Usage Scale (PIUS), and Demographic Information Form were used for data collection. Multiple linear regression analysis and the Kruskal–Wallis H-test were used for data analyses. Results indicated that cyber bullying and victimization are common problems among university students with prevalence rates of 57% and 68%, respectively, among students in the current sample. The findings demonstrated that levels of cyber bullying and victimization differed based on gender and level of income. However, no significant relationship was observed with year level. Additionally, the "negative consequences of the Internet" and "social comfort," which are two subscales of PIUS, predicted the prevalence of cyber bullying and victimization. Excessive usage, the third subscale, did not predict any variable. Considering the findings obtained from this study, further research on university students and adults is suggested. Moreover, preventive measures to secure the Internet should be considered to prevent cyber bullying. Specifically, developing intervention programs for cyber victims is necessary to mitigate the negative effects.

Keywords:
Cyber bullying, cyber victimization, problematic Internet use, gender differences

1. Introduction

In recent years, large audiences have used electronic devices with the rapid advancement of technology. Especially, communication tools that provide Internet access have become an important part of life. The Internet, which is one of the most important means of communication, is used by 59% of the world population. Moreover, this rate can reach 95% in developed countries (Internet World Stats, 2022). The advantages of the Internet play an important role in such intensive use. The Internet facilitates life in many aspects, such as communication, business, and shopping. Despite these conveniences, limited control in the virtual environment creates certain disadvantages and leads to the problematic use of the Internet. One of the harmful activities caused by such disadvantages is cyber bullying, where traditional bullying takes place in the virtual world (Aricak, 2009).

Cyber bullying, which typically occurs on websites and social media platforms, causes problems, such as fear, sadness, anger, self-harm, academic failure, and low self-esteem in victims (Kalender et al., 2019). Cyber bullying and victimization are widely noted among young people. Particularly, university students are at a risky position for cyber bullying as they can easily access the Internet and communicate more in the virtual environment compared with other age groups due to the frequent use of smart-phones, computers, and the

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Internet (Young, 2004; Qudah et al., 2020). Therefore, addressing the cyber bullying experiences of university students with a consideration of possible negative consequences is necessary. In addition, examining problematic Internet use, which is deemed related to cyber bullying and victimization, is expected to contribute to the understanding of cyber bullying.

Theoretical framework: Cyber bullying and victimization

Hinduja and Patchin (2008) defined cyber bullying as damaging behavior conducted deliberately and repetitively through electronic texts, whereas Cénat et al. (2021) pertains to cyber victimization as being intentionally harmed by others through communication technologies. Shariff (2005), who described cyber bullying as a covert form of bullying through communication, stated that cyber bullying has three main features:

- Anonymity (being able to hide the identity of the bully);
- Large numbers of people can participate in bullying;
- Frequent involvement of sexual harassment.

Various studies have focused on cyber bullying as it poses risks to individuals from all age groups. Such studies have revealed that cyber bullying and victimization range between 1.2% and 58% and between 1% and 68%, respectively, in terms of frequency (Leung et al., 2018; Kowalski et al., 2019). Although the findings in the literature regarding the prevalence of cyber bullying by gender are inconsistent, one of the frequent conclusions is that males are more likely to conduct cyber bullying (Qudah et al., 2019), whereas females are more likely to experience cyber victimization (Heiman & Olenik-Shemesh, 2015).

Behaviors related to cyber bullying lead to serious psychological, social, and emotional impacts on victims. Being a victim in the virtual environment can result in low levels of self-esteem, depression, anxiety, and loneliness (Beran & Li, 2005; Hinduja & Patchin, 2009). Furthermore, the negative effects of cyber bullying are not only limited to the psychological and emotional dimensions but can also lead to behavioral changes in victims. Various studies indicate that cyber victims incur more absences in school (Bauman & Newman, 2013), use more alcohol and cigarette (Mesch, 2009), drop out and bring guns to school (Ybarra et al., 2007), and commit suicide (Kirby, 2008). Moreover, not only victims but also individuals who engage in cyber bullying and witness such incidents can face negative consequences (Kalender et al., 2019). As in the current study, in studies investigating cyberbullying among Turkish university students, Akbulut and Eristi (2011) concluded that males do more cyberbullying. Turan et al. (2011) found that 59.8% of university students were exposed to cyberbullying.

Problematic internet use

The compulsive use of the Internet in a manner that leads to conflicts in important aspects of life and difficulty in establishing limitation on its use is referred to as problematic Internet use (Kim & Davis, 2009). Individuals with this tendency frequently overuse the Internet, want to increase usage time, and thus face negative consequences. Social isolation, academic failure, and physical and mental fatigue are a few examples of such outcomes (Block, 2008). The Internet provides facilities in daily life, presents opportunities for communication, and is easily accessible, which thus increases time spent online, which is effective in making users dependent on the Internet. Such conveniences and social life render university students one of the groups most at risk to Internet addiction (Ceyhan, 2010). In the literature, the prevalence of problematic internet use varies between 1% and 55% (Sayeed et al., 2021). Studies noted the damaging effect of problematic internet use on mental health (Lam, 2014) and academic performance of youngs (Khan et al., 2016).

In summary, cyber bullying has posed risks to all Internet users and has been particularly prevalent among the youth. Research on cyber bullying has been conducted mainly on students in the middle and high school levels (Kowalski et al., 2019). Therefore, the experiences of university students with cyber bullying, which is one of the groups most at risk for problematic Internet use, have gained importance. As it reveals the level of cyberbullying among university students, it is considered that this study will shed light on the intervention programs to be developed. Against this background, the current study aims to investigate the prevalence of cyber bullying and victimization among university students and to analyze whether the levels of the two concepts experienced by students differ according to the level of problematic Internet use. Another objective

of the study is to examine the relationships between gender, year of study, and level of income and cyber bullying and victimization. In this context, the study aims to answer the following questions:

a) What are the prevalence rates of cyber bullying and victimization among university students?
b) Can the level of problematic Internet use predict cyber bullying and victimization occurrence among students?
c) Do the level of cyber bullying and victimization among university students vary by gender, grade level, and income level (that of the parents)?

2. Methodology

2.1.Research Design

The study is descriptive in nature, that is, it intends to reveal the current situation of a subject. The correlational survey method was used to obtain quantitative data.

2.2. Research Sample

The study recruited students from Ege University during academic year 2017–2018. The stratified sampling method was used for selection. First, participants from various academic fields, such as Educational Sciences, Health Sciences, Social Sciences, and Natural Sciences were considered for selection. Afterward, the cluster sampling method was used to select the departments. According to the ratios of academic departments in the university, 297, 116, 129, 170, and 151 students were selected from the Department of Literature, Department of Education, Department of Science and Pharmacy, and Department of Engineering, respectively. A total of 863 students volunteered (after excluding 82 with missing or incorrectly answered items). The respondents were grouped according to gender (female = 634 [73%]; male = 229 [27%]), year level (first year = 226 [31%]; second year = 194 [22%]; third year = 214 [25%], fourth year = 189 [22%]); and income level (low = 63 [8%], medium = 758 [87%], and high = 42 [5%]).

2.3. Data Collection Tools and Procedure

Revised Cyber Bullying Inventory (RCBI):Erdur-Baker and Kavşut (2007) first developed the inventory, which was later revised by Topcu and Erdur-Baker (2010). The study on the validity and reliability of the scale was conducted on 358 participants with ages ranging from 13 to 21 years. The inventory, which consists of two parallel forms, namely, cyber bullying and victimization, features 14 items each for both forms (a total of 28 items) and is rated using a four-point Likert-type scale. The lowest score for both forms is 14, whereas the highest score is 56. High scores in the cyber bullying and victimization forms indicate frequent cyber bullying behaviors and frequent exposure to cyber bullying, respectively. The cyber bullying form is collected under a single factor, and the factor loadings of the items vary between.28 and.83. The cyber victimization form is collected in the same manner, and the factor loadings of the items vary between.21 and.78. The internal consistency coefficients for reliability were.82 and.75 for cyber bullying and victimization, respectively.

Problematic Internet Usage Scale (PIUS): The scale was developed by Ceyhan et al. (2007). The measurement tool aims to determine the level of problematic Internet use among university students and includes 33 items rated using a five-point Likert-type scale. The study on its validity and reliability was conducted on 1,658 university students. The scale comprises three sub-dimensions, namely, "negative consequences of the Internet," "social benefit/comfort," and "excessive use." The three factors explained 25.36%, 14.62% and 8.98% of the total variance. Taken together, the factors explained 48.96% of the total variance. It was found that the scale was able to discriminate problematic internet use concerning the time spent on the internet and individuals' perception of themselves as internet addicts. The internal consistency coefficient of the scale was 0.95. Specifically, the internal consistency coefficients of the three factors were calculated as 0.94, 0.85, and 0.75, respectively.

Demographic information form: The researcher prepared the form with nine questions that gather information on the demographics of the participants.

Process: Within the scope of the research, permission was obtained from the authors of the scales used, and approval of the study protocol was granted by the Ethics Committee of the university. Thereafter, RCBI, PUIS, and the Demographic Information Form were administered to the participants. Before administration, the

researcher introduced himself to the students and informed them about the data collection tools. The students were verbally reminded that participation is voluntary. Questions about the tools were answered during the administration. The scales took approximately 25 min to complete.

2.4. Data Analysis

Multiple linear regression analysis and multivariate analysis of variance (MANOVA) were used for data analysis. Prior to MANOVA, the homogeneity of variances was tested using Levene's test, whereas the equality of variance-covariance matrices were tested with Box's M-test. The conditions of MANOVA, which is a parametric type of test, were unmet. Thus, a non-parametric version (the Kruskal–Wallis test) was applied. Furthermore, the Mann–Whitney U-test was used to determine the source of differences. Multiple linear regression analysis was used to analyze problematic Internet use, which is an independent variable.

3. Findings

The findings were categorized according to the abovementioned research questions. Accordingly, descriptive statistics of the data was first presented followed by the findings on the prevalence of cyber bullying among university students. Table 1 provides the minimum and maximum values, means, and standard deviations of the scores.

Table 1. *Minimum and Maximum Values, Means, and Standard Deviations*

Scales	n	Min.	Max.	$\bar{X}$	SD
RCBI—Cyber Bullying	863	14.00	53.00	17.33	5.23
RCBI—Cyber Victimization	863	14.00	47.00	18.46	5.73
Problematic Internet Use					
Negative Consequences of the Internet	863	17.00	85.00	31.35	12.58
Social Benefit/Comfort	863	10.00	50.00	19.11	7.74
Excessive Use	863	6.00	30.00	20.22	5.12

Table 1 indicates that the respondents reached an average of 17.33 for cyber bullying and 18.46 for cyber victimization. In other words, the participants have higher cyber victimization scores than cyber bullying. For the PIUS, the average scores are 31.35 (±12.58), 19.11 (±7.74), and 20.22 (±5.12) for the negative consequences of the Internet, social benefit/comfort, and excessive use, respectively. Table 2 presents the data on the prevalence of cyber bullying and victimization among students, their experiences with cyber bullying, and their role in cyber bullying.

Table 2. *Prevalence Rates of Cyber Bullying and Victimization and Roles of Students in Cyber Bullying*

	Groups	n	%
Cyber bullying	Involved	492	57.1
	Uninvolved	371	42.9
Cyber Victimization	With experience	584	67.67
	Without experience	279	32.33
Bully/Victim	Yes	422	48.89
	No	441	51.11
Participation in Cyber Bullying Incidents	Yes	654	75.78
	No	209	24.22
Total		863	100

Table 2 presents that 57% of the students have committed cyber bullying at least once in the previous six months (In the scale it is asked whether the behavior has been done in the last six months). A total of 68% of the students have been exposed to cyber bullying at least once, whereas 49% have been bullies/victims. Furthermore, 76% were involved in cyber bullying incidents, whereas 24% were never involved.

Multiple linear regression analysis was conducted to determine the extent to which the subscale scores for the PIUS can predict the cyber bullying and victimization scores of the respondents.

Table 3.*Means, Standard Deviations, and Mutual Correlation Values (N = 863)*

Variable	X	SD	1	2	3
Cyber Bullying	17.34	5.24	.348*	.351*	.235*
Predictor Variables					
1.Social Benefit	19.11	7.75	–	.725*	.471*
2.Negative consequences of the Internet	31.35	12.60		–	.666*
3. Excessive Use	20.22	5.12			-

*p <.05

The results indicate that the two subscales of the PIUS (F(3,854) = 46.96; p <.05), namely, social benefit/comfort and negative consequences of the Internet, can significantly predict cyber bullying. Table 4 provides the results of the multiple linear regression analysis of the predictor variables.

Table 4. *Results of Multiple Linear Regression Analysis for Social Benefit/Comfort, Negative Consequences of the Internet, and Excessive Use (Cyber Bullying; N = 863)*

Variables	B	Standard Error	β
Social Benefit/Comfort	.132	.031	.196*
Negative Consequences of the Internet	.085	.023	.205*
Excessive Use	.006	.043	.006
Constant	12.02	.699	
R^2 =.14; F(3,854) = 46.96, *p <.05			

Exposure to the negative consequences of the Internet and using the Internet for its social benefit/comfort contribute significantly to the prediction of the levels of cyber bullying among students. Table 5 provides the means, standard deviations, and mutual correlations between cyber victimization and the subscales of the PIUS.

Table 5. *Means, Standard Deviations, and Mutual Correlation Values (N = 863)*

Variable	X	SD	1	2	3
Cyber Victimization	18.48	5.73	.335*	.333*	.204*
Predictor Variables					
1.Social Benefit/Comfort	19.11	7.75	–	.725*	.471*
2.Negative Consequences of the Internet	31.35	12.60		–	.666*
3. Excessive Use	20.22	5.12			–

The finding indicates that cyber victimization can be significantly predicted by two subscales which are social benefit and negative consequences of the Internet (F(3,854) = 38.71; p <.05). Table 6 displays the results of multiple linear regression analysis.

Table 6. *Summary of Multiple Linear Regression Analysis for Social Benefit/Comfort, Negative Consequences of the Internet, and Excessive Use (Cyber Victimization, N = 863)*

Variables	B	Standard Error	β
Social Benefit/Comfort	.180	.034	.244*
Negative Consequences of the Internet	.054	.025	.119*
Excessive Use	.011	.048	.010
Constant	13.11	.775	
R^2=.12; F(3,854) = 38.71; *p <.05			

An examination of Table 6 reveals that exposure to the negative consequences of the Internet and using the Internet for its social benefit/comfort can significantly predict the cyber victimization levels of students.

To address the third question, the study investigated whether levels of cyber bullying and victimization differ according to demographic variables. First, the Mann–Whitney U-Test was used to examine whether a

significant difference exists in the scores between cyber bullying and victimization by gender. Table 7 presents the results.

Table 7. *Mann–Whitney U-test Results on Differences in Scores for Cyber Bullying and Victimization by Gender*

Variable	Gender	n	Mean Rank	Rank Sum	U	Z	*p*
Cyber Bullying	Females	634	397.78	252,195	50900	−6.962	.000
	Males	229	526.73	120,621			
Cyber Victimization	Females	634	407.28	258,216.50	56,921.50	−4.925	.000
	Males	229	500.43	114,599.50			

Table 7 indicates a significant difference between the scores for cyber bullying and victimization by gender. That is, males display higher scores for cyber bullying and victimization than females.

Additionally, the Kruskal–Wallis test was used to determine whether a significant difference exists in the scores for cyber bullying and victimization according to year level. Table 8 presents the results.

Table 8. *Differences in Scores for Cyber Bullying and Victimization by Year Level (Kruskal–Wallis Test)*

Variable	Grade Level	n	Rank Sum	SD	◎	*p*
Cyber Bullying	1	266	459.10	3	6.062	.109
	2	194	431.06			
	3	214	422.90			
	4	189	405.12			
Cyber Victimization	1	266	461.74	3	5.799	.122
	2	194	423.36			
	3	214	414.03			
	4	189	419.37			

Table 8 reveals no significant difference in the scores for cyber bullying (◎◎= 6.062; p >.05) and victimization (◎ = 5.799; p >.05) according to year level. Further analysis of the scores according to level of income was conducted using the Kruskal–Wallis Test (Table 9).

Table 9. *Differences in Scores for Cyber Bullying and Victimization by Level of Income (Kruskal–Wallis Test)*

Variable	Level of Income	n	Rank Sum	SD	◎	*p*
Cyber Bullying	Low	63	470.23	2	9.776	.008
	Middle	758	421.50			
	High	38	532.84			
Cyber Victimization	Low	63	453.12	2	11.882	.003
	Middle	758	421.66			
	High	38	557.96			

The results indicate that the scores for cyber bullying (◎² = 9.776; p <.05) and victimization (◎²◎= 11.882; p <.05) differed significantly based on income level. Thus, the Mann–Whitney U-test was employed to determine further in which groups this difference occurred (Table 10).

Table 10. *Differences in Scores for Cyber Bullying and Victimization by Level of Income (Mann–Whitney U-test)*

Variable	Level of Income	n	Mean Rank	Rank Sum	U	Z	*p*
Cyber Bullying	Middle	758	397.57	298,323	1,0662	−2.808	.005
	High	38	496.92	18,883			
Cyber Victimization	Low	63	46.45	2,926.50	910.50	−2.023	.043
	High	38	58.54	2,224.50			
Cyber Victimization	Middle	758	392.46	297,487	9,826	−3.362	.001
	High	38	518.92	19,719			

According to the results of the Mann–Whitney U-test, a significant difference exists between the middle- and high-income student groups in terms of level of cyber bullying. The high-income student group displayed higher scores for cyber bullying than the middle-income student group. Moreover, the high-income student

group produced significantly higher scores for cyber victimization compared with the middle- and low-income student groups.

4. Conclusion and Discussion

The study explored the prevalence of cyber bullying and victimization among university students, the power of problematic Internet use in predicting cyber bullying and victimization, and whether cyber bullying and victimization differ according to demographic variables. The findings revealed that the rates of cyber bullying and victimization and involvement in cyber bullying can reach 57%, 68%, and 76%, respectively, among university students. Based on these results, the study inferred that cyber bullying is a common problem among university students. In fact, a previous research on university students revealed that cyber bullying is widespread. Faucher et al. (2014) found that the rates of cyber bullying and victimization among college students are 5.1% and 24.1%, respectively. Other studies reported various rates. Byrne (2021) found the cyber victimization rate at 58.4%, whereas Dilmaç (2009) calculated the cyber bullying rate at 22.5% and victimization rate at 55.3%. Although the rates in these findings differ, the results are in line with those of the present study and support the view that cyber bullying is a major problem among university students. Alternatively, several reasons can explain the difference in the rates. That is, such differences may be noted in terms of the frequency of performing an action and its duration (for example, many studies consider a one-time act sufficient to be considered cyber bullying, whereas other studies prefer repeated occurrences of an act). Furthermore, the prevalence rates of cyber bullying and victimization vary due to the use of different measurement tools and research methods and diversity in the socio-cultural characteristics of the participants.

The findings with regard to the second research question revealed that the scores for cyber bullying and victimization were significantly correlated with social benefit/comfort and the negative consequences of the Internet, which are subscales of the PIUS. Similar studies on these variables concluded that they are related (Feijóo et al., 2021; Gámez-Guadix et al., 2013; Jung et al., 2014; Zsila et al., 2018;). Conversely, differences in naming problematic Internet use exist in the literature, and concepts, such as Internet addiction and pathological Internet use, are used instead of the one presented in the current study (Huan et al., 2014; Spada, 2014). Such studies obtained results parallel to those of the current research.

Reviewing the literature, the study inferred that problematic Internet use as a predictor of the levels of cyber bullying and victimization is an expected result. The reason for this notion is that the literature stated that spending a substantial amount of time on the Internet increases the risk of problematic use (Akdağ et al., 2014), and individuals who use the Internet more frequently are more involved in cyber bullying incidents (Park et al., 2014). In addition, problematic Internet users and cyber bullies displayed certain symptoms, such as low self-esteem, shyness, loneliness, and low levels of social support (Calvete et al., 2010; Caplan, 2003; Huan et al., 2014; Patchin & Hinduja, 2010). Consequently, their ability to use technological tools are more advanced than others (Hinduja & Patchin, 2008; Morahan-Martin & Schumacher, 2000). The existence of such similarities strengthens the view that cyber bullies and problematic Internet users display similar characteristics as individuals.

The current findings on demographic variables revealed that levels of cyber bullying and victimization among university students differ significantly by gender. Specifically, males engage more in the act of cyber bullying, whereas they experience more occurrences of cyber victimization than females. This finding overlaps with those of many studies in the literature (Arıcak et al., 2008; Erdur-Baker & Kavşut, 2007; Li, 2006; Wang, Wang & Lei, 2021). Alternatively, the results of the current study differ from those of other researchers (Patchin & Hinduja, 2006; Slonje & Smith, 2008), who reported no significant differences in cyber bullying by gender. Although such studies obtained different results, a predominant finding is that cyber bullying is more common among males. The literature justified this tendency by stating that males are more prone to violence and aggression (Ayas & Piskin, 2011), perform bullying more (Dölek, 2002), and display low levels of sensibility toward cyber bullying (Kınay, 2012) compared with females. In addition, males spend more time on the Internet (Bayraktar & Gün, 2007), use the Internet more in a problematic manner, and reveal higher rates of Internet addiction (Yılmaz et al., 2014). Lastly, the fact that the Internet is easily accessible and emphasizes ability to use rather than physical strength (Patchin & Hinduja, 2006) may lead to a decrease in gender differences.

The determining roles of year level and age variables on individual levels of cyber bullying and victimization have frequently been the subject of research. Similar to the finding of the current study, several studies stated that age/year level exert no difference in cyber bullying (Smith et al., 2006; Patchin & Hinduja, 2006). However, certain studies concluded that cyber bullying indicated a significant difference in age/year level (Slonje & Smith, 2008; Wade & Beran, 2011). As is known, cyber bullying can be observed in all age groups. This notion can be explained not only by the widespread use of communication tools but also by ease of use. Communication tools are necessary; as such, engaging in cyber bullying is becoming easier over time.

Findings related to income level revealed that individuals with high levels of income are the group most at risk to cyber bullying. Furthermore, many studies concluded that the levels of cyber bullying and victimization increase with the increase in the level of income (Fırat & Ayran, 2016). Deniz (2015) suggested that this result is related to increased access to means of communication with the increase in income level. Similarly, Syts (2004) proposed that socio-economic level is related to the frequency of using communication tools, which indirectly influences cyber bullying. Apart from these factors, low-income university students frequently have to work, which can be considered another reason for the difference in income level in relation to cyber bullying. In this case, a student's probability of becoming involved in cyber bullying incidents will decrease in line with time spent on the Internet. Lastly, Internet-based communication tools can now be used by everyone and such increased access to the Internet has reduced the differences in income level (Erdur-Baker & Kavşut, 2007).

5. Limitations and Recommendations

The current study has its limitations. First, the sample does not show a balanced distribution in terms of gender (634 females, 229 males) and income level (low = 63, middle = 758, and high-income = 42). Future studies should consider a sample with a more balanced distribution of these variables. Second, only quantitative data were collected, which is similar to the vast majority of research on the subject. Nevertheless, qualitative data can be used to shed light better on participants' experiences with cyber bullying. Research on cyber bullying is mainly conducted on adolescents with secondary and high school education. However, the current and other studies on university students suggest that not only adolescents but also older age groups consider cyber bullying a problem. As such, further research on university students and adults is recommended. Finally, preventive measures to secure the Internet should be considered to prevent cyber bullying. Specifically, developing intervention programs for cyber victims is necessary to mitigate the negative effects. In this regard, future studies should examine the effects of these programs. Finally, it is recommended that psychological counselors working in schools and universities should focus on preventive practices related to cyberbullying.

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Determining Generic Teacher Competencies: A Measurable and Observable Teacher Competency Framework*

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ABSTRACT

Well-defined teacher competencies can serve as a reference resource for teacher candidates and a road map for teachers who need to equip themselves with new competencies to meet the rapidly changing demands of children and society. This study, which grounded on mixed methods research, aimed to develop a measurable and observable generic teacher competency framework. The study was conducted in three phases. The initial phase was comprised of the literature review on teacher competencies, interviews with teacher candidates, teacher trainers, and education experts on the current teacher competency framework developed by the Turkish Ministry of Education in 2017. The analyses revealed the need for a new framework since the current competency framework does not allow self-evaluation and cannot be used as a road map for teachers and teacher candidates due to the way it is structured. Based on the initial findings, the researchers prepared a draft competency framework, which was evaluated by 397 teachers through information forms and 52 teacher trainers representing all disciplines of educational sciences at a workshop organized by the researchers. The analyses resulted in a framework consisting of six competency domains, 31 sub-competencies and their performance indicators at four competency levels. The core competencies developed seem to be congruent with international frameworks; however, it is also a unique framework with its content, structure and approach. The generic teacher competency framework developed as a result of this study can be utilized for professional development of teachers and teacher candidates as a reference guide and be utilized for evaluation purposes with its measurable and observable performance indicators specified under sub-competencies. It can also be used for the assessment and accreditation of teacher education programmes.

Keywords:
Generic competencies; teacher competency framework; teacher education; teacher evaluation.

1. Introduction

Globalization has compelled countries and institutions to compete both in public and private sectors and has paved the way for well-qualified employees in every field. This has led governments to monitor the developments worldwide and compare and contrast their own resources, political, economic, cultural and educational systems (Gian & Bao, 2021; Paine, 2013; Strijbos, Engels & Struyven, 2015). With the rapid changes in information technologies, the knowledge and capabilities that people possess lose their value and this situation affects the type of knowledge and qualities people need to have to cope with the requirements of global developments (Çifçi & Karaman, 2019; Koenen, Dochy & Berghmans, 2015). The field of education is

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not out of the scope of these developments. Factors like teachers' employability, advances in technology and informatics, ever-increasingly multi-cultural classrooms, accountability and transparency prompt countries to make radical changes in their education systems (Caena, 2013; Öztürk & Kafadar, 2021; Charteris & Smardon, 2015).

The world's changing conditions have changed the expectations of schools and teachers, too. Teachers are now expected to gain individuals with necessary skills that will enable them to perform the occupations that have not emerged yet, to use the technological devices that have not been invented yet and to solve the probable social problems that might come out (Schleicher, 2016). Hence, it is important for both beginning and experienced teachers to become aware of what is expected of them and continue their professional development to be competent enough throughout their careers more than ever. To this end, along with quality education, teachers at varying career steps need well-structured competency frameworks (CFs) to reflect on their strengths and weaknesses. Teacher preparation programmes also need such frameworks for objective assessment purposes.

1.1. The Concept of Competence and Competency-Based Education

Although "competence or competency-based" education has long been implemented in vocational education and teacher training (Coenen, Heijke & Meng, 2014; Koenen et al., 2015), there is not a consensus on the definitions of the words "competence" and "competency". The two words are usually used interchangeably even though each holds slightly different meanings (Mulder, Guilkers, Biemans & Wesselink, 2009; Winterton, 2009), but for the purposes of this paper the words are treated as the same. Competence can be defined as expertise knowledge in a certain domain, including skills and dispositions. Competence refers to a certain level of achievement and also capacity to perform well in a professional situation and it is, therefore, occupational, social, and personal knowledge and skills gained upon completion of a course or programme (Braun, Woodley, Richards & Leidner, 2012; Oyerinde, Onajite & Aina, 2020; Strijbos et al., 2015). Hence, it is the combination of knowledge, skills, attitudes and dispositions specific to a professional context (Gian & Bao, 2021; Koenen et al., 2015; Sigfried & Wuttke, 2016).

Bouley et al. (2015) argue that competence includes a willingness to perform a task in addition to skills and knowledge, implying that competence is a construct that includes personal characteristics such as values, beliefs, and attitudes toward teaching, as well as cognitive and situational skills, e.g., reasoning, that can be observed in the classroom (Bloemeke & Kaiser, 2017).So, the concept of competence is flexible, adaptive and task and situation-specific (Kaendler, Wiedmann, Rummel & Spada, 2015).

There have been various competence approaches in vocational and teacher education: behaviourist, cognitive, generic, discipline-specific and holistic (Coenen et al., 2014; Mulder, Weigel & Collins, 2007; Pulham, Graham & Short, 2018; Strijbos et al., 2015). Behaviourist approach places emphasis on observing successful performers and differentiating them from low performers. Cognitive approach includes the use of all mental abilities. Generic approach focuses on the variation in performance as well, but with a special emphasis on underlying characteristics of high performers. Competencies in this approach gain importance within the context they are defined and CFs specify minimal standards (Sultana, 2009). Generic competencies are applicable to a variety of different occupational contexts and are critical to success (Strijbos et al., 2015; Young & Chapman, 2010). Hence, they are also called as core skills or key competencies (Young & Chapman, 2010). Specific approach deals with the field-specific theoretical knowledge and field-specific methods. Holistic approach deems competence as the combination of knowledge, skills, and social competencies, including behaviours, attitudes, values, and core and generic abilities.

1.2. Teacher Competencies

The history of determining teacher competencies (TCs) goes back to 1940s in the United States to recognize teaching as a profession (Call, 2018). Since then, in many countries, competencies have systematically been reviewed to be appropriate for the requirements of society. Even though some educators oppose defining competencies for teachers in prescriptive ways because of the complex nature of teaching, well-developed generic TCs are valuable guidelines and road maps for the professional development of teacher candidates, practicing teachers and teacher educators (Alqiawi & Ezzeldin, 2015; Hatlevik, 2017).

As a result of the Bologna Process, which aimed to establish comparable and coherent higher education systems across European countries, and with accountability issues, identifying generic competencies for bachelor programmes is necessary to ensure high-quality assessment (Blömeke & Kaiser, 2017; Braun et al., 2012). Therefore, determining the qualities and characteristics of good teachers and teaching practices over observable performance outcomes and integrating them into assessment systems is of great importance (Alqiawi & Ezzeldin, 2015). Competencies serve as a reference document for self-evaluation purposes (Koenen et al, 2015).

However, academic studies regarding generic TCs are limited in Turkey. The first systematic TCs were determined in 2006 (Milli Eğitim Bakanlığı, (Ministry of Education), MoNE, 2006) and they were renewed in 2017 (Turkish Ministry of Education, MoNE, 2017a), which is a long period to respond to changes and developments experienced in the country. The 2017 framework focuses on knowledge, skills, attitudes and values expected of teachers, an approach which is in line with international competency-frameworks (Caena, 2013; Council of Chief State School Officers, CCSSO, 2013; Jobs for the Future & the CCSSO, 2015). Nonetheless, some dimensions of the framework such as whether the competencies are observable, measurable and applicable for teacher development and evaluation and whether they can be used as a benchmark for quality teacher preparation programmes need to be examined thoroughly.

MoNE (2017b) published "Teacher Strategy Paper" (albeit it has been suspended due to heavy criticism from public) in 2017 with two major aims: 1) to put into practice a performance evaluation system to find out professional development needs of teachers on a periodical basis, and 2) to increase the quality of activities carried out for personal and professional development of teachers. However, according to 2017 Education Evaluation Report (TEDMEM, 2018) published in Turkey, the biggest problem in any kind of performance evaluation system is the vague statements and expressions used as competencies and performance indicators. The current teacher competency framework (TCF) (MoNE, 2017a) includes some principles, which must generally exist in the nature of teaching profession, and they are used as performance criteria such as acting in accordance with ethic codes, or showing empathy and tolerance in human relationships. In addition, the guidelines and descriptions of the rating to be used in performance evaluation should be specified clearly to present the expectations from teachers. For this reason, when establishing TCs, performance indicators should be specified in an observable and measurable way that allows for objective and reliable teacher evaluation (Strijbos et al, 2015; Taş & Bıkmaz, 2016; TEDMEM, 2018) and also helps in designing a curriculum based on competency-based education (Özcan, 2013).

The purpose of this research study is to determine observable and measurable generic TCs along with performance indicators that can be used for professional development and evaluation purposes of teachers. In order to determine well- defined and well-examined TCs, which is a very comprehensive endeavor including social, economic and affective factors in a certain society along with teachers' individual differences with regard to concerning their characteristics, dispositions, values, beliefs and backgrounds, researchers should deploy and integrate different research methods, namely mixed methods research. This can allow them to benefit from both qualitative and quantitative data and guide researchers to answer research questions based on both narration and numeration with the participation of various stakeholders, which in turn might reflect the views of different groups and yield more valid results. The research questions posed for this study are as follows:

1) What are the opinions of

a) field experts (teacher trainers at universities)

b) candidate teachers and

c) education experts working for Ministry of Education with regard to whether there is a need for a new generic teacher competency framework?

2) What are the opinions of

a) teachers and

b) field experts concerning the draft teacher competency framework developed by the researchers?

3) What are the observable and measurable generic teacher competencies?

2. Method

2.1. Research Design

This study is grounded on exploratory sequential design, which is one of the mixed methods (Creswell, 2014; Creswell & Clark, 2011). Mixed methods enable researchers to use both qualitative and quantitative data to empower the research (Creswell, 2014; Teddlie & Tashakkori, 2009). Conducting a single study through mixed methods, researchers obtain, analyse and combine the data with findings and draw conclusions by incorporating qualitative and quantitative research paradigms. In this study, qualitative, quantitative and again qualitative data were obtained respectively by associating with each other. The study was conducted in 2017-2018 and 2018-2019 academic years at Anadolu University, Faculty of Education (AUFE), Eskişehir, and MoNE in Ankara, Turkey.

2.2. The Validity and Reliability of Qualitative and Quantitative Data

The qualitative research paradigm seeks for trustworthiness, transferability, consistency and verification instead of reliability to enhance the quality of research (Yıldırım & Şimşek, 2014). In this study, the first way to sustain trustworthiness was to obtain in-depth data. The qualitative data obtained in line with research questions were analysed in patterns and rather than summarizing, they were interpreted by the verification of direct quotations. Another way to obtain in-depth data is triangulation and it can be sustained through method, analyst, resource or point of view triangulation (Patton, 2014). This study deployed resource triangulation by obtaining data from field experts, MoNe experts and teacher candidates and this allowed researchers to collect rich data from participants owning different backgrounds, experiences, feelings and attitudes about the same topic. In addition, document analysis and interviews conducted in this study are method triangulation and in these ways the literature and participants' views were associated, which is important for the consistency of the findings. Expert evaluation is also another way to sustain trustworthiness. In this respect, inter-coder reliability was calculated and all the codes obtained from the interviews with field experts (86%), semi-structured interviews with teacher candidates (83%), focused group interview with teacher candidates (83%) and semi-structured interviews with MoNE experts (88%) showed agreement (Miles & Huberman, 1994). For the transferability, the raw data were described and presented to the interpretation of readers without adding any subjective comments. Finally, for the consistency of the study, the research was conducted in line with the principles of the selected research design and expert support was obtained throughout the study to sustain external verisimilitude.

The quantitative research data were collected from 26 schools and 397 teachers (125 primary schools and 272 subject matter teachers). According to Büyüköztürk, Akgün, Demirel, Karadeniz & Çakmak (2014), this sampling size is sufficient. For discrete variables, the sampling size for a population of 8000 people must be at least 367 at .05 significance level. When the research was conducted, the number of teachers working in Eskişehir was 8199 according to Provincial Directorate of Education and it included vocational and pre-school teachers too, which means the sampling size would be more reliable when these teachers are excluded.

2.3. Study Group

Because qualitative and quantitative research techniques were deployed in this research, the study group, population and sample were determined accordingly.

2.3.1. The Study Group for Qualitative Data Collection: Regarding the first research question "whether there is a need for a new generic TCF", field experts, candidate teachers and MoNE experts were interviewed. Table 1 shows the participants.

Table 1. *The Participants from Whom the Qualitative Data Were Collected*

Participants	Number
Field Experts	9
MoNE experts	6
Senior teacher candidates (face to face interviews)	7
Senior teacher candidates (Focus group interviews)	6
Total	28

As shown in Table 1, 28 participants constituted the qualitative study group who were determined based on the criterion sampling - one of the purposive sampling types (Patton, 2014). Because it encompasses all disciplines, half of the participants were chosen from the field experts and students of the Basic Education Department, Primary School Teaching Programme. Another major objective of the study was to design a model programme based on competencies (which is out of the scope of this paper). Therefore, the rest of the participants were chosen from the field experts of Educational Sciences Department, Curriculum and Instruction Programme. Finally, the criterion in selecting MoNE experts was taking active roles in determining TCs at MoNE.

2.3.2. The Population and Sample for the Quantitative Data Collection: The population of the study were class and subject matter teachers working at primary and secondary levels in Odunpazarı and Tepebaşı districts of Eskişehir, Turkey. The number of teachers working in these districts were 5405 and 2794 respectively in 2018-2019 academic year. Stratified sampling, which is used when sub-groups already exist in a certain population (Büyüköztürk et al., 2014), was employed in choosing teachers. For the purposes of the study, vocational and pre-school education institutions were excluded from the population. The researchers obtained data from eight regions in Tepebaşı district and six regions in Odunpazarı district. Table 2 shows the school regions and teachers from whom the data were collected.

Table 2. *Regions, Schools and Teachers From Whom the Quantitative Data Were Obtained*

Districts	Education Regions	Schools	Number of Teachers
Tepebaşı	10 / 8	16	269
Odunpazarı	8 / 6	10	128
Total	14	26	397

2.4. Data Collection Tools

Both quantitative and qualitative data collection tools were developed for the study. Table 3 presents the data type, data collection tools, implementation purposes, and from whom the data were collected.

Table 3. *Data Type, Data Collection Tools and Participants*

Data Type	Type of Data Collection Tool	Name of the Data Collection Tool	Purpose of Data Collection Tool	Participants to whom Data Collection Tools are Implemented
Qualitative	Semi-Structured Interviews	Interview form for field experts on 2017 generic teacher competencies	To obtain the opinions of field experts on 2017 generic teacher competencies	Nine field experts working for AUFE
		Interview form for teacher candidates on 2017 generic teacher competencies	To obtain the opinions of teacher candidates on 2017 generic teacher competencies	Seven teacher candidates studying at AUFE
	Focus-Group Interview	Teacher candidates focus group interview form on 2017 generic teacher competencies	To obtain the opinions of teacher candidates on 2017 generic teacher competencies	Six teacher candidates studying at AUFE
	Semi-Structured Interviews	Interview form for MoNE experts on 2017 generic teacher competencies	To obtain the opinions of MoNE experts involved in determining 2017 generic teacher competencies	Six MoNE experts working for General Directorate for Teacher Training and Development
Quantitative	Information Form	Information form on generic teacher competencies	To find out the opinions of primary and subject matter teachers on draft generic teacher competencies	397 teachers in Odunpazarı and Tepebaşı districts in Eskişehir county.
Qualitative	Workshop Form	Teacher competencies workshop form	To determine the opinions of field experts on draft teacher competency framework developed based on document analysis and teacher views	52 field experts from five different universities.

2.5. Data Collection and Analysis

Qualitative, quantitative and qualitative data collection processes were followed respectively in this study. After document analysis on teacher competencies, the semi-structured interviews with field experts and teacher candidates who volunteered to participate in the study were conducted at AUFE. The researchers also conducted interviews with the education experts working for the General Directorate for Teacher Training and Development of MoNE in Ankara as they were the ones who took part in developing the current generic TCF effectuated in 2017.

The content analysis method was employed in the analysis of the interviews. The researchers sought to obtain more in-depth data to increase the trustworthiness of the qualitative phase of the study by interpreting the data in patterns by relating them to each other.Data verification, resource verification and also document analysis were the methods employed to enhance the quality of the study (Patton, 2014; Yıldırım & Şimşek, 2014).

In the second phase, the study's quantitative data were collected from teachers through draft generic TCF developed by the researchers based on the analysis of initial data obtained from interviews and literature review. After getting the legal and ethical permissions from Eskişehir Provincial Directorate of Education, the draft TCF prepared as an information form was presented to teachers working in the 2018-2019 academic year. The form consisted of seven competency domains and 301 performance indicators and each indicator was evaluated by the participants in terms of appropriateness. Descriptive frequencies of the performance indicators were calculated and they were later referred to in determining the final version of the TCF along with the data obtained from the Generic TCs Workshop.

The final qualitative data collection process was the well-attended workshop on generic TCs organized by the researchers in AUFE. During this workshop, 52 field experts representing all fields of educational sciences participating from five different universities scrutinized and evaluated the draft TCF. The difference of this TCF from the TCF evaluated by the teachers was its reduced number of performance indicators under each sub-competency and its structural organization. The TCF comprising of seven competency domains and 36 sub-competencies evaluated by the field experts defined performance indicators as competent and non-competent in the shape of two columns. The left column showed the competent, and the right column showed non-competent performance indicators. Appendix A shows a sample sub-competency and its performance indicators.

Each workshop group examined and evaluated the framework in terms of structure, content, language, appropriateness, redundancies and whether competencies and performance indicators were measurable and observable. The field experts proposed some new competency domains and sub-competencies they believed the TCF should include. They also proposed some alternatives to the organization of the framework. The study groups then compared and shared their evaluations and views on the proposed competencies. Finally, the researchers analysed the feedback obtained from the field experts on each competency item and finalized the TCF.

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.

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3. Results

The findings are presented according to the research questions and in the order of the phases followed in the study. The first research question was whether there is a need for a new generic TCF. The emerging themes related to TCs are presented below.

3.1. The Opinions of Field Experts on Current TCF

Content analysis of the interviews conducted with field experts yielded six main themes. Table 4 shows these themes and sub-themes.

Table 4. *Themes and Sub-Themes Emerged from the Interviews with Field Experts*

General Themes	Sub-themes
1- A holistic and simplified study	
2- Education faculties and generic competencies	- Theoretical nature of the program - Implementations aiming at teaching the skills, values and attitudes and insufficiency of the courses - Lack of motivation for generic teacher competencies - Lack of regulation knowledge
3- The problems in implementing generic competencies	- Non-functionality of competencies - Non-measurable and non-observable competencies
4- The deficiencies of competencies	- Insufficient personal and professional development dimensions of competencies - Lack of general knowledge dimension
5- The problems with performance evaluation	- The need for guidance for self-evaluation - Guidance for course content and teacher training implementations - Guidance for teacher qualities

As shown in Table 4, the first theme reflects the opinions of the field experts on current TCF. They believed that the 2017 TCF developed by MoNE was a "holistic and simplified TCF" consisting of the three dimensions of knowledge, skills, and attitudes and values, unlike the previous 2006 TCF, which included six main competency domains, 31 sub-competencies, and 233 performance indicators, making it difficult to measure and observe. Therefore, it was not suitable to serve as a realistic reference framework for teacher education and teacher evaluation. The second theme was on “education faculties and generic competencies”. The field experts believed that education faculties successfully teach the knowledge dimension because of the curricula focusing mainly on theoretical but neglecting practical aspects. They also thought there are some problems related to teaching necessary values and attitudes to teacher candidates, which results in lack of motivation. One of the sub-competencies under professional knowledge competency in 2017 TCF is the regulation knowledge. According to the field experts, this is one of the problems teacher candidates have difficulty when they are employed since they lack knowledge regarding their rights, duties, and responsibilities and the current curricula don’t cover such issues.

Thirdly, the field experts believed there are some problems in implementing the current TCs. TCs are not functional since they are not taken into consideration in selecting, training and employing teacher candidates. Besides, the competencies are not measurable and observable because they are too general.

The fourth theme was “the deficiencies of competencies”. According to the field experts, the competency domains lack some important issues regarding teacher qualities. They believed adding some other competency domains into the current framework would help develop a more comprehensive and realistic TCF. They believed the first important deficiency of the framework is concerning professional development. They thought there should be more competencies regarding personal and professional development of teachers. Some competencies that will help teachers follow international literature, conduct action research, solve emerging problems, collaborate with colleagues and other organizations should be added to the framework. They also suggested that the general knowledge dimension of the framework should be improved.

The last theme was about the “problems with performance evaluation”. MoNE projected to use the current competencies in the performance evaluation of teachers (MoNE, 2017b). The field experts objected to using these competencies in teachers' performance evaluation due to possible drawbacks. Instead, they proposed using the (revised and improved version) competencies for self-evaluation and professional development. In addition, the field experts believed that a well-developed TCF should be used as a reference document in designing the curricula of teacher training programmes.

3.2. The Opinions of Teacher Candidates on Current TCF

On current competencies, face-to-face and focus group interviews conducted with teacher candidates enrolled at AUFE resulted in five themes. Table 5 shows these themes.

Table 5. *Themes and Sub-Themes Emerged from the Interviews with Teacher Candidates*

General Themes	Sub-themes
1- Incognizance of teacher candidates	
2- Need for additional competencies	
3- Non-functionality of competencies	
4- Gap between theory and practice	- Insufficient practicum period
	- Practical courses
	- Course period
5- Benefits of competency framework	- Self-evaluation
	- Content selection
	- Guidance for job selection

The first emerged theme was the "incognizance of teacher candidates" about TCs. The teacher candidates stated that they hadn't been aware of the competencies until they became senior students. They added that their competencies and expectations weren't adequately emphasized during their university education.

Another theme was "the need for additional competencies". Just as field experts, the participants stated that the current framework should have covered some other competencies on digital skills, special education, multi-culturalism, integrative development of pupils and regulation knowledge. With the increasing role of digitalization of education and also with the increasing number of refugees emigrating into Turkey, the teacher candidates underlined the necessity of being well-equipped and being taught in-depth for such issues during their education.

Like their teachers, teacher candidates stated that the current competencies are non-functional, which was another emerging theme. They expressed that some teachers they observed during their practicum didn't possess the current competencies and the supervisors didn't inspect them. Therefore, these competencies don't make sense in practice.

The fourth theme was "the gap between theory and practice". The teacher candidates believed that their university courses were highly theoretical and they didn't have adequate opportunity to reflect on theory. For this reason, they deemed themselves knowledgeable enough in theory, but they felt they didn't gain some competencies specified in TCF due to lack of practice. Related to this, they thought their practicum period was limited to test theory and to gain the necessary attitudes and values about teaching.

The final theme was "the benefits of competency framework". The teacher candidates believed that having such a TCF might help them become aware of their strengths and weaknesses. It could be a helpful tool for self-evaluation and they can use it as a reference to keep track of their professional development. The teacher candidates also believed that these competencies could be utilized as a basis in course design and contents can be selected and organized according to competency domains. Finally, the teacher candidates stated that a well-prepared TCF might be a good guide for those who want to study at education faculties and could help them decide whether they are appropriate for the teaching profession. This will result in selecting more appropriate and motivated teacher candidates and eventually enhance teacher qualities.

3.3. The Opinions of Education Experts Working for MoNE on Current TCF

The analysis of the interviews with MoNE experts working in the team that prepared the current -2017- TCF yielded five themes. Table 6 shows these themes.

Table 6. *Themes Emerged from the Interviews with MoNE Experts*

Themes
1- A well-attended study
2- Teachers' views
3- Measurability and observability of competencies
4- Compatibility with international literature
5- Continuity and updateability of competencies

The first emerging theme was "a well-attended study". The MoNE experts stated the current TCF is a product of various participants such as academicians from universities, teachers, different directorates of MoNE, Vocational Qualifications Authority and people who worked in the preparation of former TCF. However,

MoNE experts also stated that these competencies reflect the Ministry perspective since most of the participants involved in the study team were either the employees of MoNE or MoNE affiliated institutions. They thought that if more teachers' views had been obtained, a more realistic and different TCF would have been yielded, which was another theme that emerged.

The third theme was "measurability and observability of competencies". Most of the MoNE experts admitted that majority of the current competencies are not measurable and observable. They added that it can only be inferred whether a teacher has the command of a particular competency specified in the framework. On the other hand, some experts asserted that competencies do not need to be measurable and observable since the framework is an official document showing what is ideal. Moreover, they also thought that expressing competencies in a measurable and observable manner is a challenging endeavour.

The fourth emerging theme was "compatibility of the competencies with international literature". The MoNE experts stated that competency determining studies in Turkey commenced making the Turkish education system aligned with European Union (EU), which started with Bologna Process. To this end, after reviewing the TCFs prepared by EU and Organization for Economic Cooperation and Development (OECD), they decided to prepare a framework encompassing competencies under a triple structure, namely, *knowledge*, *skills*, *attitudes and values*. They thought such a structure is so logical and comprehensive that it includes almost all qualities a teacher should possess.

The final theme was "continuity and updateability of competencies". The experts believed that the TCF isn't an ultimate and sacred text, but they rather deemed it a document that should be developed and updated upon constructive criticism and feedback from all stakeholders. The experts acknowledged that there isn't an end point in competency determining studies and there might be some deficiencies since the competencies are written from the perspective of the Ministry, and it is, therefore, a process that needs to be sustained.

As a result, the interviews conducted with field experts, teacher candidates and MoNE experts revealed that the current TCF needs improvement. The TCF effectuated in 2017 isn't comprehensive enough and it should include some other competency domains considering the current needs of students, teachers and society. The structure of the competencies categorized under three major domains as knowledge, skills, attitudes, and values is too general. The way they are written and expressed hinders them from being measurable and observable for teacher training, development, and evaluation purposes. Therefore, the researchers prepared an alternative TCF and the following part presents the findings regarding the TCF preparation process and the final outcomes, respectively.

3.4. The Opinions of Teachers on Draft Generic TCF

The second research question posed for this study was "How do teachers and field experts evaluate the draft TCF?". To this end, the preliminary TCF was asked to teachers via an information form. The draft TCF was evaluated by 397 teachers and the descriptive frequencies of each competency item were calculated. An exemplary frequency result is presented in Appendix B. The teachers evaluated the performance indicators regarding whether the indicators were appropriate under certain competency or sub-competency field. The performance indicators with low frequencies were eliminated form the framework. In addition to frequencies, written feedback and suggestions from teachers on the appropriateness, requirement, and clarity of each performance indicator were also considered. Based on the results, the second draft of the TCF was developed to be presented to the field experts.

3.5. The Opinions of Field Experts on Draft Generic TCF

The draft TCF was evaluated by 52 field experts from five different universities at "Generic Teacher Competencies Workshop". The field experts worked in five groups and they scrutinized each competency domain, sub-competency and performance indicator. Then they shared the group decisions with other groups. General views of the field experts on the proposed competencies are as follows:

1. The field experts believed that the structure of the draft framework consisting of performance indicators defined as "competent" and "non-competent" isn't logical. The participants proposed removing all "non-competent" performance indicators from the framework to not show the negative indicators and behaviours. Instead, they thought expressing the competencies via a grading scale would be more appropriate.

2. The field experts suggested changing the titles of some competency domains since they do not reflect the performance indicators. They also added that the titles and some performance indicators weren't coherent and therefore, they needed to be revised even though the performance indicators were appropriate.

3. The field experts believed that there were some redundant performance indicators and they needed to be reduced and purified.

4. The field experts thought that competency expressions and performance indicators were supposed to be written according to the principles of objective writing. They also reported that the use of "difficult" adjectives (e.g. the most, the first, very, close) or adverbs (e.g. almost) should be avoided in measuring, evaluating and interpreting performance indicators.

5. The field experts suggested that sub-competencies should be re-organized in a correlational order and for this reason, some sub-competencies should either be combined or some performance indicators should be written under different sub-competencies for a logical flow.

6. The field experts suggested that the whole framework should be reviewed in terms of clarity, measurability and comprehensiveness. They also added that ambiguous expressions, terminologies, and concepts in performance indicators that different people might interpret in different meanings should be removed.

7. Finally, the field experts in each group evaluated and rated all sub-competencies and performance indicators under each competency domain as "appropriate" and "inappropriate" and proposed alternative ones for the sub-competencies and performance indicators they thought as inappropriate. Besides, they suggested to add some different sub-competencies such as research skills, technology literacy and general knowledge into the TCF.

As can be seen above, the opinions of field experts on the draft TCF were towards the framework's structure, content, and comprehensiveness. The views of field experts were considered, and some substantial changes were made on the TCF. The following part explains the features of the final version of the generic TCF.

3.6. The Generic Teacher Competency Framework (GTCF)

The GTCF developed as a result of this study adopts an integrated approach to determining TCs by incorporating a generic approach (which distinguishes the underlying qualifications of superior teacher performance from average teacher performance) and a holistic approach (which considers competent teachers with the requisite cognitive, functional, social, and ethical competencies). The GTCF consists of six generic competency domains, 31 sub-competencies and performance indicators defining these competencies at four competency levels. Performance indicators are defined from level A (the highest) to B, C and D (the lowest). The reason behind this structure lies in the findings obtained from the participants. The participants emphasized that the performance indicators need to be measurable and observable. Besides, the Generic Teaching Competency Workshop carried out with the field experts was highly influential in the final version of the framework by transforming it into a quadruple graded structure. In addition, the researchers were inspired by some competency frameworks (CCSSO, 2013; Danielson, 1996; MoNE, 2006) in the finalization of the GTCF.

In GTCF, A level performance shows the master level teachers whose practices prove their quality in every aspect of teaching profession. This is a very high-level performance that many teachers might not reach throughout their careers. All classroom practices take place smoothly in their classes and their students are well-motivated, are aware of their responsibilities and work in collaboration. B level teachers have deeply grasped the concepts in a particular competency field and meet its requirements. This refers to experienced teacher performance. These teachers have comprehensive knowledge of their subject-matter and curriculum, know their students' needs and interest and have a wide range of teaching strategies and techniques. C level performance indicates teachers who have grasped the fundamental concepts at a particular competency. Their successful practices are irregular and, therefore, this level usually reflects the performance of a typical teacher candidate. This is the lowest acceptable level of a newly recruited teacher for the evaluation purposes. D level performance signifies teachers who haven't yet grasped the fundamental concepts of a particular subject-matter. So, those teachers need to repeat the basic knowledge of their field. Finally, D level is the performance that hinders a teacher candidate from getting a teaching licence. The GTCF specifies competencies for teachers

at different stages of their careers because teaching is a complex profession (Hatlevik, 2017), and the very same performance cannot be expected of them (Australian Institute for Teaching and School Leadership, 2011). The structure of the GTCF also seems to be complying with literature, reflecting the views of participants and it can be used for both professional development and evaluation purposes (Blömeke & Kaiser, 2017; Braun et al, 2012; Alqiawi & Ezzeldin, 2015).

The performance indicators at a particular level in GTCF show what a teacher knows and can do. Each generic competency domain and sub-competency is explained separately, but it doesn't mean that the competencies are acquired independent from each other. For instance, a teacher who shows A level performance at the first sub-competency "*2.1. Teacher has the knowledge of related discipline and uses it effectively*" under the second generic competency domain "Content Knowledge and Teaching", will most likely perform level A or B at the second sub-competency, "*1.2. Teacher selects and uses methods and techniques appropriate to the objective and content*" under the first generic competency domain, "Learning and Teaching Process" because to choose appropriate methods and techniques, it is a prerequisite to have a command of subject-matter knowledge and how to convey it. So, both sub-competencies are interrelated. Appendix C shows the final version of the GTCF.

4. Conclusions, Discussions and Recommendations

This study revealed that the TCFs developed by MoNE in 2006 and 2017 don't have the observable and measurable competencies; therefore, a new TCF was developed. The literature on TCs shows that countries have various CFs. There is no consensus on the core competencies (Schreens & Blömeke, 2016); however, those CFs have some commonalities (Strijbos et al., 2015; Young & Chapman, 2010). The most common competencies across countries are related to communication with students and colleagues, self-reflection, life-long learning, leadership, higher-order thinking skills, information processing, responsibilities, ethics and teamwork (Strijbos et al., 2015). When the GTCF is analysed closely, all of these common competencies can be seen with their performance indicators at varying degrees since competence can be observed in performance.

According to Bouley et al. (2015), teacher competencies can be divided into professional knowledge and non-cognitive aspects. Professional knowledge encompasses content knowledge (CK) and pedagogical content knowledge (PDK), including knowledge of students' cognition, typical student errors, knowledge of representations and explanations, and knowledge of tasks as instructional tools. Non-cognitive aspects include belief system, self-efficacy and self-regulation. The GTCF holds a similar approach, too.

The GTCF is also congruent with international literature. It includes both cognitive knowledge (CK, PCK): 1. Learning and Teaching Process; 2. Content Knowledge and Teaching; 3. Classroom Management; 6. Assessment and Evaluation) and non-cognitive (values, attitudes, beliefs, self-efficacy, self-regulation, self-evaluation: 4. Effective Communication with Stakeholders; 5. Professional Development and Responsibilities) aspects of teacher competence (Blömeke & Kaiser, 2017; Koenen et al., 2015; Siegfried & Wuttke, 2016). The sub-competencies vary from special education, adaptive teaching, higher-order thinking skills, techno-pedagogical skills, determining task difficulty, effective communication, teamwork, self-evaluation to assessment skills, which is also similar to the international CFs.

The GTCF seems to be similar with the bachelor degree competence model of Strijbos et al., (2015) in a way they categorize the competencies a teacher candidate needs to have. Strijbos et al., (2015, p.29) formulated competencies in three clusters as; conceptual, people and personal. Conceptual competencies refer to problem-solving, thinking skills, creativity and information processing, and examples to these competencies are expressed in the first and second competency domains of GTCF. People competencies are comprised of communication, leadership and teamwork, which can be found in the fourth and fifth competency domains of GTCF. Personal competencies are related to life-long learning, critical reflection and social responsibility and examples to these competencies can be seen in the first, fourth and fifth competency domains of GTCF.

Similarly, Alqiawi & Ezzeldin (2015) found that teacher competencies centre around three areas; professional, academic, and personal competencies. The GTCF also holds a holistic competency approach, which is the combination of not only the professional knowledge and skills, but also the attitudes and values of teachers regarding teaching profession (Blömeke & Kaiser, 2017; Bouley et al., 2015; Koenen et al., 2015; Sigfried & Wuttke, 2016). Both sub-competencies and their performance indicators at four competency levels address the personal aspects of teacher competencies in an observable manner.

The most significant features of GTCF, which is different from 2006 and 2017 TCFs prepared by the MoNE, are that GTCF is observable, measurable and has new competencies compatible with international CFs. The 2006 TCF consisted of 233 performance indicators making it hard for teacher trainers to evaluate the extent of the competencies gained by teacher candidates. Besides, there were some redundant competencies under different competency domains. But, the GTCF structurally determines whether the competencies have been achieved over solid and observable performance indicators at four competency levels. In this respect, the GTCF is a unique framework developed by individual researchers due to an extensive study in Turkey.

2017 TCF prepared by MoNE was also developed differently from 2006 TCF in terms of scope, content and structure. 2017 TCF consists of three competency domains entitled as professional knowledge, professional skills and attitudes and values, which holds a modern competence approach, but sub-competencies are listed under generic competencies without performance indicators. In addition, this kind of a framework doesn't allow education faculties to determine the course contents following the competencies and the framework doesn't function as a professional guide for teacher candidates. In fact, MoNE recommends using 2017 TCF to determine the course contents of education faculties and thereby accept it as a fundamental document in teaching target competencies (MoNE, 2017a).

The GTCF; however, determined the performance indicators in measurable, observable and tangible expressions. The teacher candidates using this framework as a reference source will realize the competency domains they need to develop and also be aware of the extent of the competency domains they have achieved for their professional development. Another feature of GTCF is that the competency domains can easily be associated with the course contents of teacher education programmes and be used for a consistent accreditation process of these programmes across the country as a reference document. One of the biggest criticisms of field experts to 2006 and 2017 TCFs is that the competencies cannot find application areas and they are not functional and practical. This framework has a significant feature since it can be used as a reference source for improving teacher quality and accountability of teacher education programmes (Öztürk & Kafadar, 2021). In addition, the competencies can be used as a benchmark in programme assessment for bachelor degree level (Strijbos et al., 2015). The GTCF with an observable and measurable quality might form a basis for the national evaluation systems needed as well (Taş & Bıkmaz, 2016).

This study suggests that teacher candidates need a well-structured and well-defined reference document to gain the competencies they are expected to possess. The observable and measurable competencies will enable teacher candidates to self-evaluate and self-reflect on their professional development. In addition, organizing course contents of education faculties around the competencies determined will help teacher candidates gain competencies in a more systematized manner. This will also contribute to the efforts in transforming theory into practice, which is emphasized as the biggest deficiency of the curriculum and help teacher candidates be more experienced by gaining the necessary knowledge, skills and attitudes of the profession as far in advance as possible. Hatlevik's (2017) longitudinal study revealed that teaching training programmes play a crucial role in developing teacher competence and increasing the perceived self-efficacy of prospective teachers, which then turns into professional competence. Hence, quality standards or competencies gained through the combination of theory and practice at bachelor degree might help ease the negative effects of realty shocks of teachers at the beginning of their careers.

Based on the findings, some suggestions can be made for further studies. The GTCF yielded as a result of this study should be developed systematically because of the nature of CFs. To do this, various studies including projects and workshops should be carried out with the participation of more teachers, field experts and other stakeholders from different regions and schools. As a matter of fact, the MoNE experts who developed 2017 TCF stated that it was prepared from the MoNE's point of view and they asserted that a different framework would have come out if more and various participants had involved in the process. Therefore, developing competencies with multiple views of participants from different socio-cultural backgrounds will be another factor increasing the validity of the framework. Comparative analysis of competencies across countries through joint-studies can also be beneficial in determining core competencies of teachers. Besides, the proposed framework should be implemented, evaluated and the results to be obtained should be reviewed by experts. In this respect, it would be useful to implement the determined competencies in different schools from various regions. Finally, the potential impact of competencies determined can be assessed on teacher

candidates and teachers through longitudinal studies. Last but not least, the effectiveness of the curricula of teacher education programmes that centre around competencies can be assessed.

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Appendix A. Sample performance indicators in draft teacher competency framework evaluated by field experts

1- Commitment to Learning and Teaching (Competency Domain)

Overall View:

1a) Teacher conducts activities supporting individual differences. (Sub-competency)

Competent Performance Indicator	**Non-competent Performance Indicator**
The teacher addresses different learning styles (visual, aural, verbal, kinesthetic) during in-class activities. The teacher uses blackboard, coursebooks, various resources and materials, visual and aural media, and authentic materials. The teacher diversifies the examples (school, family, business life, nature, kinship etc.) in subject teaching and addresses various cultural and socio-economic classes.	The teacher uses single type or limited material. The teacher only relies on the coursebook. The teacher usually addresses a single learning type (aural). Their examples are not various or limited to a certain field
Appropriate **Required**	**Appropriate** **Required**
Suggestion:	**Suggestion:**

Appendix B. Exemplary analysis of teacher views on the draft competency framework

Sub-competency 1a. Teacher conducts activities supporting individual differences.

Performance indicators	**Appropriate**		**Inappropriate**		**Appropriate under a different domain**		**Non-responded**	
	f	%	f	%	f	%	f	%
1. Teacher addresses different learning styles visual, aural, verbal, kinaesthetic) in classroom activities.	317	79.8	3	0.8	-	-	77	19.4
2. Teacher uses blackboard, coursebooks, various resources, audio-visual aids and authentic materials.	313	78.8	1	0.3	3	0.8	80	20.2
3. Teacher diversifies examples in subject teaching (school, family, business life, nature, kinship etc.) and addresses various cultural and socio-economical classes.	302	76.1	6	1.5	4	1	85	**21.4**

The exemplary analysis above shows the results related to three performance indicators of the first sub-competency in the draft framework -*1a. The teacher conducts activities supporting individual differences*- under the first generic competency domain, namely "Commitment to Learning and Teaching". Regarding the first performance indicator, 79.8% of the teachers evaluated the first sub-competency as appropriate, 0.8% as inappropriate, and 19.4% didn't make any comment about it. The second performance indicator was evaluated as appropriate by 78.8% of the teachers and was evaluated as inappropriate. 0.8% of the teachers thought that it should go under a different sub-competency of another generic competency domain and 20.2% of the teachers didn't answer it. The third performance indicator was evaluated as appropriate by 76.1% of the teachers and as inappropriate by 1.5% of the teachers. 1% thought that it should go under a different sub-competency and 21.4 didn't answer it.

Appendix C. Generic Teacher Competency Framework

1- Learning and Teaching Process
1. 1. *The teacher prepares effective lesson plans and conducts lessons accordingly.*
A. Teacher; prepares the lesson plan according to the curriculum; prepares the lesson plan in a particular order and logic; prepares the whole lesson plan addressing to the all elements of curriculum; explains how to incorporate technology in teaching subject-matter and in conducting activities in their lesson plan; considers learning outcomes in planning and implementation process and conducts each activity towards a particular learning outcome; makes students aware of why and what they learn.

B. Teacher; prepares the lesson plan based on curriculum; prepares the lesson plan in a particular order and logic; prepares the overall lesson plan addressing all curriculum elements. Most of the activities are towards a particular learning outcome in planning and implementation process. Teacher makes students aware of why and what they learn.
C. Teacher's lesson plan addresses only one or two elements of the curriculum. There are disconnections between the transitions of the activities. Few activities are towards learning outcomes.
D. There are problems with the unity of the lesson plan. The lesson plan has very little to do with content, student level, and resources.

1. 2. *The teacher selects and uses methods and techniques appropriate to the objective and content.*

A. Teacher; applies expository, discovery, and research-exploration instruction strategies effectively for the lesson to achieve its goal; selects instruction techniques appropriate to the objective, subject, group size, time allocated and physical opportunities; selects appropriate instruction techniques among direct instruction, question and answer, case method, problem-solving and demonstration according to the cognitive, affective and psycho-motor objectives; utilizes instruction techniques based on both individual and cooperative learning-teaching techniques such as brain-storming, acting, drama, simulation, observation, field trip, project work, six thinking hats; provides students with rich clues, reinforcers and feedback.
B. Teacher; applies expository, discovery, and research-exploration instruction strategies for the lesson to achieve its goal; applies various methods and techniques; redresses the balance between individual and cooperative learning-teaching techniques; provides students with sufficient clues and reinforcers and feedback.
C. Teacher; generally applies a particular type of instruction strategy; has a limited repertoire of instruction methods and techniques; applies mainly individual learning-teaching techniques. The activities through which students learn from each other are limited.
D. Teacher; applies only one type or limited instruction strategy; applies mainly expository instruction method. The activities conducted are only for individual learning.

1. 3. *The teacher utilizes teaching materials effectively.*

A. Teacher; uses instructional resources and materials skillfully; wastes no time in using resources and materials; designs and uses instructional materials consistent with curriculum and student needs; designs and uses materials that provide meaningful learning activities for students; adapts textbooks/resources as needed; and uses a variety of different resources and technologies effectively to achieve learning outcomes.
B. Teacher; doesn't have problems using lesson equipment and materials; loses very limited time in using lesson equipment and materials; designs lesson materials in line with the curriculum and students' needs; adapts course books/resources when needed; applies certain resources and technologies appropriate to the learning outcomes.
C. Teacher loses time in using lesson equipment and materials. The materials designed according to the needs of students are limited. The resources and materials used provide students with very few meaningful learning experiences.
D. Teacher loses a lot of time in using lesson equipment and materials. The equipment and materials used are insufficient to provide students with meaningful learning experiences.

1. 4. *The teacher enunciates the objective of the subject and lesson.*

A. Teacher; expresses the objective and importance of the lesson or unit subject clearly; associates the subject and lesson with other subjects; attracts the attention of students to the subject; has a well-planned instruction of the subject and associates it with previous knowledge and experiences; engages students in the explanation of the subject and concepts.
B. Teacher; expresses the objective of the lesson or unit subject; explains how the subject is related with other subjects. The teacher's instruction is appropriate and associates it with students' previous knowledge and experiences.
C. Teacher expresses the objective of the lesson or unit subject. The teacher's instruction is appropriate and associates it with students' previous knowledge and experiences.
D. The objective of the lesson and subject is unclear for students. The teacher's instruction is complicated or the teacher uses unintelligible language.

1. 5. *The teacher gives timely and accurate instructions.*

A. Teacher; gives oral and written instructions in timely and precise language, with instructions including what to do and for what purpose; prepares and uses visual and written instructions using information technology; verifies that instructions are understood; provides alternative explanations in unambiguous terms; provides alternative explanations against possible misunderstandings.

B. Teacher's most of the written and oral instructions are timely and intelligible. Students don't spend much time to grasp the written and oral instructions. Teacher checks whether instructions have been understood.
C. Teacher's instructions at first seem to be complicated for students. Teacher is often obliged to repeat the instructions. Students have difficulty in following the instructions. Teacher tries to explain the instructions checking in the same manner. Students lose time to grasp the instructions.
D. Teacher's instructions cause confusion among students. Since teacher's instruction repetition is always the same, it causes confusion or panic.

1.6. *The teacher conducts and adapts activities supporting individual differences during teaching process.*

A. Teacher; effectively uses multimedia devices, various materials and activities towards individual differences such as learning styles, multiple intelligence and learning levels during teaching process; incorporates various resources appropriate to learning outcomes, content, teaching-learning process and evaluation elements of the curriculum.
B. Teacher; uses equipment, materials and activities towards individual differences during teaching process; adapts the resources in line with the requirements. The resources used are compatible with the curriculum.
C. Teacher presents examples generally addressing to the similar learning styles, multiple intelligence or learning levels. Teachers' use of equipment and materials towards individual differences in the teaching process is limited. Activity variety remains limited to few activities.
D. Teacher; presents examples addressing to similar learning styles, multiple intelligence or learning levels since s/he takes no notice of individual differences; lacks knowledge, skills and attitudes about individual differences in learning.

1.7. *The teacher organizes learning experiences appropriate to students' developmental characteristics and stages during the teaching process.*

A. Teacher; knows the age group characteristics of the students s/he teaches; conducts classroom activities and gives instruction according to the cognitive, affective, psycho-motor development, interests, requirements and wishes of students; uses a language appropriate to students' developmental stages and levels in subject teaching, example selection and resource use.
B. Classroom activities generally support developmental areas. During the teaching process, students' interests and requirements are noticed at a certain level. Most of the subject teaching, example selections, and resources used are appropriate to students' developmental stages.
C. Classroom activities support limited developmental areas. Very few of the student interests, wishes and requirements are considered. Subject teaching, example selection and resources used are either above or below the level of students.
D. Activities support only one developmental area. Teacher's language, examples and resources used are either above or below the level of students.

1.8. *The teacher organizes special learning activities for students who need special education.*

A. Teacher; knows how to help students with special educational needs, makes necessary arrangements for students to participate in the classroom, and organizes instructional practices accordingly; makes necessary physical and instructional accommodations for students with special needs; facilitates these students' access to learning activities and materials; collaborates with experts and families as needed.
B. Teacher; organizes education practices by considering the needs of students who need special education to a certain extent; partly makes the necessary physical and instructional adaptations for students with special needs. Those students have some difficulties in accessing learning activities and materials. When needed, teacher cooperates with experts and families to a certain extent.
C. Teacher considers and organizes the needs of students who need special education in a limited way. Students with special needs have great difficulties in accessing learning activities and materials. Teacher carries out the practices towards students who need special education on his/her own.
D. Teacher; conducts instructional practices without considering the needs of students who need special education; tries to carry out instructional practices towards students with special needs on his/her own; lacks knowledge, skills, and attitudes regarding organizing learning activities for students who need special education.

1. 9. *The teacher enables students to actively participate in teaching process.*

A. Teacher; employs student-centred instructional strategies, methods, and techniques; monitors instruction on an ongoing basis; prepares learning environments with respect to the needs of students who have difficulty learning; makes necessary accommodations for students who resist learning; creates special plans, guides, and monitors students to meet their individual learning needs.

B. Teacher; mostly utilizes student-centred instructional strategies, methods and techniques; diagnoses and supports students who need extra support to a great extent; makes special plans to meet the needs of those students.
C. Teacher utilizes teacher-centred instructional strategies, methods and techniques. Teacher gives feedback to whole class rather than individual feedback. Teacher's support to students who have learning difficulties is limited.
D. All the instructional strategies, methods and techniques the teacher utilizes are teacher-centred. Teacher always conducts the lesson with particular students.

2- Content Knowledge and Teaching

2. 1. *The teacher has the knowledge of related discipline and uses it effectively.*

A. Teacher; has the command of subject-matter terminology; well knows the prerequisite knowledge and provides students with concept maps; builds the subjects on students' previous knowledge; presents the relationship between the subjects and concepts through specific examples; gives examples from daily life and engages students in this process; provides students with activities allowing the transfer of knowledge across subjects and generalization; gives importance to depth rather than the breadth of knowledge during instruction; doesn't make content errors.
B. Teacher; has the command of basic knowledge of subject-matter terminology; knows the prerequisite knowledge; builds the subjects on students' previous knowledge; demonstrates the relationship between subjects and concepts; gives examples from daily life; asks students to give their examples; doesn't make content errors.
C. Teacher; knows the basic subject-matter concepts, but has some difficulties in showing the relationship between them; conducts activities that indicate s/he has the basic command of prerequisite knowledge of the field.
D. Teacher; makes content errors; conducts limited activities indicating s/he has the basic command of prerequisite knowledge of the field.

2. 2. *The teacher adapts teaching process according to the requirements in the face of unexpected situations.*

A. Teacher; prepares flexible lesson plans; possesses advanced decision-making skills; skillfully makes significant changes to lesson plans as needed; continually analyses context and makes appropriate attempts; pursues diverse and alternative instructional methods that may be effective for students with learning difficulties; incorporates deductive and inductive instructional strategies depending on objectives, topic, situation, and individual differences; uses a variety of resources; turns unexpected situations or diverse student interests and questions into opportunities for learning and teaching; helps students question and explore the topic from multiple perspectives.
B. Teacher; continuously analyses the context and makes appropriate attempts; successfully makes little changes in the lesson plan according to the need and situation; successfully replies students' various questions or responds to their interests and continues to the lesson; tries different instruction ways for students who have learning difficulties.
C. Teacher; attempts to make changes in the lesson plan in the face of unexpected situations; however, those attempts partly become successful; loses a lot of time while responding to students' questions or interests. The flow of the lesson breaks down. Teacher has a limited repertory of teaching strategies and decision-making skills.
D. Teacher sticks to the lesson plan strictly even if it needs to be changed. Teacher is indifferent to students' various questions.

2. 3. *The teacher enables students to use higher-order thinking skills.*

A. Teacher; utilizes thinking skills such as critical thinking, creative thinking, problem solving and decision-making skills; asks questions like "*Why*?", "*What would have happened if…?*", "*What would you do if you were…?*", "*Which option would you choose and what would be your justification*?", *What approaches would you use in solving this problem and why*?" that guide higher-order thinking; encourages students to critique each other by presenting evidence and reasoning in a democratic environment, taking multiple points of view, asking effective questions, and presenting real and alternative answers; guides students to synthesize and analyze; organizes activities to develop their creativity, thinking, and social skills; and becomes a role model for students.
B. Teacher; utilizes higher-order thinking skills; always asks questions guiding to higher-order thinking and usually engages students in this process; supports students to focus not only the surface but also the deeper meaning of the knowledge.
C. Teacher; asks questions both requiring and not requiring higher-order thinking; encourages students to make meaningful arguments instead of direct instruction and repetition even if it isn't regular.
D. Teacher's instruction is at information level. The questions s/he asks have a single right answer rather than requiring higher-order thinking. The interaction between the teacher and students depends only on information transmission.

2. 4. *The teacher assigns tasks based on research and inquiry.*

A. Teacher; guides students to use information technology for research and inquiry; illustrates the use of various resources; uses examples to show how students can access knowledge; helps students use search strategies; shows students how to analyse knowledge; allows students to research various resources in small or larger groups and asks them to compare, classify, and question what they find; assigns homework that promotes students' lifelong learning skills.
B. Teacher; enables students to research from various resources; demonstrates how to access those resources; illustrates how to analyse knowledge; guides students in using various resources; provide students with opportunities to share their findings.
C. The resources s/he uses in the activities and assignments are limited. The teacher partly demonstrates how to access and analyse knowledge. Out of class activities and assignments are limited.
D. Teacher carries out the activities and assignments through a single resource. All the activities and assignments are done in the classroom.

3- Classroom Management

3. 1. *The teacher creates a democratic and free classroom environment.*

A. Teacher; takes students' opinions into account in determining code of conduct and classroom rules; applies the rules for all squarely; infuses democracy into students as a culture; creates a secure classroom environment based on rapport, respect and mutual tolerance; makes every student feel valuable and unique; gives students an equal voice; involves students keeping silent or reluctant, instead of giving voice to the same students. Students know why they should or shouldn't do certain things in the classroom.
B. Teacher; has established the code of conduct and classroom rules and applies the rules for all squarely; infuses democracy into students as a culture; creates a secure classroom environment based on rapport, respect and tolerance; tries to give everyone an equal voice. Students know why they should do or shouldn't do certain things in the classroom.
C. Code of conduct and classroom rules have been determined, but students sometimes feel puzzled about what is allowed or not. The teacher can sometimes be inconsistent in applying classroom rules. Most of the students respect each other. Some students are dominant in the classroom.
D. Students feel puzzled about what they are allowed to do or not in the classroom. Some students are dominant in the classroom. Students can treat their peers discourteously.

3. 2. *The teacher knows and applies the preventive measures in classroom management.*

A. Teacher; skilfully and continuously monitors students in the classroom; detects the problematic situations and students; takes necessary measures; encourages students to become self-disciplined. Students warn their peers with due regard should the case occur.
Teacher; handles interpersonal disputes and conflicts before they come to a head; makes group assignments attentively and according to personal characteristics; knows what to look for in peer matching; does not lose his temper easily because of misbehaviour; does not insult or threaten students; addresses misbehaviour in a timely manner; enables students to behave properly by reminding them of class rules.
B. Teacher; continuously monitors students in the classroom; detects the problematic situations and students; timely deals with misbehaviours; doesn't easily lose temper due to misbehaviours; doesn't insult or threaten students; respects students' dignity.
C. Teacher; can miss some misbehaviours although s/he is aware of students' behaviours; deals with the misbehaviours s/he sees; sometimes gets angry easily due to misbehaviours; spends some of the lesson time by dealing with behavioural problems.
D. Teacher; has difficulty monitoring what students do in the classroom; inconsistently deals with negative situations and behaviours; performs an authoritarian and angry approach; acts and makes statements that are beneath students' dignity.

3. 3. *The teacher supports and appreciates students' efforts for learning.*

A. Teacher; encourages all students to do their best; praises and recognises appropriate student behaviour and performance; sets challenging goals for students; supports and guides students in developing their skills and performance; knows or seeks to discover students' interests and abilities; motivates students to develop new and creative ideas.
B. Teacher; tries to learn the interest and abilities of all students; praises and appreciates the appropriate behaviours and achievements of students; sets challenging targets for students; encourages students to put more effort for learning.

C. Teacher; usually praises and appreciates students' appropriate behaviours and achievements; shows interests in students' abilities.
D. Teacher; deems success and ability related with his/her discipline; seldomly praises and appreciates the appropriate behaviours and achievements of students.

3. 4. *The teacher uses the lesson time effectively.*

A. The introduction, development and closure segments of the lesson are clear to students. Students are aware of the segment of the lesson they are engaged in. Teacher associates all of the activities including fun and games and discussions with lesson subject. The pace of the lesson is appropriate for all students. The time allocated for activities is logical. Teacher allocates time for practice, repetition, reflection and wrap-up in the lesson. Transitions between activities are seamless and teacher doesn't lose time.
B. Teacher structures the lesson as introduction, development and closure. The beginnings and endings of the activities are clear. Teacher allocates most of the lesson time for instructional purposes. The pace of the lesson is appropriate for students. Teacher associates most of the activities including fun and games with lesson subject. Some activities may last earlier or longer than planned. There is short loss of time between activity transitions. Teacher allocates time for practice and repetition in the lesson.
C. There are some inconsistencies with the pace of the lesson. Even though the lesson's introduction, development and closure segments are recognizable, they are sometimes intertwined. Teacher loses time between the transitions of the activities or segments of the lesson. Preparations and arrangements take long time. The activities last either earlier or longer than planned. Some students are either obliged to rush or time elapses very slowly for some students.
D. The structure or segments of the lesson are not clear. The time loss between transitions of the activities or lesson segments is significant and preparations and arrangements take long time. The activities last earlier or longer than planned. The lesson pace is either too slow or fast.

4- Effective Communication with Stakeholders

4. 1. *The teacher uses Turkish effectively in written and oral communication and becomes a role model for students.*

A. Teacher; uses Turkish in an effective, clear and intelligible manner; becomes a role model for students to use Turkish effectively in terms of grammar and pronunciation. Teacher's tone of voice and stresses are appropriate.
Teacher; can easily be heard by all students; doesn't use or allow students to use vulgar language in the classroom even for entertainment purposes; corrects students' misuses of the language.
B. Teacher; uses standard Turkish; doesn't use or allow students to use vulgar language in the classroom; differentiates class language from daily language; corrects students' language use errors.
C. Teacher; sometimes uses daily language in the classroom even though s/he mostly uses class language; makes certain language and pronunciation errors. Students use the class and daily language together.
D. Teacher makes Turkish use errors. Students use vulgar language. Teacher is indifferent to students' language use errors.

4. 2. *The teacher regularly informs parents regarding the development of students.*

A. Teacher; often informs parents regarding the developmental processes of students; makes meetings with parents when needed; applies various communication channels to inform parents; is attentive to parents' sensitivity in doing this and doesn't use a breaking and offending language.
B. Teacher; informs parents regarding the developmental processes of students at regular intervals; is attentive to parents' sensitivity in doing this; accepts the meeting wishes of parents about their children.
C. Teacher; informs parents about their children at parents' meetings at school; rarely meets with parents.
D. Teacher; provides minimal information about students' progress to parents; doesn't respond to parents' request for meetings. Teacher's language and manner in informing parents might be breaking.

4. 3. *The teacher professionally cooperates with administrators and colleagues.*

A. Teacher; works in tandem with administrators and colleagues; works with the administrators in mutual respect and rapport; fulfils the duties required by laws, regulations and circulars and becomes a role model for his/her colleagues in this respect; gives prominence to professionalism rather than friendship in school-related jobs; is honest and fair in their actions and speeches.
B. Teacher; works in tandem with administrators and colleagues; acts within the framework of laws, regulations and circulars in their relationships; is honest and fair in their actions and speeches.
C. Teacher acts within the framework of laws, regulations and circulars in their relationships with administrators and colleagues.

D. Teacher; acts and makes statements opposed to the legislation in their relationships with administrators and colleagues; acts beyond the scope of legal and ethical rules.

4. 4. *The teacher cooperates with families.*

A. Teacher; guides families to take part in school events and classroom activities; receives families' opinions on how they can contribute to assignments and projects to be conducted; encourages families to engage in school events on important days and special occasions; frequently informs families regarding in and out of classroom practices through various communication channels; shares the justification and expectations of assignments and projects with families.
B. Teacher; guides families to take part in school events and classroom activities; engages families in structuring the assignments and projects; shares their expectations of assignments, projects and other activities with families.
C. Teacher; occasionally makes efforts to engage families in the curriculum; informs families about classroom activities.
D. Teacher makes minimal efforts to engage families in school events and classroom activities.

4. 5. *The teacher uses supportive language in announcing the results of assignments, projects and examinations.*

A. Teacher; encourages others as well while praising successful students; encourages students to study harder without demotivating them; explains the results of assignments, projects and examinations with justifications and examples; respects students' dignity.
B. Teacher; uses supportive language in announcing the results of assignments, projects and examinations; encourages others as well while praising successful students; respects students' dignity.
C. Teacher; usually uses supportive language in announcing the results of assignments, projects and examinations; doesn't act or make speeches offending students.
D. Teacher's manner in announcing the results of assignments, projects and examinations can be heartbreaking. The teacher doesn't encourage students to study harder and doesn't explain the justification of the results.

5- Professional Development and Responsibilities

5. 1. *The teacher seeks ways to improve his/her learning and performance through self-evaluation.*

A. Teacher; reflects on the positive and negative impact of their instructional practices on students and families; shares their experiences/knowledge with colleagues and solicits their feedback; conducts or participates in research to determine the effectiveness of instructional practices, resources and materials, and parent satisfaction; uses research findings to improve instruction; follows recent publications in their field and adapts recent developments into their instruction..
B. Teacher; reflects on the positive and negative effects of their instructional practices on students and families; shares experience/knowledge with colleagues and takes feedback from them; follows the recent publications in their field and adapts the current developments into their teaching; plans on how to improve instructional activities and collects systematic information.
C. Teacher; Reflects on the extent to which their instructional practices and lessons were effective; is aware of the extent to which learning outcomes were achieved.
D. Teacher cannot exhibit reflection and evidence regarding professional development or how a lesson could be improved when taught another time and doesn't feel a need for further planning.

5. 2. *The teacher participates in continuous professional development events.*

A. Teacher; participates in professional development events such as job shadowing, literature reviews, seminars, etc., that are aligned with curriculum, his/her professional development needs, or student needs and reflects/plans how to apply what he/she has learned to practice; sets professional development goals for him/herself; meets regularly with colleagues; establishes or becomes a member of a learning community at school.
B. Teacher; participates in professional development events such as job shadowing, literature reviews, seminars, etc., designed for curriculum, own professional development needs, or student needs, and reflects/plans how to apply what he/she has learned to practice; sets professional development goals.
C. Teacher participates in professional development events that are organized only at his/her school.
D. Teacher resists participating in professional development events or receiving feedback for continuous professional development.

5. 3. *The teacher participates in professional development events to improve school.*

A. Teacher; voluntarily participates in school events providing support and contribution; takes initiative and encourages his/her colleagues in this respect; cooperates with his/her colleagues in mutual solidarity.
B. Teacher; voluntarily participates in school events; works with their colleagues in mutual cooperation; supports their colleagues when needed.
C. Teacher; participates in professional development events if obligatory; cooperate with colleagues when the school requires.
D. Teacher; avoids participating in school events; avoids sharing their expertise and abilities with the school. Teachers' relationships with colleagues are negative or distant.

5. 4. *The teacher exhibits digital citizenship qualities.*

A. Teacher; knows and uses technology-enhanced instructional opportunities; takes a leadership role for students in accessing these resources; has a critical approach to online resources; is aware of the opportunities and risks of online resources; guides students in the safe, legal, and ethical use of interactive media; is a role model for colleagues in identifying, learning, assessing, explaining, and adapting new digital resources and tools that facilitate learning.
B. Teacher; knows and uses technology-enhanced instructional opportunities; provides leadership for students in accessing these resources; has a critical approach to online resources; is aware of the opportunities and risks of online resources; guides students in the safe, legal, and ethical use of interactive media.
C. Teacher's use of instructional opportunities supported by technology is minimal.
Teacher; provides students with minimal guidance in using these resources; doesn't demonstrate the opportunities or risks of online resources to students; doesn't have a critical approach for online resources.
D. Teacher; doesn't know instructional opportunities supported by technology; isn't aware of opportunities and risks of online resources; doesn't guide students in safe, legal and ethical use of interactive media.

6- Assessment and Evaluation

6. 1. *The teacher uses various assessment tools congruent with the aim.*

A. Teacher; uses diagnostic, formative and summative assessment tools; uses mainstream and alternative assessment tools to evaluate the process and product; incorporates formal and informal assessment and continuously monitors students.
B. Teacher; uses diagnostic, formative and summative assessment tools; uses mainstream and alternative assessment tools to evaluate the process and product.
C. Assessment tools are for product evaluation. The teacher carries out an only a formal assessment.
D. Teacher carries out an only a formal assessment. The teacher's assessment approach is just grading.

6. 2. *The teacher designs the instruction according to assessment results.*

A. Teacher; re-designs the activity plans by timely finding out the individual or common errors/mistakes based on the assessment results; writes reports on strengths and weaknesses of students; provides students with individualized learning experiences through interviews or written feedback.
B. Teacher; re-designs the activity plans by timely finding out the individual or common errors/mistakes based on the assessment results; gives individualized feedback along with general evaluation and feedback.
C. Instead of individualized evaluation, the teacher continuously performs general evaluations addressing the whole class.
D. Students are assessed just for grading purposes.

6. 3. *The teacher designs assessment tools aligned with learning outcomes.*

A. Teacher's assessment-evaluation approach is objective and congruent with learning outcomes. Each question in the assessment tool is for a specific learning outcome.
B. Teacher's overall assessment-evaluation approach is aligned with learning outcomes. Some questions are assessed through subjective criteria.
C. Some assessment tools and questions are aligned with learning outcomes.
D. Minimal assessment tools and questions are aligned with learning outcomes.

6. 4. *The teacher determines and shares the process evaluation criteria with students.*

A. The process evaluation elements are well-planned. Students have a right to say while structuring the assessment regarding assignments, project/group work and portfolios.

Teacher; demonstrates the assessment tools with specific examples; clearly explains the expectations and criteria to students.
B. Teacher; determines some assessment elements regarding assignments, project/group work and portfolios together with students; expresses the criteria to students clearly.
C. Teacher; decides on the assessment elements regarding assignments, project/group work and portfolios on his own; explains how student work will be evaluated through general expressions.
D. Only the teacher decides on the elements of process evaluation.

6. 5. *The teacher incorporates self and peer evaluation techniques.*

A. Teacher; provides students with opportunities in which they can evaluate their own work; becomes a role model and encourages students in self/peer-evaluation, reflection and making individual development plans; guides students in this respect and puts in time.
B. Teacher; provides students with opportunities to evaluate their work; engages students in constructive peer-evaluation experiences and becomes a role model; informs students about self-evaluation.
C. Teacher; provides students with minimal information about self-evaluation; provides students with minimal opportunities to evaluate their work.
D. All assessment approach is teacher-centred.

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Mediator Role of Social Appearance Anxiety in the Relationship between Socio-Cultural Attitudes towards Appearance and Body Image Flexibility

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ABSTRACT

This study examines the role of social appearance anxiety in the relationships between socio-cultural pressures, internalization of socio-cultural values, and body image flexibility. Designed as correlational survey research, the study sample comprises 748 students in a university in Turkey. Data of the study is collected with three data collection tools: "Socio-Cultural Attitudes Towards Appearance Scale", "Social Appearance Anxiety Scale", and "Body Image Flexibility Scale". A simple mediation model, which was applied with regression-based mediation analysis, shows that social appearance anxiety is a mediator on the relationships between socio-cultural pressures, internalization of socio-cultural values, and body image flexibility.

Keywords:
Social appearance anxiety, socio-cultural attitudes towards appearance, body image flexibility, college students

1. Introduction

According to Acceptance and Commitment Therapy (ACT), it is extremely important to provide psychological flexibility in therapeutic processes (Hayes et al., 2011) and S. Psychological flexibility is the ability of individuals to be in touch with their experiences in the present and choose to act in accordance with their chosen values (Harris, 2016).The concept of psychological flexibility can be approached in different contexts and within the framework of specific situations. This approach is based on the idea that psychological flexibility does not have conceptual and clinical tools as well as psychological flexibility focusing on particular situations and problems (Gregg et al., 2007; MacKenzie & Kocovski, 2010; Wendell et al., 2012). Compulsive eating behaviours, continuous dieting, individuals' efforts to "fix" their bodies in line with idealized images are closely related to low psychological flexibility. However, since psychological flexibility refers to the general psychological state, not specific to different problem areas, it does not provide an enlightening explanation of which mechanisms govern individuals' compelling thoughts towards their bodies.

For this reason, examining compelling thoughts specific to body shape and body weight becomes much more important than examining general psychological flexibility (Wendell et al., 2012). Based on this conceptual orientation, Sandoz et al., (2013) present the concept of body image flexibility (BIF), a form of psychological flexibility. BIF is a unique form of psychological flexibility that is addressed in body satisfaction. BIF includes all the basic features of psychological flexibility in terms of differentiating from negative thoughts about body image in real terms, acting devoted to values, and performing desired behaviours without experiential avoidance.

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On the other hand, the concept of BIF includes the ability to be completely open to compelling events and experiences related to body image without judgment and defence, and consequently the support of value-oriented behaviours (Sandoz et al., 2013). When a person starts to internalize social norms related to body size, he determines his behaviour according to "standards" to meet these norms. According to a study, internalization of appearance-related norms was a risk factor for appearance-related disorders (Thompson & Stice, 2001). So, when the person fails to conform to the standards they perceive, they may experience tension. The tension regarding the difference between the reality of one's body and the ideal body recalls social appearance anxiety. Social appearance anxiety (SAA) is the tension that individuals experience that other peoplother people will determine their physical appearance will evaluate their physical appearance. SAA emerges because of the negative image of the person's body appearance (Hart et al., 1989).

It is noteworthy that there are important relationships between body image and psychological health-related variables. Several remarkable descriptive studies are emphasizing the relationships between negative body image and depression, low self-esteem, and various anxiety disorders (Goldfield et al., 2010, Konstanski & Gullone, 1998; Noles et al., 1985; Oktan & Şahin, 2010); body appreciation and self-compassion (Perey & Koenigstorfer, 2020); body image and attachment style (Arslangiray, 2013); BIF and self-esteem and depression (Baş, 1996; Oktan & Şahin, 2010); BIF and subjective well-being (Oktan, 2012). Another research reported that BIF mediated the relation between body dissatisfaction and psychological distress (He et al., 2020). Another mediation analysis about body image inflexibility confirms that BIF fully mediated the relationship between body mass index and dietary restraint (Tang et al., 2020).

Although no research to date has explored examining the relationship between body image flexibility and appearance anxiety, according to Shepherd et al. (2019), lower levels of cognitive flexibility appear to be linked to higher levels of appearance-related anxiety or concern. According to another research, increased mindfulness significantly predicted social appearance (Montgomery et al., 2016). Despite the emerging attention to body image flexibility, most research presents the psychological variables and their relations with body image flexibility. Although social appearance anxiety and socio-cultural norms related to appearance are important concepts in BIF, no research has explored examining the role of such socio-cultural attitudes and social appearance anxiety on body image flexibility. Sabucedo (2017) considered psychological flexibility and remarks the relevance. According to Stice and Agras (1998), socio-cultural pressures such as, media pressure, peers and family, individuals to adhere to culturally defined beauty standards. According to Leit et al. (2001), male models in media contents have become more muscular and female models have become thinner. Many studies reported female want to be underweight, unlike their male counterparts, who are primarily want to be overweight (Levinson et al. 1986). Values of the socio-cultural construction of values and a potential connection between psychological flexibility. BIF has received no attention directly and there is a need for studies explaining the relationship between BIF and socio-cultural influences.

BIF, which supports approaching the body with sensitivity, being open to compelling physical situations without judgment, and acting in a value-oriented manner in other areas of life, can be considered as a protective psychological factor. Besides, in a cross-sectional study, it was observed how individuals' body images changed in the following years. In this study covering nineteen years, it was determined that the body images of 3127 university students changed negatively (Cash et al., 2004). It seems that the negative body image has a positive relationship with negative psychological variables, and there is no positive change in the body image with the aging body over the years. At this point, explaining BIF, which integrates the concept of body image with the concept of psychological flexibility, seems meaningful in terms of protecting psychological health. It can be said that descriptive studies on body image flexibility are important and necessary to understand BIF better and increase BIF level.

Based on all these explanations, the problem of this research aims to determine the role of social appearance anxiety on the relationship between socio-cultural pressures, internalization of socio-cultural values, and body image flexibility. The hypothetical model established in terms of the understandability of the proposed model is included in Figure I. The hypothetical model presents relations of body image flexibility, social appearance anxiety, socio-cultural pressures, and internalization of socio-cultural values.

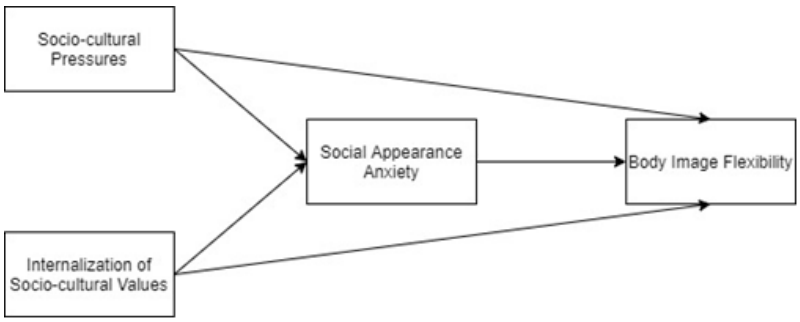

Figure 1. *Hypothetical model*

The research hypotheses determined according to the hypothetical model are given below.

H_1: Socio-cultural pressures directly affects- social appearance anxiety.

H_2: Internalization of socio-cultural values directly affect social appearance anxiety.

H_3: Socio-cultural pressures directly affect body image flexibility.

H_4: Internalization of socio-cultural values directly affects body image flexibility

H_5: Social appearance anxiety directly affect body image flexibility.

2. Methodology

2.1. Research Model

The research is a survey model aiming to find relations between social appearance anxiety, socio-cultural pressures, internalization of socio-cultural values, and body image flexibility. The research study sample consists of students in different faculties in a university. The study group was determined using the appropriate sampling method (Büyüköztürk, 2007). When determining the sample size, it is suggested that the ratio of the number of participants to the number of parameters should be at least 10 (N / P = 10) (Kline, 1998). Therefore, 59 parameters (12 items for body image flexibility scale, 31 items for socio-cultural attitudes towards appearance scale, 16 items for social appearance anxiety scale) are included in the proposed path model, (59 * 10) at least 590 participants supposed to be reached. After all, in the data analysis process, 748 students' questionnaires were analysed.

67.2% (n = 503) of the participants are female and 32.8% (n = 245) are male. The age range of the participants is 17-32 and the average age is 20.81 (Sd: 1.93). 33.7% (n = 252) of the participants were in the 1st grade, 6.1% (n = 46) were in the 2nd grade, 20.5% (n = 153) were in the 3rd grade and 39.7% (n = 297) were in the 4th grade. Participants completed the survey voluntarily. Ethical approval was received from the Mugla Sıtkı Koçman University Research Ethics Committee in Turkey.

2.2. Data Collection Tools

Personal information form (PIF). In the study, two separate "Personal Information Forms" were used to collect data about some personal characteristics of the students. In this form, to determine the gender, age, grade level of the student participating in the study, information about their undergraduate program was obtained.

Socio-cultural attitudes towards appearance scale (SATAS). SATAS, which was used to test the model, was developed by Schaefer et al., (2017). The scale aims to identify the sociocultural risk factors related to body image and internalization (muscle structure) (1, 4, 8, 10, 15), internalization (being weak) (3, 6, 11, 13), internalization (general attractiveness) (2, 5, 9, 12, 14), and media pressure (28, 29, 30, 31), peer pressure (21, 22, 23, 25, 26, 27), and family pressure (16, 17, 18, 19); it consists of six subdimensions.The scale was adapted to Turkish by Cihan et al., (2016). The scale consists of 31 items and is answered as (1) strongly disagree, (5) strongly agree. Higher scores obtained from the scale are interpreted as the perception of socio-cultural pressure towards appearance, and items 9, 10, and 14 are reverse scored. An exploratory factor analysis was conducted to evaluate the construct validity of the Turkish form of the scale. As a result of the analysis made on 249 female university students, it was reported that the scale showed a 6-factor structure, and the factor

loads of each factor were above .53. In addition, the eigenvalues are 2.15 for internalization (muscle structure), 1.47 for internalization (weakness), 3.27 for internalization (general attractiveness), 3.88 for media pressure, 9.21 for peer pressure, and 1.80 for family pressure. The internal consistency coefficients of Cronbach's alpha for the subscales range from .84 to .96. In the current study, the Cronbach's alpha reliability coefficient of the scale ranges from .88 to .92 for the subscales.

Social appearance anxiety scale (SAAS). SAAS was developed by Hart et al. (2008) to measure the social appearance anxiety levels of individuals. SAAS was adapted to Turkish by Doğan (2010). The scale consists of 16 items. It is answered between I strongly agree (5), strongly disagree (1), and it is a 5-point Likert type. The first item is scored in reverse. Increasing scores indicate higher social appearance anxiety. The psychometric properties of the Turkish form of SAAS were examined with 340 university students and it was reported that the scale had a single-factor structure as in the original ($\chi 2 = 143.79$, $p < 0.01$; RMSEA = 0.051; AGFI = 0.90; IFI = 0.99; RFI = 0.98; NFI = 0.98; CFI = 0.99; GFI = 0.93). Besides, the correlation of the SSI Turkish form with the Fear of Negative Evaluation Scale is .60. The Cronbach's alpha internal consistency coefficient was .93, and the test-retest correlation made one month apart was .85. In this study, the Cronbach alpha reliability coefficient was calculated as .93.

Body image flexibility scale (BIFS). BIFS was developed by Sandoz et al. (2013) and consisted of 12 items. It is scored between "(1) Not at all suitable and (7) Completely suitable". The scores that can be obtained from the scale are 7-84. All items of the scale are scored in reverse. Thus, high scores obtained from the scale are interpreted as increasing body image flexibility. Turkish form of BIFS was made by Kaya (2019). Goodness of fit values for the tested model ($\chi^2 = 154.87$; df = 54; χ^2 / df = 2.86; RMSEA = 0.08; CFI = .95; TLI = .94; GFI = .91; NFI = .92; IFI = .95) indicates that the available data set fits well with the tested model. One month after the first administration of the test, the correlation coefficient between the scores obtained by applying the test for the second time to the same participants was.75. In the positive direction between the first and the last test scores of the BIFS ($r = .88$, $p < .01$). BIFS has a negative and significant correlation with Social Appearance Anxiety Scale ($r = -.50$, $p < .01$) and its correlation with the Self-Concept Scale ($r = .43$, $p < .01$) is positive and significant. These results are evidence of criterion-related validity.

To test the construct validity of the scales for this study, a CFA was performed in which the originals of each scale were retained. Table 1 contains the fit indices for the CFA analysis of BIF, SAAS, and SATAS.

Table 1. *CFA Analysis of BIF, SAAS, and SATAS*

	χ^2	df	CFI	GFI	NFI	IFI	RMSEA
BIF	379	54	.91	.90	.91	.94	.08
SATAS	2180.27	370	.94	.82	.92	.94	.08
SAAS	546.89	102	.98	.92	.99	.98	.07

When Table 1 is examined, it is seen that the BIF fit well in accordance with the original single-factor structure ($\chi 2 = 379$, df = 54, $p < .01$; CFI = .91; GFI = 90; NFI = .91; IFI = .94; RMSEA = .08). It is seen that SATAS fit well in accordance with the original structure ($\chi 2 = 2180.27$, df = 370, $p < .01$; CFI = .94; GFI = 82; NFI = .92; IFI = .94; RMSEA = .08). It is seen that the SAAS has a good fit in accordance with the original structure ($\chi 2 = 546.89$, df = 102, $p < .01$; CFI = .98; GFI = 92; NFI = .99; IFI = .98; RMSEA = .07). All these findings provide evidence of the construct validity of the BFI, SAAS and SATAS.

2.3. Analysis of Data

Before the analysis, outliers in the data set were excluded based on standardized z scores. 13 of the questionnaires were omitted from analyses because they had higher z values ($z \geq 3$). Also, it was determined according to VIF values whether there is a multi-linearity problem.

The Mahalanobis test was also performed to examine outliers, and three observations with high distance values were removed from the data set. Besides, it was examined whether there is a multi-connection problem in the data set. Since the VIF value was seen to be between 5-10, it was observed that there was no multi-connection problem. To test for mediation suitability, we examined whether the data set had a normal distribution. For this purpose, skewness and kurtosis tests were performed for each variable. According to the results obtained, the data set has a normal distribution. Table 2

Table 2. *Skewness and Kurtosis Results of the Variables*

	χ^2	*df*	*CFI*	*GFI*	*NFI*	*IFI*	*RMSEA*
BIF	379	54	.91	.90	.91	.94	.08
SATAS	2180.27	370	.94	.82	.92	.94	.08
SAAS	546.89	102	.98	.92	.99	.98	.07

When Table 2 is examined, the skewness and kurtosis values of the groups' BIF, SAAS, and SATAS scores are between the limits of -1.96 and +1.96. Therefore, it can be said that these values meet the normal distribution assumption. Confirmatory Factor Analysis was analysed primarily to test moderation models in the study. Afterwards, correlation coefficients were examined to determine the relationships between variables, and the next mediation analysis was performed. In the model testing, mediation analyses were applied. .05 significance level was taken as the criterion for determining the findings' significance. Jamovi and SPSS 21.00 package programs were used to analyse the data.

2.4. 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: Muğla Sıtkı Koçman University Ethics Committee. Date of Ethics Evaluation Decision: 15.01.2018 Ethics Assessment Document Issue Number: 2

3. Findings

In this section, descriptive statistics results from variables are presented. In Table 3, means, standard deviation values, and correlations of variables are reported.

Table 3. *Descriptive Findings and Correlations of the Variables*

	BIF	*SAAS*	*SATAS (internalization of sociocultural values)*	*SATAS (sociocultural pressures)*
Mean	63.3	31.7	7.86	4.88
Med	66	30	7.76	4.25
Sd	13.9	11.6	1.64	1.96
1	1			
2	-.52*	1		
3	-.51*	.39*	1	
4	-.40*	.45*	.30	1

*$p < .001$

Table 3 presents descriptive statistics and correlations between variables of the model. According to analysis there is a significant relationship between all variables. As presented in Table 3, there is a negative and significant relationship between BIF and SAAS (r = -.52), BIF and SATAS (internalization of socio-cultural values) (r = -.51), BIF and SATAS (socio-cultural pressures) (r = -.40). There is a positive and significant relationship between SAAS and SATAS (internalization of socio-cultural values) (r = -.39), SAAS and SATAS (socio-cultural pressures) (r = .45). There is also a positive and significant relationship between SATAS (internalization of socio-cultural values) and SATAS (socio-cultural pressures) (r = -.30).

Mediation analyses were used to determine whether sociocultural pressures and internalisation of sociocultural values predicted social body image flexibility by performing a simple regression analysis on the data. The results of the simple regression analysis are presented in Table 4.

Table 4. *Results for the Regression Model*

Predictor	*Coeff.*	*SE*	*t*	*p*	*R*	R^2
Constant	103.41	1.98	52.03	< .001	.63	.40
Social appearance anxiety	-0.38	0.04	-9.54	< .001		
Internalization of sociocultural values	-2.90	0.26	-10.98	< .001		
Sociocultural pressures	-1.07	0.22	-4.71	< .001		

As shown in Table 4, regression analysis showed whether social appearance anxiety, socio-cultural pressures, and internalization of socio-cultural values significantly and positively predicted body image flexibility (Coeff. = -.38, -2.90, -1.07, p < .001). The result of mediating analysis is shown in Table 4 and Figure 2 below.

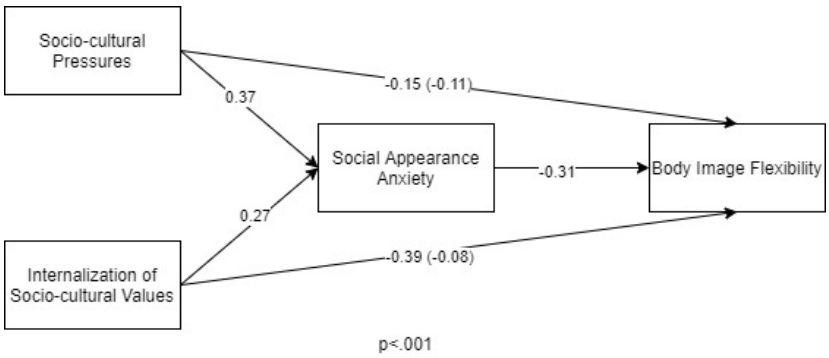

Figure 2. *Model of Mediational Role of Social Appearance Anxiety (Final Model)*

As presented in Figure 2 and Table 4, the results showed that socio-cultural pressures and internalization of socio-cultural values predicted social body image flexibility (Coeff. = .37, 95% CI: 1.81-2.57; p < .001; Coeff. = .27, 95% CI: 1.52-2.42; p < .001); besides, in the mediation analysis social appearance anxiety significantly predicted body image flexibility (Coeff. = -.31, 95% CI: (-.45) – (-.30); p < .01), and also decreased the effect of socio-cultural pressures on body image flexibility (from -.15 to -.11) and internalization of socio-cultural values on body image flexibility (from -.39 to -.08). Consequently, the results demonstrate the mediating role of social appearance anxiety on the relationship between socio-cultural pressures, internalization of socio-cultural, and body image flexibility.

4. Conclusion and Discussion

The current study examined the association between socio-cultural pressures and internalization of socio-cultural values, social appearance anxiety, and body image flexibility. According to the mediation model, one of the findings is that internalization of socio-cultural attitudes and socio-cultural pressure directly predicts social appearance anxiety. From the point of view of ACT, internal experiences, feelings, and thoughts have a precursor, leading individuals to exhibit certain behaviours (Harris, 2016). Therefore, the internalization of socio-cultural attitudes and pressure can be considered premises in terms of social appearance anxiety. Similarly, Thompson and Stice (2001) stated that internalization of appearance-related norms was a risk factor for appearance-related disorders.

Another finding obtained in the mediation model is the internalization of socio-cultural attitudes and socio-cultural pressure directly predicts body image flexibility. Although there is no study examining the relationships between these variables in the literature, Sabucedo (2017) reports a relationship between psychological flexibility and socio-cultural values. This finding of the research is in parallel with the finding of Sabucedo. Additionally, according to Stice and Agras (1998), socio-cultural pressures such as peers, family, and media pressure, individuals define beauty standard and these standard is how people perceive their bodies. As Leit et al. (2001) and Levinson et al. (1986) proposed, males and females desire to have similar body structures with ideal body symbols from the media. From this point of view, the more individuals are compatible with social standards about body image, the more they have a body image flexibility. Results of the current study is in line with the explanations of the referred authors.

Social appearance anxiety is individuals' anxiety about how they appear in social situations to be humiliated (Hart et al., 1989). Individuals with such anxieties are in a state of fusion with their thoughts triggered by both their internal and external life seems to be one of the reasons for the low BIE. The social appearance anxiety obtained in the mediation model directly predicts body image flexibility, supporting this idea. There is no direct study reporting a relationship between these two variables in the literature. As Shepherd et al. (2019) stated, lower levels of cognitive flexibility appear to be associated with higher levels of appearance-related anxiety or concern.

Finally, according to the findings, social appearance anxiety plays a mediating role between the internalization of socio-cultural attitudes and socio-cultural pressure and body image flexibility. On the other hand, the ability

to be open to compelling events and experiences related to the body image and supporting value-oriented behaviours (Sandoz et al., 2013), individuals with high social appearance anxiety may not have a high capacity to be open to challenging events related to their bodies (Wendel et al., 2012). Therefore, since these people struggle with compelling thoughts, feelings, and memories about their bodies, they increase the probability of cognitive fusion together with their efforts to control their thoughts, which may cause a decrease in BIF (Sandoz et al., 2010).

5. Recommendations

First, in this study, the model analysis was performed using the observed variables. It could be suggested that a similar study should be conducted using latent variables such as socio-cultural pressure and internalization of socio-cultural values. Second, the study was conducted with a nonclinical sample. Similar studies can be conducted in a clinical group with body image disorders.

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School Burnout in Middle School Students: Role of Problem Solving Skills, Peer Relations and Perceived School Experiences

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ABSTRACT

Purpose: The purpose of this study is to examine the relationships between middle school students' school burnout, problem-solving skills, peer relationships, and perceived school experiences and to determine the predictive power of perceived school experiences, problem-solving skills, and peer relationships on academic burnout. Method: The research was created based on the survey model. The sample of the study composed of 2538 secondary school students (1257 girls and 1281 boys) who attended ten official secondary schools during the 2018-2019 academic year. In the research, "Elementary School Student Burnout Scale for Grades 6-8", "Problem Solving Inventory for Children at the Level of Primary Education", "Peer Relationship Scale" and "Perceived School Experiences Scale" were used. Pearson Product Moment Correlation Analysis and Multiple Hierarchical Regression Analysis were used for the statistical analysis of the study. "p≤.05" was considered as the significance level for the study. Findings: According to the study results, it was determined that there are significant relationships between the predicted variable and the predictor variables. Significant predictors of the school burnout score were determined to be variables of gender and age, school engagement, academic motivation, confidence in problem-solving skills, self-control, avoidance, self-disclosure and loyalty subscales, respectively. Implications for Research and Practice: The importance of including activities related to protective factors in individual and group counselling services planned to prevent or reduce students' school burnout was emphasized. Risk factors that may affect school burnout are discussed and recommendations are made for further research.

Keywords:
Middle school students, school burnout, problem-solving skills, peer relations, perceived school experience.

1. Introduction

The school is an institution that prepares an environment and contributes to students' behavioral, social, affective, and cognitive development (Aypay, 2017). In addition to developing the student psycho-socially and academically, school life sometimes hosts stressful life events due to the nature of academic life (Durmuş, Aypay, & Aybek, 2017). In the study carried out by Fan (2000), 86.6% of the students perceived high stress originating from their academic life. When students cannot cope constructively with the stress they experience, they may develop school burnout due to the school or family (Durmuş et al., 2017).

School burnout has been defined in two ways. Aypay (2011) stated that school burnout is a state of physical, emotional, cognitive exhaustion and tiredness that occurs in students due to the "excessive" requests/demands of the education process on students. Yang (2004) expressed school burnout as emotional exhaustion, depersonalization and low personal/ individual accomplishment that students develop due to the

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stress they experience due to excessive course load and any psychological problems that may be experienced in the school environment. School burnout is a continuing phenomenon that originates from the educational process and school environments and extends to student burnout with the stress process (Salmela-Aro et al., 2009). The academic competition situation that exists between students increases its' severity with each passing day. On the other hand, this competitive environment is supported by others (teachers and parents). As a result of this situation, a stress factor occurs for students and students who cannot cope with this stress factor sufficiently can develop school burnout at a young age (Aypay, 2018). Studies on school burnout have found that students develop school burnout at their early stage (secondary school years) (Adhiambo et al., 2016; Baş, 2012; Demirel & Afat, 2018; Zhang et al., 2013). At the same time, school burnout is considered as a risk factor that may bring out negative consequences regarding physical and mental health (Çam & Öğülmüş, 2019). In some studies, conducted on secondary or secondary school students, it has been determined that school burnout is associated with some risk factors. *For example*; anxiety, hostility (Shin et al., 2011), antisocial tendencies (Lee et al., 2017), excessive internet use (Salmela-Aro et al., 2017), depressive symptoms or depression (Fiorilli et al., 2017; Lee and Lee, 2018; Salmela-Aro et al., 2009; Salmela-Aro & Upadyaya, 2014; Salmela-Aro et al., 2017; Shin et al. , 2011; Wang et al., 2015), cannabis use (Walburg et al., 2015), daily smoking (Kinnunen et al., 2016), suicidal thoughts (Walburg et al., 2014) gambling frequency (Räsänen et al., 2015), compulsion/impulsivity (Lee & Lee, 2018; Shin et al., 2011), being bully, being a victim, problem behaviors (Hafen et al., 2013). Studies reveal the importance of school burnout as a risk factor.

The existence of interpersonal problems that the student may experience in the school and the solution of these problems may be related to school burnout. Slivar (2001) stated the situations that may cause school burnout in six items. One of the items is the student's failures in interpersonal relationships and the lack of appropriate interpersonal relationships. Individuals who apply positive problem-solving skills, utilise assertiveness skills, manage stress, and have sufficient social support from their environment can establish healthy communication and interaction with others; it has also been found that the risk of developing burnout decreases (Payne, 2001).Problem-solving skill has been defined as a cognitive interpersonal process that aims to discover, define, and resolve the conflict in a acceptable or satisfactory manner for all parties concerned (D'Zurilla et al., 2004). Problem solving refers to a process. Problem solving covers a process from the individual encountering the problem to solving the problem (Eskin, 2014). Kim, Kim, and Lee (2017) found in their study of 405 middle school students that problem-focused coping ability had a significant impact on the relationship between school burnout and effort-reward imbalance, while emotion-focused coping ability had no significant impact.. As a result, problem-focused coping skills are effective in reducing risk situations such as school burnout. Shin et al. (2012), in their study on 357 middle school students; found that there is a negative relationship between coping skills and school burnout, and a positive relationship between passive coping skills and school burnout. Luo, Wang, Zhang, Chen, and Quan (2016) found in their study of 1222 middle school students that there was a negative significant relationship between task-oriented coping skills and school burnout, and that there was a positive significant relationship between emotion-oriented coping skills and school burnout.. At the same time, they found that self-esteem and emotion- focused coping skills mediated the relationships between different dimensions of perfectionism and school burnout, respectively.

Peer relationships that often conflict, try to dominate or establish superiority, and create a negative behavior pattern with the individual's peers and close environment. Negative behavioral patterns of students may cause reactions towards them from their classmates and teachers. These negative reactions may cause students to drift apart from their classmates and classroomactivities, feel lonely, and weaken their commitment to the school (Berndt, 2002). Peer relationships can provide a favorable environment for the individual in terms of healthy development and constructive educational life (Vaquero & Kao, 2008). Constructive peer relationships have apositive effect on the adolescent's life (Berndt & Keefe, 1995). Salmela-Aro and Tuominen-Soini (2010) stated that peer relationships play a role in students' participation and attendance at school.

Individuals who receive peer support are likely to perceive the school climate positively (Vaquera & Kao, 2008). It has been determined that the relationship and interaction established with high achieving peers can function as a protective factor against school burnout (Kiuru, Aunola, Nurmi, Leskinen, & Salmela-Aro, 2008). Berndt and Keefe (1995), in their study on 297 middle school students; found that groups of friends resembled each other with the process they went through inpeer groups and became similar in destructive behaviors within themselves. At the same time, it was stated that adolescents are closely related to the

characteristics of their friends, and they are affected by these characteristics. In this case, students whose friendship relations are more friendly and supportive increase their participation in school.

On the other hand, they found that students whose peer relationships were related to competition and conflict decreased their involvement in school, displayed incompatible behaviors and experienced discomfort in the process. No, Sam, and Hirakawa's (2012) study examined individual, family, and school reasons for school dropout among Cambodian primary school students in rural areas and found that among individual factors, strong peer relationships were a factor that increased their participation in school. Wang, Kiuru, Degol, and Salmela-Aro (2018) conducted a study of 1419 students to determine the effects of peer relationships and peer selection on emotional (continuity/participation in school activities, school burnout, school attendance), cognitive (academic effort), and behavioral (retention in school) involvement in adolescents' school life.According to this, they found that; peer selection and level of peer effects change according to the level of school participation, in the process peers have an effect on the cognitive, emotional and behavioral interaction of the adolescent, the similarity in the behavioral dimension (between peers) is a factor that increases the possibility of establishing peer relationships, the academic success factor is a factor affecting the peer choice and the peer relationship.

In addition to providing academic skills and knowledge, school environments create important social experience areas to perform their social, emotional and behavioral functions. While the roles of the school environment for students are to build healthy relationships with peers, develop their social skills, continue school attendance, succeed in the classroom, their efforts to graduate, protect their mental health; all of this makes up the content of the concept of "school experiences" (Anderson-Butcher, Amorose, Iachini, & Ball, 2012). School experiences have important implications for how students perceive themselves, their thoughts and feelings, and school life (Akın, 2015).Early adolescence (middle school period) is a difficult and sensitive period in psychological, social and academic changes. During the transition from primary school to secondary school, great changes occur in school experiences, and students are expected to adapt to these situations; at the same time, they must cope with negative situations that may occur during this developmental transition period (Goldstein, Boxer, & Rudolph, 2015). Supporting constructive school experiences will be an important step to increase students' psychological and social well-being (Akın, 2015). There are three building blocks of perceived school experiences: academic pressure (academic monitoring), commitment to school, and academic motivation (Anderson-Butcher et al., 2012). These are critical to school experiences. Taken together, it strengthens overall academic achievement in school and plays an important role in the positive youth development process (Anderson-Butcher et al., 2012). In his study, Shin (2020) determined a significant positive relationship between students' school burnout and teachers' academic views. Accordingly, when teachers increase the pressure on academic achievement, school burnout in students also increases. In their study, Lee, Puig, Lea, and Lee (2013) determined that as the grade levels of the students (from the 4th to the 12th grade) increase, the academic demands from students increase and the burnout levels of the students increase accordingly. It has been stated with studies conducted on middle and high school students that there is a significant negative relationship between school burnout and school engagement, and school engagement is a significant predictor of school burnout (Özdemir, 2015; Pilkauskaite-Valickiene, Zukauskiene, & Raiziene, 2011; Shin & Yu, 2014; Şahan and Duy, 2017). In addition, Rathmann, Heilmann, Moor, and Richter (2017), in their study on 1190 adolescents, found that the smoking probability is increased of adolescents with low school engagement levels and high school burnout levels. Studies conducted on middle and high school students have proved that there is a significant negative relationship between school burnout and academic motivation, and they are significant predictors that affect each other (Avara, 2015; Chang, Lee, Byeon, & Lee, 2015; Herrmann, Koeppen, & Kessels, 2019; Özdemir, 2015; Seçer & Öztürk,2015; Zhang et al., 2013). In light of these results, the three factors that build up the structure of school experiences can play a protective role in reducing or preventing school burnout.

In line with the explanations above, this study is important in determining the predictive power of some variables (problem solving skills, peer relations, perceived school experiences) on school burnout levels of secondary school students. Accordingly, this study aims to determine the characteristics of the relationships among school burnout, problem-solving skills, peer relationships, and perceived school experiences that have significant effects on individuals in early adolescence (secondary school), and to determine the gender

variable, age variable, perceived school experiences, problem-solving skills, and the predictive power of peer relationships on school burnout scores.

2. Method

2.1. Research Design

The dependent variable of this study is school burnout and its independent variables are problem solving skills, peer relationships and perceived school experiences. To determine the relationship between the variables, the relational descriptive survey model, which is included in the general survey model, was taken as a basis. Relational descriptive survey models are research models that aim to determine the existence or degree of change between two or more variables (Karasar, 2020).

2.2. Research Sample

The study population of the research is based on 7th and 8th grade, which includes an average of 98271 students from 376 public middle schools (1 middle school for the hearing impaired and 3 special schools were excluded from the study population) in all districts of Bursa province affiliated to the Ministry of National Education in the 2018-2019 school year.. In this study, the disproportionate cluster sampling method was used to determine and select the number of clusters that will form the research group among the study population (376 middle schools). Accordingly, the study's research group omposed of 2538 secondary school students from ten different middle schools, six of which are normal, three of which are religious vocational schools, and one of which is a regional middle school with a boarding school, located in Bursa province in Yıldırım, Osmangazi, Gürsu and Nilüfer districts. 1257 (49.5%) of the students who make up the study group are girls and 1281 (50.5%) of them are boys. Accordingly, the study's research group omposed of 2538 secondary school students from ten different middle schools, six of which are normal, three of which are religious vocational schools, and one of which is a regional middle school with a boarding school, located in Bursa province in Yıldırım, Osmangazi, Gürsu and Nilüfer districts. 1257 (49.5%) of the students who make up the study group are girls and 1281 (50.5%) of them are boys. 1368 (53.9%) of the students are attending the 7th grade and 1170 (46.1%) of them are attending the 8th grade. 1634 (64.4%) of the students attend regular middle school, 826 (32.5%) attend religious vocational middle school, and 78 (3.1%) attend the regional boarding middle school. 1 of the students (.1%) was 10 years old, 133 (5.2%) was 11 years old, 710 (28%) were 12 years old, 1102 (43.4%) were 13 years old, 567 (22.3%) were 14 and 25 (1%) are 15 years old. The average age of the students is 12.86 and their standard deviation is .858.

2.3. Research Instruments

Elementary School Student Burnout Scale for Grades 6-8: The scale was developed by Aypay (2011) on 691 secondary school students (6th, 7th and 8th grade; 371 girls, 320 boys) from ten different primary schools, and consists of 26 items and was gathered under 4 sub-scales: Burnout due to School Activities (SBS -BDSA), Family-induced Burnout (SBS-FIB), Insufficiency in School (SBS-IS) and Lossof Interest in School (SBS-LIS). The scale was created according to the 4-point likert type, the items are scored between "1 (I do not agree at all) - 4 (I completely agree)". The six items (3rd, 6th, 9th, 15th, 19thand 24th items) in the scale are scored in reverse because they consist of positive statements. In the scale, the total school burnout score is obtained (the total score varies between 26 to 104) and the higher the score, the higher the school burnout is. The scale is for middle school 6th, 7th and 8th grades. Within the scope of the study sample, Cronbach Alpha internal consistency value of Elementary School Student Burnout Scale for Grades 6-8 found as; .91 for the total, .88 for School Activities Burnout, .79 for Family-induced Burnout, .74 for Insufficiency in School and .78 for Loss of Interest in School.

Problem Solving Inventory for Children at the Level of Primary Education: The inventory was developed by Serin, Serin and Saygılı (2010) on 568 elementary and middle school students (4th, 5th, 6th, 7th and 8th grade; 285 girls, 283 boys) from eight different primary schools and consists of 24 items. and 3 sub-scales: Confidence in Problem Solving Skills (PSI-CPSS), Self-Control (PSI-SC) and Avoidance (PSI-A). In creating the items of the inventory, in light of the theoretical framework related to problem-solving skills, some items of the problem-solving inventories developed for adults in Germany and abroad were used, taking into account the subscales of confidence in problem-solving skills, self-control, and avoidance indicated by Heppner and Petersen (1982) (Serin et al., 2010).The inventory was created according to the 5-point likert type; the items are scored between

1 (Never) to 5 (Always). A total of twelve items in sub-scales of Self-Control (Items 2, 4, 6, 8, 10, 12 and 14) and Avoidance (Items 16, 18, 20, 22, and 24) in the inventory are scored in reverse since items consist of negative statements. The total problem solving skill score is obtained from the inventory (the total score ranges between 24 to 120) and indicates that the constructive problem solving skill increases as the score increases. The inventory is for elementary and middle school students. Cronbach Alpha internal consistency coefficients of the Problem-Solving Inventory for Children at the Level of Primary Education in the scope of the study sample; calculated as .86 for the total, .83 for the Confidence in Problem Solving Skills .77 for the Self-Control subscale and .63 for the Avoidance subscale.

Peer Relationship Scale: The scale was created by Kaner (2000) based on Social Control Theory and was developed to determine the peer relations qualities of adolescents, and the scale developmentstudies were conducted on 1648 secondary school students (9th and 10th grade; 799 girls and 849 boys ages between 13 to 18; average age, 15.81). The scale was collected into 18 items and 4 subscales: Commitment (PRS-C), Trust and Identification (PRS-TI), Self-Disclosure (PRS-SD) and Loyalty (PRS-L) (Kaner, 2000). The scale was created according to the 5-point Likert type; the items are scored between "1 (Never) and 5 (Always)". In the scale, the total peer relationship qualities score is determined (the total score ranges between 18-90), indicating that positive peer relationship qualities increase as the score increases. The scale is for adolescents. The Cronbach Alpha internal consistency coefficients of the Peer Relations Scale calculated as; within the scope of the study population of this research; .87 for the total, .89 for the Commitment subscale, .70 for the Confidence and Identification subscale, .62 for the Self-Disclosure subscale and .62 for the Loyalty subscale.

Perceived School Experiences Scale: Anderson-Butcher et al. (2012) developed the Perceived School Experiences Scale while covering three basic concepts (school engagement, academic motivation, academic pressure) that form school experiences. Adaptation studies of the scale into Turkish were carried out by Akın and Sarıçam (2014) on 327 secondary school students (9th, 10th, 11thand 12th grade; 160 girls and 167 boys; between 14-18 years old; average age, 15.4). The scale was collected into 14 items and 3 sub-dimensions as the result of adaptation studies: School Engagement (PSES-SE), Academic Motivation (PSES-AM) and Academic Pressure (PSES-AP) (Akın & Sarıçam, 2014). The scale was created according to the 5-point Likert type, the items are scored between "1 (Strongly disagree) and 5 (Strongly agree)". The scale determines the total score of perceived school experiences (the total score ranges between 14-70) and indicates that the perceived school experiences increase as the score increases. The scale is for children and adolescents. Cronbach's alpha internal consistency coefficients for the Perceived School Experience scale were calculated as follows: .88 for the overall scale, .74 for the School Engagement subscale, .78 for the Academic Motivation subscale, and .73 for the Academic Pressure subscale.

2.4. Data Analysis

The scales used in the study were applied by the researchers to the students during the course lessons. Before application, the purpose of the study was briefly explained to the students and only volunteers were asked to participate. Pearson Product-Moments Correlation coefficients were calculated to examine the potential relationships between the variables of the study, which are school burnout, problem-solving skills, peer relationships and perceived school experiences, gender and age. Hierarchical Multiple Regression Analysis was performed to determine the explanation ratio of independent variables to the dependent variable, and their relative explanation levels were compared with standardized Beta values (β) (Büyüköztürk, 2010). "$p \leq .05$" was taken into account for the significance level in the study.

Before the statistical analysis of the data, some statistical evaluations were made to determine whether they met certain assumptions. Respectively, all the correlation coefficient values for the variables used in the study were found to be linear, and sixty-nine of the seventy-eight correlation coefficient values were found to be statistically significant (Results are shown in Table 1). Normal P-P plot (Normal P-P Plot of Regression Standardized Residual) was examined and it was seen that the observation points were gathered around the 45° line, the distribution was concluded to be normal. The double scatter plot (Scatterplot) was examined, it was seen that the observation points showed an even distribution below and above the middle line and the distribution was found to be normal. For the assumptions of variance homogeneity, the standardized predictive values of the standardized errors and the binary scatter plots were examined and it was found that there was no clear structure (Başol & Zabun, 2014). Before Hierarchical Multiple Regression Analysis, Pearson

Product-Moments Correlation coefficients were examined in the relationship between the predictor variables to evaluate the multiple linearity pretentions.

It was observed that the correlation coefficients did not show a very high level (.80 <r <1.00) relationship and the coefficient values varied between -.273 and .698 (Results are shown in Table 1). This situation indicates that there is no multi-linearity. Secondly, Variance Inflation Factor (VIF) and Tolerance values were examined. It was seen that VIF values varied between 1.005 and 2.419, and tolerance values varied between .413 and .995. Due to VIF values showing values less than 5; Tolerance values show values greater than .10, indicating that there is no multi-linearity. Finally, Condition Index values were examined. Accordingly, it was determined that the values were lower than 30, except for four values (36.377; 52.387; 65.340; 78.050, respectively) (Bahçecitapar & Aktaş, 2017; Başol & Zabun, 2014).

2.5. Ethical

This study depends on the master thesis which completed in 2019 at Maltepe University, Guidance and Psychological Counseling master program. Before conducting the research with written approval of Turkish Republic Bursa Governorship Provincial Directorate of National Education, dated 15.10.2018 and numbered 86896125-605.01-E.19315321 is issued.

3. Results

The Pearson Product-Moments Correlation Analysis results for the predictive variables (perceived school experiences subscales, problem solving skills subscales, peer relations subscale, gender and age) and the predicted variable (school burnout) used in the study are given in Table 1.

Table 1. *Pearson Correlation Coefficient Analysis Results of Variables*

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. SBS	-											
2. PSES-AP	-.373**	-										
3. PSES-SE	-.511**	.583**	-									
4. PSES-AM	-.578**	.603**	.698**	-								
5. PSI-CPSS	-.415**	.308**	.344**	.434**	-							
6. PSI-SC	-.474**	.200**	.235**	.278**	.331**	-						
7. PSI-A	-.452**	.244**	.257**	.335**	.395**	.551**	-					
8. PRS-C	-.236**	.232**	.309**	.316**	.354**	.155**	.226**	-				
9. PRS-TI	-.130**	.210**	.264**	.218**	.234**	.113**	.105**	.634**	-			
10. PRS-SD	.098**	.025	.083**	.028	.055**	-.155**	-.150**	.371**	.409**	-		
11. PRS-L	.266**	-.067**	-.104**	-.134**	-.122**	-.252**	-.273**	.170**	.265**	.350**	-	
12. Gender	.096**	-.058**	-.136**	-.069**	.029	.068**	-.024	-.115**	-.013	-.129**	.080**	-
13. Age	.110**	-.030	-.056**	-.033	-.029	-.094**	-.063*	.042*	.021	.094**	.072**	.068**

*$p \leq .05$, **$p < .01$

When Table 1 is examined, it is seen that there are completely significant relationships between the school burnout score, which is the predictive variable, and the perceived school experiences subscales, the problem-solving skills subscales, the peer relationships subscales, gender, and age, which are the predictive variables.Accordingly, it has been seen that there is a moderately negative correlation between school burnout score and academic pressure subscale score of perceived school experiences (r=-.373, p<.01, p=.000); a moderately negative correlation between school engagement subscale score ((r=-.511, p<.01, p=.000); a moderately negative correlation between the academic motivation subscale score (r=-.578, p<.01, p=.000). It has been observed that there is a moderate negative correlation between the school burnout score and the score of the confidence in problem solving skills subscale of problem solving skills (r=-.415, p<.01, p=.000); a moderate negative correlationbetween the self-control subscale score (r=-.474, p<.01, p=.000); a moderately negative correlationbetween the avoidance subscale score (r=-.452, p<.01, p=.000). It was observed that there is a weak negative correlation between school burnout score and peer relations scale's commitment subscale score (r=-.236, p<.01, p=.000); a weak negative correlation between trust and identification subscale scores (r=-.130, p<.01, p=.000); a weak positive correlation between self-disclosure subscale score (r=.098, p<.01, p=.000); a weak positive correlation between the loyalty subscale score (r = .266, p <.01, p= .000). It was observed that

there is a weak positive correlation between the school burnout score and the gender variable (r=.266, p<.01, p=.000); a weak positive correlation between the age variable (r=.110, p<.01, p=.000). Hierarchical Multiple Regression Analysis was conducted to determine the predictive level of gender, age, subscale of perceived school experiences, problem solving skills, and peer relations' subscale of school burnout scores. The results are given in Table 2.

Table 2. *Hierarchical Multiple Regression Analysis Results Related to the Prediction of School Burnout Scores*

Variables	R	R^2	(ΔR^2)	*Difference p*	B	(SH_B)	β	t	p
Standard					30.484	4.327		7.044	.000
Step 1	.141	.020	.020	.000					
Gender					2.568	.572	.088	4.488	.000
Age					1.764	.334	.104	5.288	.000
Step 2	.604	.365	.345	.000					
PSES-AP					.066	.088	.016	.753	.452
PSES-SE					-.786	.090	-.203	-8.728	.000
PSES-AM					-1.305	.069	-.441	-18.789	.000
Step 3	.698	.488	.123	.000					
PSI-CPSS					-.151	.027	-.095	-5.688	.000
PSI-SC					-.588	.041	-.249	-14.259	.000
PSI-A					-.473	.066	-.130	-7.216	.000
Step 4	.706	.499	.011	.000					
PRS-C					-.077	.041	-.037	-1.877	.061
PRS-TI					.055	.072	.015	.765	.444
PRS-SD					.257	.077	.056	3.321	.001
PRS-L					.389	.074	.085	5.252	.000
R=.706		R^2=.499							
$F_{(12, 2525)}$=209.679		p=.000							

When Table 2 is looked at, it is seen that the gender and age variables that were analyzed in Step 1, when analyzed together, show a high level of significant relationship with school burnout scores (R=.141, R^2=.020, ΔR^2=.020). In step 1, respectively, gender variable (β=.088, p<.01, p=.000) and age variable (β=.088, p<.01, p=.000) are significant predictors of school burnout scores. It is seen that thescores of perceived school experiences subscales (academic pressure, school engagement, academic motivation) which are analyzed in Step 2 show a high level of significant relationship with the score ofthe school burnout scale when analyzed together (R=.604, R^2=.365, ΔR^2=.345). In step 2, school engagement subscale (β=-.203, p<.01, p=.000) and academic motivation subscale (β=-.441, p<.01, p=.000) scores are significant predictors of school burnout scale, respectively. In step 2, it is seen that the academic pressure subscale (β=.016, p>.05, p=.452) does not make a significant contribution to the model. It is observed that the subscales of problem-solving skills (confidence in problem solving skills, self-control, avoidance) scores which are analyzed in Step 3, when analyzed all together, show a high level of significant relationship with the school burnout score (R=.698, R^2=.488, ΔR^2=.123). In step 3, confidence in problem solving skills (β=-.095, p<.01, p=.000), self-control subscale (β=-.249, p<.01, p=.000) and avoidance subscale (β=-.130, p<.01, p=.000) are significant predictors of school burnout score. It is seen that the scores of the peer relations subscales (commitment, trust and identification, self-disclosure, loyalty), which were analyzed in Step 4, show a high level of significant relationship with the scores of school burnout when analyzed together (R=.706, R^2=.499, ΔR^2=.011). In step 4, self- disclosure subscale (β=.056, p<.01, p=.001) and loyalty subscale (β=.085, p<.01, p=.000) are significant predictors of school burnout scores, respectively. In step 4, the commitment subscale (β=-.037, p>.05, p=.061) and the trust and identification subscale (β=.015, p>.05, p=.444) have no contribution, respectively. These findings show that the independent (predictor) variables explain approximately 50% of the total variance regarding school burnout scores.

4. Discussion, Conclusion and Recommendations

This study examined the relational qualities among middle school students' school burnout, problem-solving skills dimensions, peer relationships dimensions, perceived school experiences dimensions, gender, and age variables; it determined the power of gender, age, perceived school experiences dimensions, problem-solving

skills, and peer relationships in explaining school burnout scores. The study determined the correlation coefficients between the predicted variable and the predictor variables prior to Hierarchical Multiple Regression Analysis. It was found that there were completely significant relationships between the predicted variable and predictor variables. When the relevant literature is examined, it has been seen that some studies support these results. Accordingly, burnout and school commitment (Özdemir, 2015; Pilkauskaite-Valickiene et al., 2011; Shin & Yu, 2014; Şahan & Duy, 2017), academic motivation (Avara, 2015; Özdemir, 2015; Seçer & Öztürk, 2015), academic pressure (Shin, 2020), problem solving skills (Kim et al., 2017; Luo et al., 2016; Shin et al., 2012), and peer relationships (Kim, Lee, Lee, An & Lee, 2018; Kiuru et al., 2008; Laursen et al., 2010; Lee, Lee & Lee, 2021; Rimpelä et al., 2020) were found to have significant relationships. It has been determined that the predictive variables in the Hierarchical Multiple Regression Analysis applied in the study explain approximately 50% of the total variance regarding school burnout scores. In step 1, it was seen that the gender and age variable significantly predicted school burnout scores.

In step 2, it was seen that the students' perceived school experiences, school engagement and academic motivation subscale scores significantly predicted their school burnout scores. In this case, students' high levels of commitment to school and academic motivation have been concluded. It can be considered a protective factor against the risk of school burnout that may arise from the family or school. Some studies on school burnout and school engagement variables in the relevant literature support this research result (Özdemir, 2015; Şahan & Duy, 2017; Pilkauskaite-Valickiene et al., 2011; Shin & Yu, 2014). In the light of these results, high levels of students' school engagement can play a protective role in reducing or preventing the risk of school burnout. Some studies on school burnout and academic motivation variables in the relevant literature support this research result (Avara, 2015; Chang et al., 2015; Herrmann et al., 2019; Özdemir, 2015; Seçer & Öztürk, 2015; Zhang et al., 2013). In light of these results, high academic motivation levels of students may play a protective role in reducing or preventing the risk of school burnout.

In step 3, it was seen that the score of students' problem-solving skills; and confidence in problem solving skills, self-control and avoidance subscale scores significantly predicted their school burnout scores. Students' use of constructive problem skills in interpersonal problems, being determined, persistent, and patient in the problem solving process; has been concluded as it can be considered a protective factor against the risk of school burnout that may arise from the family or school. Slivar (2001) stated that one of the six factors that can be effective against the burnout risk that may develop in students during school life is the failure of the student in interpersonal relationships and the lack of appropriate interpersonal relationships. In addition, Payne (2001) stated that the risk ofdeveloping school burnout in students who can cope with stress and use constructive problem-solving strategies will decrease. In some studies, conducted on middle school students in the relevant literature, have been found that there are significant relationships between coping strategies with school burnout, and the findings support result of this research (Kim et al., 2017; Luo et al., 2016; Shin et al., 2012). Furthermore, in two of the subgoals of the solution-focused psychological group counseling program that Bal and Kaya (2017) developed for middle school students to address school burnout, Bal and Bilge (2017) aimed to develop constructive problem-solving skills (coping strategies) for students who develop school burnout.The quantitative results of this researchsupport this situation.

In step 4, it was seen that the scores of the peer relations scale's self-disclosure and loyalty subscales of the students significantly predicted the school burnout scores. When the relevant literature was examined, results similar to the results of this study were obtained (Kiuru et al., 2008; Laursen et al., 2010; Lee et al., 2021). The students have positive relationships with their peers, the peers develop mutual love and closeness to each other, the peers develop trust for each other, and the peers imitate and identify with each other's positive behaviors; It has been concluded that it can be considered as a protective factor against the risk of school burnout that the family may causethe family or school may cause. Peer relationships can provide a healing environment in terms of healthy development and positive educational outcomes (Vaquero & Kao, 2008). Salmela-Aro and Tuominen-Soini (2010) stated that peer relationships can play an important role in students' school participation. At the same time, the individual who receives peers' support is likely to positively perceive the school climate (Vaquera & Kao, 2008). It has been determined that the relationship established with successful peers can function as a protective factor against the risk of school burnout that the individual may develop (Kiuru et al., 2008). The quality of the relationship with peers, stated as factor affecting school participation (Berndt & Keefe, 1995; Kızıldağ, Demirtaş- Zorbaz & Zorbaz, 2017; No et al., 2012; Wang et al.,

2018) or school life quality (Kaya, Erdoğan & Çağlayan, 2014) in researches. In light of these results, students' positive peer relationships may play aprotective role in reducing or preventing the risk of school burnout.

When the research findings are evaluated in general, the importance of the perceived school experience subscales (school engagement, academic motivation), the problem-solving subscales (confidence in problem-solving skills, self-control, avoidance), and the peer relationship subscale (self-disclosure, loyalty) on school burnout scores becomes apparent. Examination of the relevant literature found that burnout, which can occur in adolescence, is associated with many other risk factors (Fiorilli at al., 2017; Hafen et al., 2013; Kinnunen et al., 2016; Lee & Lee, 2018; Lee et al., 2017; Raesaenen et al., 2015; Salmela-Aro et al., 2017; Shin et al., 2011; Walburg et al., 2015; Walburg et al., 2014).Therefore, it can be said that high level of commitment to school and academic motivation, using constructive problem-solving skills in interpersonal problems, and developing qualified peer relationships can be considered as protective factors against the risk of school burnout that students inthe middle school period may develop. In addition, researches have shown that school burnout is reduced to middle school students and can be developed in early adolescence. Therefore, preventive individual or group counseling activities-including the protective factors whose quantitative results were uncovered in this study-are needed against the risk of developing school burnout in preventive psychological counseling and guidance services conducted with individuals in early adolescence (middle school). In reviewing the relevant literature, some psychological variables that may be related to school burnout in middle school students and have not been previously studied (e.g., school satisfaction, peer pressure, school rejection, psychological well-being, social behavior, subjective happiness, destructive behaviors, psychological resilience, decision-making styles, automatic thoughts, etc.) may be explored in further scientific studies. On the other hand, group psychological counseling to prevent school burnout can be developed for high-risk groups of students (e.g., students with divorced parents, students exposed to domestic violence, bullies and student victims, students with aggressive behavior and destructive emotions, students in boarding schools, etc.) who may develop school burnout to study its effects.The findings obtained are limited to the expressions measured by the measurement tools used in the research. On the other hand, the findings of the study are limited to theanswers given by 7th and 8th grade students of some regular, religious vocational and boarding regional middle schools in some districts of Bursa province, which are officially affiliated with the Ministry of National Education.

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The Predictive Roles of Character Strengths and Personality Traits on Flourishing

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ABSTRACT

This research aims to explore the association between personality traits, character strength, and flourishing in university students (N=384). In the study, Three-dimensional Character Strengths Scale was adapted to Turkish. As a result of confirmatory factor analysis, the Three-dimensional Character Strengths Scale was acceptable for the goodness of fit indexes. The results of the study showed that personality traits and character strength were positively related to flourishing. Multiple regression analysis revealed that personality traits, with the exception of the openness, significantly predicted flourishing. According to the standardized beta coefficients, extraversion was found to be the strongest predictor of flourishing. According to the results of multi-regression analysis, it was found that the caring, inquisitiveness and self-control sub-dimensions of the character strengths positively predicted the flourishing. According to the standardized beta coefficients, inquisitiveness was found to be the strongest predictor of flourishing. According to the t test results, it was found that the variables included in the study differed significantly according to gender. The findings were discussed with the literature.

Keywords:
Personality traits, character strengths, psychological well-being, flourishing, positive psychology

1.Introduction

Personality is one of the subjects that people from almost all parts of society have been interested in and concerned about for centuries.This curiosity stems from the idea that personality, particularly for people interested in psychology, must explain at least some of human behavior (Thomas & Segal, 2006). Even if ongoing research has revealed different definitions of personality, personality in its simplest definition can be defined as the patterns of consistent behavior that make individuals different from one another and the internal processes people possess (Burger, 2008). Personality, which has a structure too complex to be limited just to behavior, has been characterized as the relatively permanent styles of emotion, thought, and action that depict individuals (Costa et al.,1995). The character strengths that emerge by emphasizing the positive features of this structure are the basic tendencies that contribute to the well-being and happiness of the individual (Peterson & Seligman, 2004). Despite focusing on these positive features that distinguish character strengths from personality traits, both are similar in terms of being affected by life conditions. These points seem to be united in the flourishing features of people. Flourishing individuals experience both positive and negative

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emotions (Keyes, 2002; Seligman, 2015). In addition to all these, when considered one by one; the association between personality and flourishing (Villieux et al., 2016) and the association between character strengths and flourishing (Wagner et al., 2021) are supported by literature knowledge. However, we believe that there is a gap in the literature because the studies are recent and the variables are not considered together. In addition, we believe that examining the role of these variables in thriving (Harzer, 2020), which is more sensitive to fundamental changes than personality and character strengths (Harzer, 2020), may help people with recent questions about how to promote greater well-being in their families, workplaces, and groups (Keyes et al., 2015). Flourishing is key to maintaining the desired life (Huppert & So, 2013) and success in social and academic life (Seligman, 2011); and universities open many doors. It is not possible to accept universities as institutions where students can see the effects of their personality traits more clearly, as places where they will learn their academic skills or use them as a stepping stone for their career. This is because universities are also institutions that teach people how to live a life characterised by good character and values (Yeo, 2011).Flourishing increases life satisfaction in the long run (Huta, 2015) and is positively associated with the upbringing of productive individuals (Hone et al., 2015; Keyes, 2003). Based on this information, we can say that examining the role of university students' personality and character strengths on flourishing will expand our knowledge in understanding their well-being. Gender is an important variable during the university period, which includes many changes in well-being (De la Fuente et al., 2020; Diener et al., 2018). Such that women are twice as likely as males to experience depression from early childhood until maturity (Nolen-Hoeksema, 2001). On the other hand, social stereotypes about the well-being of men and women contain incomplete or erroneous information about the role of personality traits on flourishing (Kulik et al., 2016). For these reasons, it has become important to examine the differentiation status of the five factor personality traits, which are accepted by many researchers as expressions ofpersonality traits (Bruck & Allen, 2003; Costa et al.,1991), and the character strengths that have a positive relationship with flourishing (Demirci & Ekşi, 2018).

1.1. Big Five Personality Traits

Although the general view exists that people often behave similarly to one another, traits are considered to exist that essentially distinguish people from one another. Allport (1931), who expressed this case as trait theory, indicated that the distinguishing trait should be emphasized, not the stimulus, while identifying exhibited behaviors. The classifications made related to these traits laid the groundwork for forming the five-factor personality classification frequently used today (Bacanlı et al.,2009; Costa, Busch et al., McCrae, 1986; Costa & McCrae, 1995; McCrae & Costa, 1987, 1991). This five-factor personality structure is formed from five dimensions: conscientiousness, agreeableness, neuroticism, openness, and extroversion (Costa et al.,1991; Costa & McCrae, 1995; McCrae & Costa, 1987). Individuals possessing the trait of conscientiousness are individuals who strive to be self-disciplined, orderly, determined, competent, and successful (Costa et al., 1991; Costa & McCrae, 1995). Agreeableness demonstrates the trend of showıng more interpersonally harmonious behaviors (Costa et al.,1991). Individuals with high levels of neuroticism have feelings such as fear, sadness, nervousness, shame, guilt (Bruck & Allen, 2003), agitation, and pessimism (Goldberg, 1993) and are unable to show emotional stability. Extroverts are defined as individuals with high self-confidence who are energetic, social, talkative, and warm (McCrae & John, 1992; Costa et al.,1986). Open-mindedness is used for people who are open to experiences and who look at events from a broad perspective (McCrae & Costa, 1989). As a result, the five-factor personality model is useful enough to be able to characterize individual differences. At the same time, it can be said to be easy for studying in various cultures and an effective classification in determining personality traits in terms of providing similar comprehensive results in the research that has been done over the years (Caspi et al.,2005; Günay & Çarıkçı, 2019; Lau, 2013).

1.2. Character strengths

In recent years, character strengths have become an important research area of positive psychology. According to Colborn (2016), the psychology remains incomplete in the tendency to focus on the development of human well-being, which means it is also incomplete on the issue of paying attention to the character traits that contribute to well-being. Peterson and Seligman (2004), who emphasized the concepts of character strengths and personal virtues on this topic, stated character strength as the character traits that support universal basic virtues based on the species' biology and survival. This perspective focuses on how positive individual differences can be developed and used most efficiently (Bakker & Van Woerkom, 2017). Peterson and Seligman (2004), who conducted the pioneering study on character strengths, gathered 24 character strengths under six

personal virtues. However, because the character strengths that appear in the classification do not differ by cultural and social norms (Kristjánsson, 2010), the presentation of variation in cultural context (Seibel et al., 2015; Ana Paula & Zanon, 2018) laid the groundwork for revealing the character strengths approach in three dimensions (Duan et al., 2012; McGrath, 2015): caring, curiosity, and self-control.Caring determines the character strengths that play a role in maintaining acceptable relationships with others. The fact that individuals associate their self with creativity and ınquisitiveness in their lives shows that they use the character strengths inquisitiveness. Finally, self-control is related to the ability to adapt to regulation (Duan & Bu, 2017). Individuals use this character strengths on the way to their desired goals and values.

1.3. Flourishing

Flourishing is more than people being happy. Through the development of positive psychology based on identifying strong directions and positive individual traits (Seligman & Csikszentmihalyi, 2000), well-being has been addressed as two different approaches: the hedonic tradition, which relates more with happiness, and the eudemonic tradition, which emphasizes human potential more (Keyes & Simones, 2012; Ryan & Deci, 2001). Flourishing, which has been placed in the tradition of positive psychological functionality (Eudemonics; Ryff & Singer, 2008), can be defined as the ability to positively advance one's life personally and socially, to be productive, and to have the potential of strengths that can be utilised at any moment in life (Keyes, 2002; Ryff, 1989). In short, well-being can be said to be psychological for individuals who are psychologically and socially functional and who can say their life is going well (Huppert & So, 2009; Keyes & Haidt, 2003). Diener et al. (2010), who considered these theories to be individually insufficient at explaining psychological well-being, integrated the perspectives of theorists such as Seligman, Maslow, Ryff, Deci, and Ryan by also including certain items like “being connected and interested” and “optimism” (Telef, 2013). In this regard, flourishing is related to having high levels of both hedonic and eudemonic well-being (Huppert & So, 2013; Keyes, 2002). Diener et al. (2010) defines flourishing as a concept that describes important aspects of human relationships, from positive relationships to a sense of competence and a sense of meaning and purpose in life. is a concept that explains important aspects of human relationships. Also, when looked at from this angle, flourishing emphasizes the social-psychological aspect of well-being, unlike other theories on well-being. Much research is available that has investigated the relationship of flourishing to personality in support of this idea (Dewal & Kuma, 2017; Drezno et al.,2019; Gonzalez et al., 2014; Hussain, 2018; Kjell et al.,2013; McCrae & Costa, 1991; Salami, 2011; Yasin, 2016;Zıskıs, 2010).

Despite the fact that research shows the association between character qualities and flourishing (Duan & Ho, 2018; Gustems & Calderon, 2014; Wagner et al., 2021) have begun to become widespread, the need for research on the role of personality traits and character strengths on flourishing together formed the basis of this research. As a result, it is seen that personality traits are strongly associated with flourishing (Keyes et al., 2015). Supporting this, development was found to be positively related to conscientiousness and extraversion, and negatively related to neuroticism (Diener & Seligman 2002). When personality traits are kept constant, the important role of character strengths on flourishing emerges (McGrath, 2015). It can be said that character strengths emerge by reframing five basic personality traits with positive traits (Peterson & Seligman, 2004; Park & Peterson, 2006). Therefore, there is a strong relationship between character strengths and personality traits (Noronha & Campos, 2018).

1.4. Current Study

Flourishing is an important concept in terms of making important life decisions for university students who are trying to mature their own identities, particularly in their social life, and in terms of its use at the highest level for its potential within human relations (Hone et al., 2014). In addition, based on studies that emphasize the importance of gender effect on flourishing, the gender factor was also examined in this study.When they are predicted to change with increased environmental stimuli, individuals' personality traits and existing strengths appear likely to contribute to awareness of their own thoughts and feelings and positively affect their individual development. Examining the relationships among flourishing, personality traits, and character strengths is considered able to contribute to the positive psychology literature especially in holistically evaluating these three concepts together in Turkey, aside from the fact that no study is encountered to have researched them. This research aims to investigate the relationship among personality traits, character strengths, and flourishing. Accordingly, answers to the following questions are sought: (1) Does a significant

relationship exist between personality traits and flourishing? (2) Does a significant relationship exist between character strengths and flourishing? (3) Do personality traits, character strengths, and flourishing significantly differ with respect to gender?

2. Methodology

2.1. The Research Design

Correlational research designs are studies that seek to determine the level of change between two or more variables (Fraenkel at al., 2012). In this study, the correlational research design and the causal-comparative research methodology were utilized to investigate the links between personality traits, character strengths, and flourishing. A correlational research design was used to determine which character strengths and personality traits predict flourishing. A causal-comparative research design was used to whether flourishing, character strengths, and personality traits differ according to gender.

2.2. Research Sample

The sample of the research consists of 384 university students (196 women, 188 men) studying at various faculties of Karadeniz Technical University and Kocaeli University (ie faculties of medicine, architecture and dentistry) in the 2018-2019 academic year. Participants' ages range from 18 to 34 years, with their mean age calculated at 21.81 (± 1.95). The study group was determined using the convenience sampling method (Büyüköztürk, 2015), which is used in applicable cases due to existing limitations in terms of time, money, and labor.

2.3. Data Collection Tools

The Flourishing Scale. The Flourishing Scale, which contains eight items, describes the human function of important objects, from positive relations to feelings of competence and having a meaningful and purposeful life. The Flourishing Scale was developed by Diener et al. (2010), and the Turkish adaptation study was performed by Telef (2013). The Flourishing Scale is a 7-point Likert-type scale whose items are evaluated from 1 to 7 (1 = *strongly disagree*, 7 = *strongly agree*). The scale is formed of one dimension and has no reverse-scored items. Example items for the Flourishing Scale are "I lead a purposeful and meaningful life." and "I am optimistic about my future." The scores obtainable on the scale range from 7 to 56. Higher scores indicate the person has more psychological resources and strengths. 42% of the total variance is explained as a result of the scale's exploratory factor analysis. The factor loadings for the items on the scale have been calculated between .54 and .76. Goodness-of-fit values have been found sufficient in the confirmatory factor analysis. Cronbach's alpha of internal consistency was obtained from the scales reliability study and calculated as .80.

The Big Five Inventory-2 Short Form (BFI-2-S). The BFI-2-S was developed by Soto and John (2017) and consists of five subdimensions (extroversion, conscientiousness, agreeableness, openness, and neuroticism), each containing six items.The scale was adapted to Turkish by Cemalcılar et al. (2017). The scale consists of 30 items in total, is scored as a 5-point Likert-type. Example items for the The Big Five Inventory-2 Short Form are "I consider myself a very worried person." and " I see myself as an extroverted, social person." As a result of the inventory's exploratory factor analysis, 91% of the total variance explained by the long form was determined to be preserved. The factor loadings of the scale's items vary from .39 to .81. Cronbach's alpha of reliability varies from .73 to .84 for each of the five traits. The test-retest reliability coefficient ranges from .69 to .88.

The Three-dimensional Inventory of Character Strengths (TICS). The TICS, developed by Duan and Bu (2017), consists of three sub-dimensions: caring, inquisitiveness, and self-control. The scale consists of 15 items in total (5 items for each dimension) and is scored as a 5-point Likert-type scale. The scale has no reverse-scored items. As a result of the confirmatory factor analysis of the scale's 15-item 3-dimensional structure, the scale is seen to provide adequate fit. Example items for the Three-dimensional Inventory of Character Strengths are "I can find something of interest in any situation." and " I enjoy being kind to others." The Cronbach's alphas calculated for the original form of the inventory are .86 for the total score, .85 for the caring subdimension sub-dimension of caring, .81 for the sub-dimension of inquisitiveness, and .79 for the self-control subdimension (Duan & Bu, 2017).For the adaptation study of the TICS to Turkish, Wenjie Duan who developed the TICS was contacted by email, and permission to adapt was obtained. The item pool from the Chinese Virtues Questionnaire, which was formed by adapting the Values in Action Inventory of Strengths (VIA-IS) to Chinese

culture, was used while developing the measurement tool. The measuring tool consists of 15 items, with 5 items for each of the sub-dimensions of caring, inquisitiveness, and self-control. The translate-retranslate method has been used to translate the TICS to Turkish. Validity factor analysis of the scale's structure has been examined using the internal consistency method. Item analysis has been examined through corrected item-total score correlations. LISREL and SPSS programs have been used for the validity and reliability analyses.

Item Analysis and Reliability. Item analysis was performed to establish the predictive strength and discrimination of the scale items' total score. The corrected item-total score correlation for the items in the scale ranged from .57 to .70 for the positive caring subdimension, from .53 to .68 for the sub-dimension of inquisitiveness, and from .50 to .66 for the self-control subdimension. Cronbach's alphas of internal consistency for the TICS were calculated as .86 for the total scale score, .85 for the caring subdimension sub-dimension of caring, .81 for the sub-dimension of inquisitiveness, and .79 for the self-control subdimension. The results are presented in Table 1.

Table 1. *The Descriptive statistics and Corrected Item-Total Test Correlations for the TICS*

	Item Number	Min	Max	$\overline{X}$	SD	r_{itt}	r_{its}
Caring	1	2	5	3.87	0.88	0.47	0.70
	2	1	5	3.91	0.96	0.52	0.70
	3	1	5	3.79	0.91	0.56	0.68
	4	1	5	3.86	0.99	0.48	0.69
	5	1	5	3.65	1.05	0.50	0.57
Inquisitiveness	6	1	5	3.69	1.07	0.49	0.57
	7	1	5	3.85	1.06	0.54	0.58
	8	1	5	3.73	0.97	0.62	0.68
	9	1	5	3.81	0.92	0.56	0.60
	10	1	5	3.51	0.95	0.57	0.53
Self-control	11	1	5	3.52	1.10	0.39	0.60
	12	1	5	3.40	1.05	0.34	0.57
	13	1	5	3.52	1.02	0.38	0.66
	14	1	5	3.62	0.94	0.52	0.55
	15	1	5	3.81	1.07	0.47	0.50

r_{itt}= Item-Total Correlations for Total Scale; r_{its}= Item-Total Test Correlations for Subscales

Structure Validity. Confirmatory factor analysis has been performed to assess the three-dimensional structure of the TICS' original form. Apart from the RMSEA value, the goodness-of-fit values for the first established model are seen to be acceptable. After checking the modification indices, modifications were made to the error variances for items 2 and 3 from the caring subdimension and for items 14 and 15 from the self-control subdimension.Table 2 shows the fit index values derived from the confirmatory factor analysis. The factor loadings for the scale range from .52 to .78. When examining the latest model's fit indexes, the scale's three-dimensional has an acceptable level of fit.

Table 2. *Goodness-of-Fit Indexes of Measurement Models*

	x^2	sd	CFI	NFI	NNFI	SRMR	RMSEA	ECVI	AIC
First Model	359.64	87	.94	.92	.93	.079	.090	1.11	425.64
Second Model	284.72	85	.95	.93	.94	.082	.078	0.93	354.72

2.4. Data Collection and Analysis Process

At the stage of collecting the research data, the participants were informed about the goal of the study and how the data would be used. Data collection was carried out by applying the paper-pencil test. The data set obtained was examined and the data set of 9 participants was separated due to empty or incomplete filling. In this way, analyzes were carried out on a total of 384 data. Pearson Product-Moment Correlation and multiple regression analysis examined the relationships among personality traits, character strengths, and flourishing. Network analysis was utilized further to clarify the relationship between personality traits, character strengths, and flourishing. The EBICglasso estimation techniques was used to network analysis. Independent samples t-test was used to determine whether there was a significant difference in terms of gender. Analyzes were performed using the trial version of the SPPS 22.0 package program and JASP 0.13.1.

Before starting the analysis, the convergence of the normal distribution of the data was examined with the Skewness and Kurtosis coefficients (see table 3). The values obtained were between – 1 and +1 (Tabachnic et al., 2007) and met the normality assumption. In addition, by looking at the Durbin-Watson value (2.0), it was seen that there was no autocorrelation problem in the research data (Büyüköztürk et al. 2015) and the Variance Inflation Factors value was less than 4 (Hair et al. 2010). Therefore, it is accepted that there is no multicollinearity problem in the data. Regression analyzes, correlation and t tests were used to test hypothetical relationships. The findings were evaluated at.05 significiance level.

3. Findings

The relationship between the variables and flourishing has been examined using the Pearson product-moment correlation analysis method. The findings obtained as a result of the analysis are presented in Table 3. When examining the relationship of flourishing with the sub-dimensions of character strengths in Table 3, flourishing is seen to have statistically significant relationships with caring (positive mid-level; $r = .42$, $p < 0.01$), inquisitiveness (positive mid-level; $r = .47$, $p < 0.01$), and self-control (positive low-level; $r = .32$, $p < 0.01$). When examining the relationship between flourishing and personality traits, flourishing is seen to have positive statistically significant relationships with extroversion ($r = .35$, $p < 0.01$), agreeableness ($r = .29$, $p < 0.01$), conscientiousness ($r = .32$, $p < 0.01$), and openness ($r = .22$, $p < 0.01$) and a negative statistically significant relationship with the sub-dimension of neuroticism ($r = -0.33$, $p < 0.01$).

Table 3. *Correlation Coefficients Regarding the Relationships Among Variables*

Scales	1	2	3	4	5	6	7	8	9
1. Caring									
2. Inquisitiveness	.508**								
3. Self-control	.169**	.401**							
4. Extroversion	.209**	.200**	.160**						
5. Agreeableness	.183**	.198**	0.081	.164**					
6. Conscientiousness	.499**	.297**	.135**	.251**	.309**				
7. Neuroticism	-.260**	-.203**	-.379**	-.330**	-.241**	-.421**			
8. Openness	.177**	.138**	.102*	.323**	.302**	.172**	-.162**		
9. Flourishing	.417**	.473**	.321**	.347**	.293**	.322**	-.329**	.219**	
Mean	19.08	18.59	17.87	20.15	22.03	20.28	17.49	21.31	41.96
SD	3.80	3.74	3.83	4.70	3.98	4.18	4.35	4.15	8.13
Skewness	-.45	-.33	-.34	.00	-.27	.06	.00	-.26	-.52
Kurtosis	-.15	-.30	-.21	-.41	-.39	-.39	-.23	-.06	-.20
Cronbach	.85	.81	.79	.73	.68	.66	.66	.67	.88

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

After examining the correlation analyses, a multiple-regression analysis of character strengths' status for predicting flourishing was performed. The analysis results are given in Table 4. The results of the multiple-regression analysis have determined the established model to have a positive, mid-level statistical significance ($R = 0.538$, $p < 0.001$), and the three sub-dimensions of character strengths altogether explain 28% of the total variance in the variable of flourishing ($R^2 = 0.284$; $F = 51.565$, $p < 0.001$). When examining the t-test results regarding the significance of the regression coefficients, the three sub-dimensions are positive and statistically significant (i.e., caring [$t = 4.885$, $p = 0.01$], inquisitiveness [$t = 5.220$, $p < 0.001$], and self-control [$t = 3.523$, $p < 0.001$]). In terms of the standardized regression coefficient (ß), the relative order of importance for the sub-dimensions of character strengths on flourishing are: inquisitiveness (ß = 0.282), caring (ß = 0.245), and self-control (ß = 0.166). When looking at the beta coefficients, the sub-dimension of inquisitiveness is seen to be the most significant predictor of flourishing ($\beta = 0.282$, $p < 0.001$).

The regression analysis results regarding how personality traits predict flourishing are given in Table 5. The results of the multiple-regression analysis have determined the established model to have a positive and mid-level statistical significance ($R = 0.479$, $p < 0.001$), and the sub-dimensions of personality traits together explain 22% of the total variance in the variable of flourishing ($R^2 = 0.219$, $F = 22.505$, $p < 0.001$).

Table 4. *Multiple-Regression Analysis Results on the Predictive Role of Character Strengths on Flourishing*

Predictor	B	Se	β	t	R	R^2	Adj. R^2	F	95% CI	
(Constant)	14.220	2.316		6.139***	.538	.289	.284	51.565***	9.665	18.774
Caring	.525	.107	.245	4.885***					.314	.736
Inquisitiveness	.614	.118	.282	5.220***					.383	.845
Self-control	.353	.100	.166	3.523***					.156	.550

****p<.001*

When investigating the *t*-test results regarding the significance of the regression coefficients, while extroversion ($t = 4.353$, $p < 0.001$), agreeableness ($t = 3.240$, $p < 0.001$), and conscientiousness ($t = 2.835$, $p < 0.001$) are statistically significant in the positive direction, neuroticism ($t = -2.857$, $p < 0.01$) is statistically significant in the negative direction. Only the sub-dimension of openness has been seen to not be a significant predictor of flourishing ($t = 1.016$, $p > 0.05$). According to the standardized regression coefficient (ß), the relative order of importance for the sub-dimensions of personality traits regarding flourishing are seen as: extroversion (ß = 0.219), agreeableness (ß = 0.160), conscientiousness (ß = 0.146), and neuroticism (ß = -0.148). When looking at the ß coefficients, the sub-dimension of extroversion is seen to be the most significant predictor of flourishing ($\beta = 0.282$, $p < 0.001$).

Table 5. *Multiple-Regression Analysis Results Regarding How Personality Traits Predict Flourishing Levels*

Predictor	B	SE	β	t	R	R^2	Adj. R^2	F	95% CI	
(Constant)	24.074	4.109		5.859***	.479	.229	.219	22.505***	15.994	32.153
Extroversion	.378	.087	.219	4.353***					.207	.549
Agreeableness	.328	.101	.160	3.240**					.129	.527
Conscientiousness	.285	.100	.146	2.835**					.087	.482
Neuroticism	-.276	.097	-.148	-2.857**					-.467	-.086
Openness	.099	.097	.050	1.016					-.092	.289

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

Network analysis was utilized to further clarify the relationship between flourishing, character strengths, and personality traits. The analysis results of relationships among personality traits, character strengths, and flourishing are visualized in Figure 1.

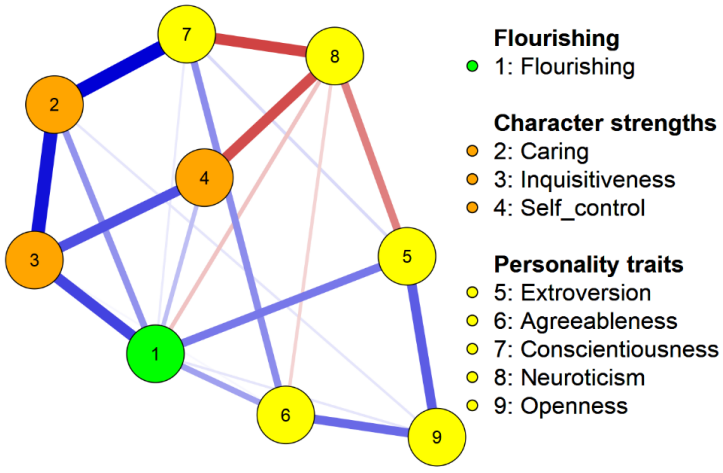

Figure 1. *The network structure of relationships among flourishing, character strengths, and personality traits (Blue lines show positive relationships and red lines show negative relationships. Thicker edges represent stronger relationships).*

According to network analysis, flourishing has connection with personality traits and character strengths. Flourishing was strongly associated with inquisitiveness, which was followed by extroversion, caring, and agreeableness. Positive correlations are shown by blue edgeBlue edges show positive correlations, whereas negative correlations are represented by red edges.

The results of the *t*-Test for gender differences regarding the scores received on the BFI-2-S, TICS, and Flourishing Scale are given in Table 6. Statistically significant differences have been determined for TICS' sub-

dimensions of caring (t = 3.207, p < 0.05) and inquisitiveness (t = 2.193, p < 0.05); BFI-2-S' sub-dimensions of extroversion (t = 2.305, p < 0.05), agreeableness (t = 4.574, p < 0.05), and conscientiousness (t = 3.331, p < 0.05); and the scores from the Flourishing Scale (t = -1.556, p < 0.05). When looking at the means for man and women, this differentiation for all the scales and sub-dimensions is seen to be in favor of women. No statistically significant difference has been determined for the sub-dimensions of self-control (t = 3.331, p > 0.05) from TICS and neuroticism (t = 1.593, p > 0.05) from the BFI-2-S.

Table 6. *Results of the t-Test for Gender Differences*

Scales	Women (n = 196)			Man (n = 188)			t	p	*Cohen's d*
Caring	19.68	±	3.62	18.45	±	3.89	3.207	0.001	0.33
Inquisitiveness	19.00	±	3.45	18.17	±	3.98	2.193	0.029	0.22
Self-control	17.57	±	3.63	18.18	±	4.01	-1.556	0.121	-
Extroversion	20.69	±	4.68	19.59	±	4.68	2.305	0.022	0.24
Agreeableness	22.91	±	3.86	21.10	±	3.90	4.574	0.000	0.47
Conscientiousness	20.97	±	4.18	19.57	±	4.06	3.331	0.001	0.34
Neuroticism	17.83	±	4.45	17.12	±	4.23	1.593	0.112	-
Openness	22.03	±	4.21	20.57	±	3.96	3.507	0.001	0.36
Flourishing	42.84	±	7.83	41.04	±	8.36	2.175	0.030	0.22

4. Conclusion and Discussion

This study aimed to adapt the Three-dimensional Inventory of Character Strengths (TICS) to Turkish and investigate the predictive power of personality traits and character strengths on flourishing. Firstly, TICS psychometric properties have been found acceptable by performing validity and reliability analyses. Similarities are seen for the reliability findings from TICS' original form (Duan & Bu, 2017) and from the Turkish form that has been adapted.

Multiple-regression analysis has been done to investigate the relationships among personality traits, character strengths, and flourishing. When examining the findings in this direction, the results have been reached that personality traits (except openness) and character strengths effectively predict flourishing. Character strengths are a stronger predictor of flourishing than personality traits.

Of the subdimensions of personality traits, extroversion, agreeableness, and conscientiousness significantly predict flourishing in a positive direction and neuroticism in a negative direction. When examining the standardized beta coefficients, the personality trait that best predicts flourishing is seen to be extroversion. When examining the literature, extroversion and neuroticism have been found as the strongest predictors of subjective well-being in one research done on health workers (Gutierrez et al.,2005). Extraversion, conscientiousness and neuroticism play an important role in subjective and psychological well-being (Meléndez et al.,2019). When evaluated from this perspective, the findings can be said to support the literature.

Character strengths clearly play a significant role for university students' happiness and well-being (Karris, 2007). When examining the standardized beta coefficients, the result has been reached that the sub-dimension of inquisitiveness is the best predictor of flourishing. Previous studies have concluded that character strengths are significant predictors of well-being (Lounsbury et al., 2009). Research that has been done supports the findings from this study (Demirci & Ekşi, 2018; Proctor et al.,2011).

Similar to the results of this research, one study showed that of the 24 character strengths, the strong aspects associated with happiness (hope, vitality, gratitude, curiosity, and love) had greater and more significant correlations with well-being and subjective well-being than the other character strengths (Hausler et al., 2017).Some character strengths, aside from significantly predicting well-being, are also seen to be effective at reducing symptoms of depression (Murrell, 2015). Similar to the results of the current study, the aforementioned studies have shown that the character strength of inquisitiveness has an important place in explaining well-being. Individuals who are chasing vital goals and searching for their psychological needs, especially university-aged individuals, can be expected to have increased inquisitiveness strength and be able to provide ideas (Deci & Ryan, 2000).

This is similar to the literature where character strengths are more powerful than personality traits explaining flourishing. One research performed on university students found character strengths to predict

flourishing/life satisfaction more than the five-factor personality traits, which supports this finding (West, 2006). In another study, character strengths that were observed to be strongly related to life satisfaction (i.e., curiosity, vitality, hope, gratitude, and love) were found to be more predictive of life satisfaction than the five-factor personality traits; furthermore, the difference between character strengths and the five-factor personality traits in explaining well-being is not that surprising (Park et al., 2004). The structure of personality traits, which seems to be more stable compared to character strengths, may be considered more effective in this case than the structure of character strengths, which vary with trends and changes related to life such as education and social support. In addition, the culture factor also plays an important role. This is because an individual's sense of self and being satisfied with his or her life is necessary for survival, as opposed to character strengths, which are highly valued in cultures (Brdar et al., 2011). The results of studies on what factors are related to well-being also support this idea.When the variables of personality traits and socio-demographics are held constant in research, the situational factors of social support and positive life events are found significantly related to well-being (Schotanus-Dijkstra et al., 2016). As a result, character strengths are expected to have a protective position in reducing the negative emotions that accompany social life to affect individuals' well-being and to be a point of support in increasing positive emotions.

According to the findings obtained as a result of investigating whether or not the participants' scores from the scales differ according to gender, no statistically significant difference was determined for the self-control and neuroticism. Significant differentiations were seen for all remaining variables with respect to gender in favor of women. Flourishing significantly differs with respect to gender, and this differentiation favors women. According to these findings, women tend to be much more psychologically well than men. They can be said to have greater strength at finding existing psychological resources in functional relationships that are used positively and can provide direction to existential goals. Ryff and Singer's (1998) research supports this study's finding where women have greater flourishing levels than men. A study on adolescents (Pennell et al., 2015) found female teens to have greater well-being than male teens. Different from the findings from this study, Littman-Ovadia and Steger (2010) reached the result that showed men to have higher levels of well-being than women. In a study performed with university students on a sample in Turkey (Yılmaz, 2013), women were similarly found to have significantly greater flourishing compared to men.

Differences exist broadly for individuals' levels of flourishing, and evidence exists regarding "social factors and early environment" having determinant roles in this process (Huppert, 2009). When evaluated in this respect, the result of this difference obtained with respect to gender can be thought to source from the internalization of the social successes of women with university educations in the face of the impositions of a patriarchal social structure. In addition, women's internal resources can be considered strong to realize goals throughout life. Apart from this, such a difference may exist because women express their positive and negative feelings more than men. The reasons for and consequences of this difference must be further researched.

According to this study's findings, aside from the positive relationship being seen between well-being and character strengths, character strengths are seen to significantly differ in favor of women with respect to gender. A study in the United Kingdom (Linley et al., 2007) found that women's character strengths have significant differentiations from men's except for creativity. A study performed on Mexican undergraduate students (Romero et al., 2018) investigated character strengths' relationship with life satisfaction and found that the relationship between character strengths and life satisfaction is much greater in men than in women. Evaluating these results, which do not coincide with the current study's findings, is considered important in the cultural context. The gender roles assigned to men and women in different cultures and their conveyed social roles are different, and these differences can have many reasons. Aside from this, a lack of information exists on the issue of whether or not personal and demographic characteristics (e.g., gender, age, education, marital status) affect the scope to which an individual's strengths are utilized (Duan & Ho, 2017).

The limitations of this research, which has investigated the relationship among personality traits, character strengths, and flourishing, are as follows: The research is limited by the study group, which has been selected from the various faculties of Karadeniz Technical University and Kocaeli University (i.e., faculties of medicine, architecture, and dentistry). The research is limited by data from the 2018-2019 school year. The research is limited by the scales used in the study. Research findings are limited to university students in the identified study group.

5. Recommendations

According to the research results, character strengths are the stronger predictor of flourishing when compared with personality traits. Studies can be expanded using concepts or demographic variables such as happiness orientations, multi-dimensional well-being models, and psychological needs that can have an intermediary or regulatory role in the relationship between these concepts. Doing detailed research on character strengths, which is still a fresh topic in Turkey's domestic literature, and its dual nature with flourishing can be suggested and organizing training programs on developing character strengths. Regarding research results, when the significant appearance of female preference in favor of gender in all variables is examined, flourishing can be examined with the gender roles variable. The relationship between flourishing and character strengths can be examined in different cultures and different sample groups. Also, contribution is expected to create a range of ideas about results researching the flourishing of individuals using various sample groups such as married and or employed, and such. Lastly, performing longitudinal studies can be considered helpful in understanding the relationships among character strengths, personality traits, and flourishing.

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The Mediating Role of Meaning in the Relationship Between Depression and Hope

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ABSTRACT

The purpose of study is to examine whether meaning mediates the correlation between depression and hope among students. Participants include 512 undergraduates sampled from a public university. After giving their consent, participants responded to a set of self-report instruments. Structural Equation Modelling (SEM) and path analysis were used to analyze the data. As hypothesized, findings revealed significant negative correlations between hope (agency and pathways) and meaning with depression. Furthermore, results indicate that meaning mediates the connection between depression and hope. Also, findings revealed that presence of meaning, and hope dimensions (agency and pathway thinking) indicated major predictors of depression with presence of meaning being connected with less symptoms of depression. Ostensibly, students with more depressive symptoms reflects the tendency of experiencing less presence of meaning. Furthermore, one major implication of this study is that policy makers and the management of universities need to give greater attention to including positive psychology into the curriculum for all students. Besides, as every student faces the ongoing pandemic experience, school psychologists can see more reason why hope and meaning-related interventions need to be integrated into practice.

Keywords:
Depression, hope agency, hope pathway, meaning, positive psychology.

1. Introduction

Depression is defined as the presence of extreme sadness, or the loss of interest in pleasurable activities, combined with five or more of the following symptoms which involves: perpetual sad feelings, loss of interest, changes in appetite or weight loss, sleeping difficulties, psychomotor agitation, fatigue, feelings of worthlessness, or persistent suicidal thoughts (American Psychiatric Association, 2013). It is believed that depression is a function of a complex interaction of psychological, social, and biological factors in which increased stress caused by college experience can be a significant trigger to student depression. Part of the experiences youngsters are exposed to include becoming isolated from lifelong social relationships and support mechanisms they do habitually gets from parents and other significant others. This is coupled with the fact that many students in undergraduate study do incur extensive financial burden which sometimes limits their academic aptitude in a more demanding learning environment (Vredenburg et al., 1988), including abandoning their academic studies (Marthoenis, Meutia, Fathiariani & Sofyan, 2018) Likewise, loss of interest and perpetual feelings of sadness may inhibit a student being able to retain information and do well in classes.

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Presently, universities are gradually becoming more cognizant of the prominence of attending to the psychological and emotional needs of undergraduate students as depression and anxiety continue to negatively affect students' academic prowess. Despite this disturbing situation, most studies on student's depression have been focusing on predicting factors, prevalence, and other psychosocial factors connected to depression (Fata Nahas et al., 2019; Yeoh et al., 2017).

Existential meaning among students provides a formidable mechanism towards providing an approach that buffers against what Gengler (2009). In essense, existential frustration is often seen as a function of lethargy and boredom (Zaiser, 2005). According to Frankl (1959), common maladaptive emotional disturbances like anxiety, addiction, and even depression were as a result of a mismanaged perception of existential meaning, that connects every generation to a set of maladaptive behaviours labelled as collective neurosis. University students are always facing varying degrees of stressors ranging from academic expectations, family-related challenges and school-related stressors. Besides, more challenging is the pandemic situation where online studies and learning are done at home.

Despite all these challenging situations, Frankl believed that students are expected to find meaning and being able to generate motivational strategies (Frankl, 2006). In addition, aside certain environmental factors, how individuals examine the causes and consequences of certain events play a significant role in determining dysfunctional affective and behavioural responses to these events (Hammen & Cochran, 1981). Experiencing meaning has been connected towards experiencing positive cognitive and emotional states like self-determination, positive view of life, accomplishment of existential goals, life satisfaction and coping (Frankl, 2006; Stark, 2003). Over the last three decades, meaning research has revealed how the construct remains a primary motivating force and has shown to be a buffer against depression and suicide ideation among student samples (Harlow et al., 1986). Up till date, there are little or no studies exploring students' depression from meaning perspective among Malaysian samples. Precisely, university students remain a group of young adults experiencing a critical period of transition which invariably requires them to embark on major life decisions that is connected to their future.

Asides being a cognitive drive and planning ability according to Snyders'(2002) theory, Marques, Gallagher and Lopez (2017) highlight hope as not only a goal-directed cognitive process, but also as a contemplative exercise involving a person's beliefs about being able to successfully undertake the goal-directed cognitive directions. It also pushes individuals to identify significant goals and generate valuable strategies, thereby achieving their targets (Arnau et al., 2007). Furthermore, individuals with higher hope levels are connected to experiencing better outcomes in their academics, sporting activities and psychological adjustment (2002). This study sees the conceptualization of hope using Snyder's (2002) theory on the significance of hope as a coping resource for attaining well-being and reducing depression.

Aside the less attention for positive cognitive and existential constructs like hope and meaning among students population in South-East Asia, the recurring emotional challenges encountered in higher learning propel the present study to focus on examining the correlates meaning and depression among undergraduates, including whether meaning do serve as a mediating variable. Hence, a significant relationship between hope pathways and hope agency, and depression is hypothesized. Also, it is foreseen that meaning will serve as a mediating effect between these correlates.

2. Literature Review

It is relevant to identify some of the factors associated with depressive symptoms among university students. In addition, some disturbing factor indicates the difficulty to interpret research findings due to recurrent use of numerous measures of depression, including inconsistent samples (Yeoh et al. 2017). In a study conducted among 425 university students along some faculties of health sciences, findings revealed depression is high among university students (Fata Nahas et, al. 2019). Additionally, examining the correlates of depression and some positive constructs remain the main objective of the current study.

Lew et al. (2020) investigated the impact of both presence of and search for along with suicidal tendencies among students in Mainland China. Participants include 2074 students, while instruments used for data collection include the (MLQ- involving dimensions of both presence and search for meaning); the Beck Hopelessness Scale (BHS), and the Future Disposition Inventory-24 (FDI-24). Results indicated that meaning

had a sound buffering effect against suicidal tendencies. In addition, Mascara and Rosen (2008) specifically examined the link between depression and existential meaning. Findings indicated meaning was related to decreased depressive sypmtoms and increased levels of hope (both trait and state dimensions). Moreover, meaning was correlated to significant increase in positive affect, with decreased depression and negative affect

Güngör and Gül Uçman (2020) assessed the impact of meaning an hopelessness on depression level among 286 Turkish employees in the healthcare sector. Findings from hierarchical regression analysis show hopelessness being positive predictor of depression, while meaning being a negative predictor of depression. Results from the study also revealed that meaning in life is a significant mediator on the correlation between depression and hopelessness.

In simpler terms, both pathways and agency thought framework can be tagged as a practical form of identifying a person's strengths and helping to foster their positive cognitive ability. Generally, hope is seen as a desirable human strength with important outcomes for psychological well-being (Seligman & Csikszentmihalyi, 2000). Though not in Southeastern context, findings from school studies on hope reveals higher levels of hope predicts improved mental health among high school students, and decreased depression among undergraduates (Marques, Pais-Ribeiro, & Lopez, 2011; Snyder et al., 1991). However, while there are some links between these variables, it could be deduced that there are less attention on examining the direction of these correlational studies. Hence, the present study seek to determine whether meaning serves as a mediator in the connection between depression and hope.

In all, previous findings are pointing towards the link between depression, meaning and hope dimensions in various cultural and geographical settings, little is known within South-East Asian settings, most especially among university students. Being a population with varying challenges, and coupled with the ongoing pandemic with its uncertainties and psychological effects it poses on students learning, the present study aims to examine depression and positive cognitive constructs of hope and meaning. This objective portrays a contrast with the majority of studies on depression among undergraduates in Malaysia where greater attention has been concentrated on assessing prevalence and psycho-social factors (Fata Nahas et al. 2019; Yeoh et al. 2017).

3. 1 Design and Participants

This study examines the relationships between depression, meaning, and hope, including whether meaning mediates the relationships depression and hope among undergraduate students. Through a quantitative research design, adopting path analysis as a statistical technique reveals separate associations into direct effect and indirect effects, and also how indirect effects make a variable serve as a mediator of the correlation between variables (Bernstein et al., 1988).

Through a convenient sampling technique, 512 undergraduate students were selected from a public university in Peninsula Malaysia. The participants' characteristics include 74.6% female students, while their male counterparts with 25.4%. In addition, a large majority were of Malay tribal origin accounting for about 77.9%. Most of the participants in the study were in their first year (84%), third year (7.2%), and second year (8.7%) as indicated in the table below

Table 1. *Demographic Characteristics of the Participants*

Demographic Variable	*f*	%
Gender		
Male	130	25.4
Female	382	74.6
Ethnicity		
Malay	399	77.9
Chinese	24	4.7
Indian	21	4.1
Others	68	13.3
Religion		
Islam	434	84.8
Christian	40	7.8
Buddhist	13	2.5
Hindu	20	3.9

None at All	5	1.0
Current Semester		
One	191	37.3
Two	239	46.7
Three	23	4.5
Four	22	4.3
Six	37	7.2

3. 2 Procedure and Instruments

After obtaining permissions from the ethics committee, the consent of the participants who voluntarily indicate their willingness to participate in the study was obtained, and some tokens (student writing materials) were given in appreciation for their participation. After signing the consent page of the set of questionnaires, they completed the anonymous survey with measures of the variables under study which took place within the span of four weeks and three days. The survey was administered after various classes based on a paper and pencil framework, and participants completed the study in a group setting during designated time slots. The data set which include the demography form, the BDI, MLQ, and the ATHS were responded to after a general course class. Furthermore, the data were initially screened and some number of suitable analytical tools like regression, correlational and path analysis were conducted.

3.2.1 Beck Depression Inventory.

Beck Depression Inventory (BDI) is a 21-item self-rated inventory that evaluates major symptoms of depression like extreme sadness, sense of failure, problem with sleep, loss of appetite, among others (Beck & Steer, 1993). And can be administered to evaluate adults, adolescents, and people with psychological disorders (Barrera & Garrison-Jones, 1988). Each of the item has a set of four possible responses from 0 to 3.. Also, total scores of the scale are added together in attaining a single score that reflects mild to severe depression. The BDI is known for its high internal consistency, with reported coefficients score of .86 and .81 for clinical and non-clinical samples respectively (Beck et al., 1988).

3.2.2 Meaning in Life Questionnaire.

The meaning scale is a 10-item self-report scale used to assess meaning dimensions (presence of search for meaning (Steger et al., 2006). The MLQ version used in this study is based on a seven-point format from "Absolutely True" to "Absolutely Untrue". The presence of meaning subscale assesses participants' feelings in respect to how meaningful is their life, while that of search for meaning examines participants motivation towards finding meaning. From the normative sample, both subscales had Cronbach's alpha values between 0.82 and 0.88 and a one-month test-retest stability of 0.70 (MLQ-P) and 0.73 (MLQ-S). The MLQ takes about 5 minutes to complete. The MLQ was reported to have a good test-retest reliability and stable factor structure, with both scales being internally consistent, as well as being positively related to well-being and negatively associated with anxiety and depression. (see Steger et al., 2006).

3.2.3 Adult Hope Scale

The Adult Hope Scale (Snyder, 2002) was devised to measure the positive cognitive state that serves the function of goal-focused strength (agency), and planning to meet future goals (pathways) (Snyder, 2002). The AHS consists of 12 items in which agency thinking and pathway thinking are two empirically validated subscales. Based on previous studies, the internal consistency is reported to be from .63 to .86; while that of the full-scale coefficients is from .74 to .88 (Snyder, 2002). The psychometric properties of the AHS includes a total scores' Cronbach alphas that ranged from .74 to .84. The AHS is often seen as a reliable and valid questionnaire among adult samples (Snyder et al., 1991), as well as being used to examine academic outcomes, psychopathology, and suicidal ideation (Bailey & Snyder, 2007; Berendes et al., 2010)..

3.3. Ethical

Permission was obtained from the Scientific Research and Publication Ethics Board of Universiti Pendidikan Sultan Idris (Date: 19.06.2019, Number of Sessions: 2019-0022-01).

3. Findings

Analysis through SPSS statistics indicated that after regressing all variables under study, it was revealed that there were significant predictors of depression in which decreased level of depression is connected with presence of meaning while higher levels of depressive symptoms are linked wth absence of meaning. Significant direct effects of Hope Pathways, $\beta = -0.11$, $p < 0.05$ and Hope Agency, $\beta = -0.21$, $p < 0.05$ on Depression remained even after modelling for the mediator variables. See Table 2 below.

Table 2. *Parameter Estimates of Variables*

Dependent Variable	Predictors	Est	*S.E.*	*z*	*p*	95% CI
POM	Pathways	0.21	0.07	2.84	0.005	[0.07, 0.36]
	Agency	0.59	0.08	7.59	0.001	[0.44, 0.74]
AOM	Agency	0.29	0.11	2.63	0.009	[0.08, 0.51]
Depression	Pathways	-0.27	0.13	-1.99	0.046	[-0.53, -0.01]
	Agency	-0.46	0.13	-3.58	0.001	[-0.71, -0.21]
	Presence of Meaning	-0.24	0.07	-3.46	0.001	[-0.38, -0.11]
	Absence of Meaning	0.26	0.05	5.79	0.001	[0.17, 0.35]

Furthermore, results from analysis indicated presence of meaning being a significant mediator on the link amidst depression and hope pathways, $\beta = -0.02$, $p < 0.05$. Besides, both POM, $\beta = -0.06$, $p < 0.05$ and AOM, $\beta = 0.03$, $p < 0.05$ were significant mediators on the correlation for depression and hope pathways (see table 2). In all, the effects sizes for each of the mediator variable proposes that POM (R^2=0.226) possesses a larger effect size towards depression when compared to AOM (R^2 = 0.021).

Table 3. *Test of Mediation*

Independent Variable	Estimates		*S.E.*	*z*	*p*	95% CI
	a	b				
Hope Pathways						
Total Effect	-0.126	-0.317	0.14	-2.30	0.02	[-0.59, -0.05]
Direct Effect	-0.106	-0.266	0.13	-1.99	0.05	[-0.53, -0.01]
Indirect Effect (Presence of Meaning)	-0.020	-0.051	0.02	-2.17	0.03	[-0.10, -0.01]
Hope Agency						
Total Effects	-0.235	-0.522	0.12	-4.22	0.00	[-0.77, -0.28]
Direct Effects	-0.205	-0.456	0.13	-3.58	0.00	[-0.71, -0.21]
Indirect Effects (Presence of Meaning)	-0.063	-0.141	0.05	-3.09	0.00	[-0.24, -0.06]
Indirect Effects (Absence of Meaning)	0.034	0.075	0.03	2.44	0.02	[0.02, 0.14]

a = Standardized Estimates; b = Unstandardized Estimates.

Analysis was conducted to investigate if the link between hope (pathways and agency) and depression is affected by meaning (absence and presence of meaning). The mediation analysis was conducted based on the recommendations of Baron and Kenny (1986) which involves the estimation of three regression equations. The path between hope-pathways and absence of meaning was removed because the estimate was not statistically significant indicating that absence of meaning is not a mediator of hope-pathways and depression. The resulting paths are illustrated in Figure 1. Structural Equation Modelling (SEM) routine in R, Rosseel (2012) to conduct the mediation analysis. There are obvious advantages to using SEM, for one, it is able to account for measurement error by incorporating it into the model. Another advantage is that all the paths are tested directly at once. Next, bootstrapping was used to obtain the standard errors used to determine significance and estimates for the indirect effects as advocated by Hayes (2009).

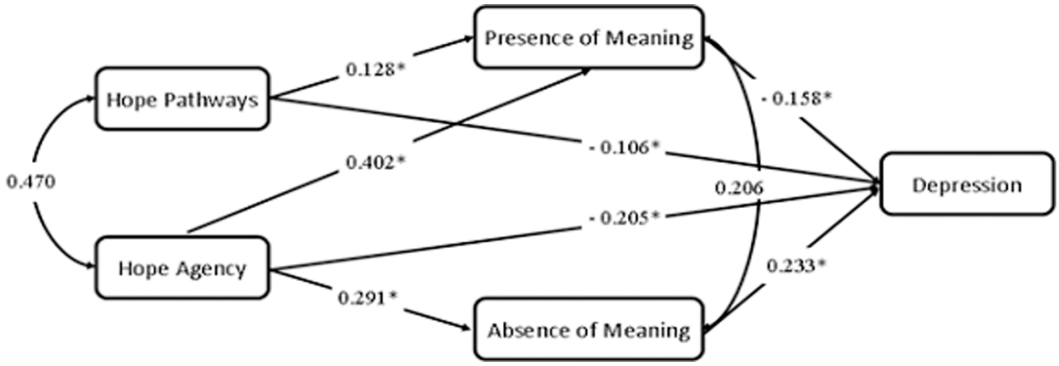

Figure 1. *Correlational Dimensions of Variables*

4. Discussion

The results of this study revealed significant correlation between depression and hope. Analysis from SEM and path analysis indicated a significant correlation between pathways thinking and depression, indicating pathways thinking predicts depression. Generally, this cognitive hope dimension refers to a persons' specific motives and plans in the quest of goal attainment. The results submit that increased depression levels is a function of when a person lacks the formation of specific pathways and means to achieve goals. This further stipulates that when people experience high levels of depression, it is possible they experience less motivation or enthusiasm to initiate pathways and methods in attaining future goals. Our findings are consistent with that of Li et al. (2018) in which both hope dimensions were significantly negatively correlated with depression, indicating that increased hope dimensions results in decreased depression levels.

In addition, findings revealed presence of meaning serve as a significant mediating effect on the correlation between depression and hope pathways. This result indicates that students who are able to meaningfully interpret life events will possibly experience hope-based meaning. Therefore, reducing hopelessness tends to address the cognitive cause of depression. This finding can be connected to that of Güngör and Gül Uçman (2020) where it was revealed that meaning in life significantly moderated and partially mediated the association between hopelessness and depression. Furthermore, the findings reflect the essence why students, who are currently experience more distress, uncertainty and depression due to the ongoing pandemic situation, need to be supported with programs and intervention framework inculcating meaning-driven, in addition with cognitive drives and pathways ability to move on in attaining their future goals.

Though, the mediation analysis on the cross-sectional design adopted by the present study can be seen to be temporal, however, the findings unravel the essential need why positive cognitive resources like hope and meaning need greater attention in reducing students' depression. Moreover, the findings from the present study serve as novel window through which researchers and school counsellors can see how to address students' depression and emotional issues in a collectivist society like Malaysia where positive constructs like meaning and hope are less explored.

5. Implications and Conclusions

The present findings have useful clinical implications. For instance, they explained that effective positive cognitive and existential approaches for depression among students should include strategies that support pathway thinking in establishing specific routes to achieve their goals. Aside adding value to university students' well-being in terms of research and practice among experts, these findings unravels the positive cognitive and motivational paradigm for university management and policy makers towards exploring existential meaning for undergraduates' wellbeing considering the current unprecedented psychological uncertainties posed by the on-going pandemic. Obviously, greater attention is needed among psychologists and administrators integrating positive psychology into the university curriculum in a bid to educate students with constructs and resources that can pave way for better understanding and identifying positive cognitive and emotional states that often fosters against depression and negative emotions.

In addition, as hope is seen to negatively correlate with depression with the results reflecting a significant bidirectional relationship between pathways thinking and depression, helping professionals, school psychologists and counsellors alike need to adopt integrative intervention that can help students to identify possible routes towards meeting set goals, and mastery skills that can help them navigate through uncertain times posed by the on-going pandemic. Students need to be assisted in understanding how to answer the questions that life asks on a daily basis, with the ability to endure difficult moments. Furthermore, the findings reflecting the mediating effects of presence of meaning point to the direction that university students need to be engaged with educational activities and programs to foster their understanding how they can positively interpret challenging events and identify meaning in life situations in order to increase the presence meaning in life.

One essential issue for research is examining the possibility on how meaning may have an effect psychological health and more specifically depressive symptomatology. Being an existential construct, the quantitative method adopted may not fully tap the rudiments why some individuals tend to acquire meaning in difficult situations, while some may attain presence of meaning due to personality characteristics

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Preschool History Geography Curriculum and Its Effects on Emotional Intelligence*

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ABSTRACT

This study was conducted to prepare the Preschool History Geography Education Curriculum for 60–72 months pre-school children and examine whether this program has an effect on their emotional intelligence and respect for diversity. This study was conducted as a quasi-experimental pretest-posttest control group design, as one of the quantitative research methods. The sample of the study consisted of a total of 40 children, 22 in the experimental group and 18 in the control group. The curriculum was implemented three days a week for ten weeks for the children in the experimental group. The educational curriculum of the control group was not interfered with. "The Preschool Education Curriculum of the Ministry of National Education of Turkey" (2013) was implemented in the control group. The data of the study were collected using the "Sullivan Scale of Emotional Intelligence for Children" and "Sullivan Brief Empathy Scale for Children" and "Scale of Respect for Diversity." As a result of the study, the experimental group's emotional intelligence, empathy, and respect for diversity scores increased significantly compared to the control group. And the experimental group increased significantly in the post-tests compared to the pre-test scores.

Keywords:
Preschool geography; preschool history; respect for diversity; emotional intelligence; social studies for children

1. Introduction

In pre-school today, children will become adults in the middle of the 21st century, and perhaps at the end. When viewed from this perspective, it is foreseeable that children will be involved in very different living and educational conditions than the environment they are currently in. It is considered to be important that children develop skills for adaptation not only to conditions they will encounter in the future, but also to the rapid flow of information brought by technological and social developments to the world at the time they live in, and to changes in the economy, in their environment and in their families. In the globalizing world, the boundaries in intercountry communication have been eliminated, and it has become easier to be aware of the world. Children also get involved in such interaction, and consequently, are subject to different social issues through television and social media, such as war, homelessness, migration, economic problems, states, etc. In addition to this, children considered an element of consumption, are thought to be open to manipulation by the media, also given their role in directing their families towards consumption and in the choices their families make. It turns out, at this point, that children need educational experiences from the early stages of their lives in this respect to overcome such conditions and handle the conditions in favor of themselves and the community. Such educational experiences are thought to be feasible with the content of social studies such

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as citizenship, economics, history, and geography, which are tailored to pre-school children's developmental areas. In the United States, a 32-member working group, which includes educators and major companies related to education, was established to identify, and standardize 21st century skills. This partnership (P21) identified the disciplines that should be taught to students in basic education and above in the 21st century as grammar, world languages, economics, mathematics, art, science, geography, history, and citizenship. P21 pointed out that such disciplines should be taught by weaving them with themes such as environmental literacy, global awareness, financial literacy, civic literacy, health literacy. "Learning and Innovation Skills", "Information, Media and Technology Skills" and "Life and Career Skills" have also been determined within the scope of the 21st century skills students need to acquire. The skills addressed as the "Life and Career Skills" include "communication and collaboration, flexibility and adaptation, initiative and self-direction, social and cross-cultural skills, and leadership and responsibility skills" (P21, 2015).

A review of these themes shows that "global awareness, civic literacy, financial literacy and environmental literacy" themes are associated mainly with the disciplines of history and geography. When the skills are examined in detail, it is noticed that the disciplines determined by P21 (2010) are such skills that can be taught through social studies involving the disciplines of history, geography, economics and citizenship. It is seen that the skills that will enable children to cope with the change and rapid flow of information mentioned earlier are these skills and it is possible to gain them through social studies.

Emotional intelligence and Respect for Diversity in Early Years

"Communication and collaboration, flexibility and adaptation, initiative and self-direction, social and cross-cultural skills, leadership and responsibility" skills are closely related to emotional intelligence directly and indirectly (Goleman, 2000; Shapiro, 2004). Because these skills are within the Life and Career Skills, it is possible to say that enhancing people's emotional intelligence is also among the needs of the century (Turculet, 2015). One of the dimensions of empathy that depends on the development of emotional intelligence is respect for diversity. A positive self-perception, the ability to interact with and empathize with diverse people, the ability to respect diversity, coupled with the ability to think critically by recognizing biases and differences (Hall, 1999), are some of the cross-cultural skills that are 21st century skills that can be taught to children in the social studies classroom along with other social-emotional skills. In light of the above information, it is important that children support emotional intelligence and teach respect for diversity in early childhood to ensure that they adapt to the conditions they are under and prepare for the future.

Social studies such as history and geography, which are among the subjects that can address 21st century skills and issues, are not included as separate activities in the preschool education curriculum set by the Turkish Ministry of Education and are addressed as part of the science activities (Öztürk et al., 2015). It is a common idea among educators in general that the scope of such subjects is above young children's developmental levels. However, research shows that children can learn objectives set forth in many social studies through appropriate educational activities (Glauert, Heal & Cook, 2003, Kemple, 2016; Melendez, Beck & Fletcher, 2000). A literature review on social studies such as history and geography in early childhood shows that Montessori is one of the most influential proponents of this topic. According to Montessori, children develop a sense of admiration by recognizing their origins in the universe, and they also understand their place in the universe and their roles in their lives through education offered to them in contexts covering subjects such as geography, history and science and experiences for these contexts in early childhood. They establish links between the past and the present and understand that there are larger societies in the historical context, questioning who they are as a human being, a citizen of a country, and a member of the universe and ecology (as cited in Stephenson, 2015). All the values and attitudes, from the small to the large, such as empathy, cooperation, respect for diversity, self-determination, initiative, and being a responsible citizen of the world by analyzing the society in which one lives, respecting the environment, the universe, and other cultures in order to support world peace, which should be taught to people in the 21st century, can perhaps also be taught through social work areas such as history and geography, based on Montessori's ideas. This research was conducted to create a history and geography curriculum and examine its impact on emotional intelligence and respect for diversity to contribute to the literature, recognizing that progress in history and geography education remains limited in the preschool years.

2. Methodology

2.1.Research Model

The study was designed as a quasi-experimental study as one of the quantitative research methods. A 2 × 3 mixed design was used for the study. The data collection instruments were administered to the children in the control and experimental groups at similar time points prior to implementation.After administering the pre-tests, the experimental group was taught using the Preschool History and Geography Education Curriculum (PHIGEC) 3 days a week for 10 weeks. The control group was taught using the "Preschool Education Program" (2013) of the Turkey Ministry of Education during that time. At the end of the 10 weeks, -both groups administered the post-tests. Four weeks after the post-tests, retention tests were administered to the experimental group to assess whether the curriculum was persistent.

2.2. Research Sample

The research study group consists of a total of 40 children, 60-72 months old, 18 in the control group and 22 in the experimental group, attending a pre-school education institution in Yenimahalle district of Ankara. The following criteria were taken into account for determining the experimental and control groups.

- Children had to be 60-72 months old,
- They had to have normal development,
- They had not been taught in an educational curriculum with history, geography, or similar content before,
- Their parents had to be willing to allow their children to participate in the study,
- The teachers of both classes had to have similar professional years of experience.

One of the two classes meeting the conditions was determined as the experimental group and the other as the control group.

2.3. Data Collection Tools and Procedure

General Information Form: The General Information Form administered in the study was prepared to identify general demographic information of the children and their families. The content of the form covered questions about the child's year of birth, gender, order of birth, number of siblings.

Sullivan Scale of Emotional Intelligence for Children: The "Sullivan Scale of Emotional Intelligence for Children" was developed by Sullivan (1999) to determine children's emotional intelligence and was adapted to Turkish by Ulutaş (2005). The Turkish version of the scale was used in this study. In its adapted version, the scale had the sections titled Faces, Stories, Comprehension and Management based on emotional intelligence competencies, such as "recognizing emotions, understanding emotions, and managing emotions".

The "Faces" section measures the ability to recognize emotions using various facial images. In the "Stories" section, the ability to understand emotions is measured using pictures about the feelings of a hero in a story. In the "Comprehension" section, children's ability to understand feelings that they and others feel is measured by using three test stories read aloud and questions about them. The "Management" section has questions about how children would make decisions in the face of certain situations that they are assumed to feel. The scale is assessed according to the correct responses given by children. A high number of correct answers means that the emotional intelligence score is high. The highest score one can score on the scale is 41. The alpha value was 0.84 for the overall "Sullivan Scale of Emotional Intelligence for Children."

Sullivan Brief Empathy Scale for Children: The measurement instrument "Sullivan Brief Empathy Scale for Children" which was developed by Sullivan (1999) to assess children's empathy levels, consists of 8 question stems with options "yes" and "no." This study utilized the Turkish version of the scale adapted by Ulutaş (2005). This scale was developed to obtain information about the empathetic reactions of children between the ages of 4 and 10. It contains 10 items that are read to the child. A high score on the scale indicates that the child's empathy is high. Ulutaş (2005) found that the alpha coefficient of the Sullivan Brief Empathy Scale for Children is 0.66 and the test-retest reliability coefficient is 0.90.

Scale of Respect for Diversity: **"**The Scale of Respect for Diversity" was developed by Ekmişoğlu (2007). There are 4 sub-dimensions on the scale: "gender diversity," "family and social life diversity," "disability diversity"

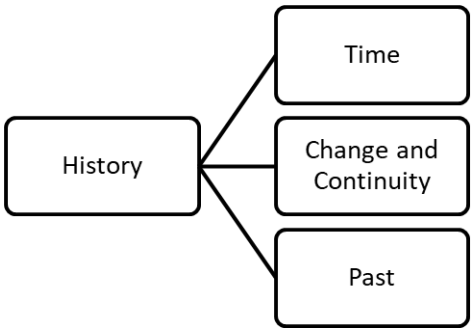
and "cultural background diversity." There are 30 items, including 5 in the gender sub-dimension, 9 in the family and social life sub-dimension, 8 in the disability sub-dimension, and 8 in the cultural background sub-dimension. The measuring instrument with 3-point Likert options is used in such a way that the children answer the questions posed to them by choosing one of the cards on which a "smiley face", a "undecided face" and a "sad face" are depicted, which respectively mean "agree", "slightly agree" and "disagree". The highest score one can score on this test is 90. The internal consistency coefficient that is, the Cronbach Alpha value was found to be 0.70 (Ekmişoğlu, 2007).

Preparation of PHIGEC: Some of the objectives and activities of history and geography are included under the name of "science education" in the Preschool Education Curriculum (2013) of the Ministry of National Education of Turkey. The curriculum is mainly based on developmental features. For this reason, the themes and subjects of history and geography have not been specified.

The broad and detailed literature review was conducted in the first phase of the preparation of the curriculum. Next, a number of curricula were examined, including history and geography in early childhood education from some of the states in the United States (HSSFCPS, 2009; MHSSCF, 2003; NCESKSS, 2010). The Cosmic Education of Montessori, one of the pioneers of teaching in history and geography subjects in early childhood, was examined (Duffy & Duffy, 2002; Miller, 2008; NAMC, NAMC, 2009; Stephenson, 2015). In the second phase, the basic principles of the curriculum were specified. These principles are given below.

- It is child-centred.
- Collaborative learning is essential.
- It has to be associated with life.
- It is suitable for children's developmental characteristics.
- It suits the interests and needs of children.
- It is spiral.
- It advances systematically and in a certain order.
- Abstract and distant concepts are embodied.
- It is aimed to improve all developmental areas through activities, but social-emotional development is at the center.
- Universal and cultural values are taken into consideration.

In the third phase, the achievement of social-emotional development area in the Preschool Education Curriculum (2013) of the Ministry of National Education, which was then in force in Turkey, were determined to be included in the activities of the PHIGEC.



In the fourth phase, the following geography themes were examined: the Cosmic Education Curriculum of Montessori, the standards for the teaching of social studies determined by the National Council for the Social Studies (NCSS, 2010; NCSS, 2002), and Geography for Life (Heffron, 2012) published by the Geography Education National Implementation Project (GENIP). And, a synthesis was made, and history-geography themes were created (Figure 1). The fifth phase hosted the planning of unique activities appropriate for the themes. In the sixth phase, an educational curriculum that included 30 days of activities was presented to the opinions of 5 experts 2 in the field of pre-school education, 1 in child development, 1 in history and 1 in geography. The activities were then

finalized in accordance with the recommendations from the subject matter experts.

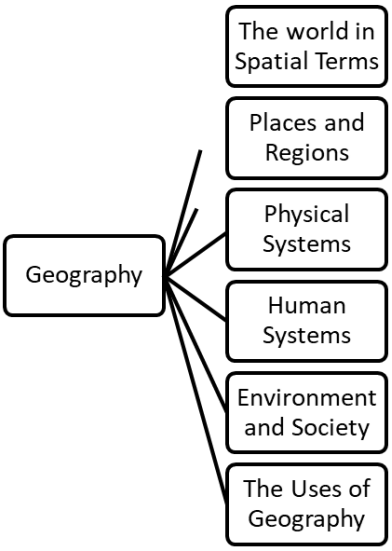


Figure 1. *PHIGEC History and Geography Themes*

2.4. Data Collection Process

A room that was not influenced by external factors was identified to administer pre-tests to the children. The children were taken to the interview room one by one. The children's answers to questions were recorded and filed in the evaluation form reserved for each child. It took approximately 20–30 minutes in total to administer all measurement instruments to each child.

Implementation of PHIGEC Before the implementation of the PHIGEC, a suitable place was arranged in the classroom as a temporary learning center for History and Geography. The materials that were prepared and brought in during the training period continued to be added to this learning center, so that by the end of the implementation, a learning center with rich materials had been created. The PHIGEC was administered to the experimental group 3 days a week for 10 weeks, while the Turkey National Preschool Education Curriculum (2013) was implemented on the remaining 2 days. The post-tests were administered to the children in both the experimental and control groups in the setting in which the pre-tests were administered immediately after the completion of the implementation of the program. The permanence tests were administered four weeks after the post-tests were administered only to the children in the experimental group in the same setting to determine if the PHIGEC was persistent.--

2.5. Data Analysis

Initially, the distribution of the data sets was examined in the data analysis process. Accordingly, the skewness and kurtosis coefficients that were calculated were found to deviate from the value of ±1. It was found that the distribution in histogram charts was not normal because the number of people in the experimental and control groups was less than 30. Calculations involved nonparametric statistics. In the study, the probability value of p was accepted to be 0.05 when specifying the significance levels of statistical tests. The research data were analyzed using the Mann Whitney U test to determine if there was a significant difference between the pre-test and post-test scores of the children in the experimental and control groups, and between the difference scores calculated by subtracting the post-test scores from the pre-test scores. The Wilcoxon signed-rank test was conducted to determine if there was a significant difference between the pre-test and post-test scores of the children in the experimental group and between the post-test and retention scores of the children in the control group.

3. Findings

There was no significant difference between the pre-test scores of the children in the experimental and control groups on the "Sullivan Scale of Emotional Intelligence for Children". Empathy scores of the experimental group, which were lower than those of the children in the control group at the pre-test, increased after the implementation to a level where there was no significant difference between them and the control group. A significant difference was found between the pre-test scores of the children in the experimental and control

groups on the "Sullivan Brief Empathy Scale for Children" in favor of the children in the control group. There was no significant difference between the pre-test scores of the children in the experimental and control groups on the "Scale of Respect for Diversity" (Table 1).

Table 1. *Results of Mann Whitney U Test for Emotional Intelligence/ Empathy /Respect for Diversity Pretest Scores of Children in Experimental and Control Groups*

Scale	Groups	N	M	Sx	Mean Ranks	Sum of Ranks	U	z	p
Emotional Intelligence-Faces	Experimental	22	14.00	1.77	19.23	423.00	170.000	0.773	0.439
	Control	18	14.39	1.85	22.06	397.00			
Emotional Intelligence- Story	Experimental	22	3.32	1.17	21.32	469.00	180.000	0.503	0.615
	Control	18	3.11	1.41	19.50	351.00			
Emotional Intelligence-Comprehension	Experimental	22	7.82	1.84	22.50	495.00	154.000	1.212	0.226
	Control	18	7.06	2.07	18.06	325.00			
Emotional Intelligence-Management	Experimental	22	4.50	1.68	23.41	515.00	134.000	1.772	0.076
	Control	18	3.56	1.82	16.94	305.00			
Emotional intelligence	Experimental	22	30.05	3.90	22.82	502.00			
	Control	18	28.11	4.80	17.67	318.00	147.000	1.392	0.164
Empathy Scale	Experimental	22	8.50	1.74	17.25	379.50	126.500	2.069	0.039*
	Control	18	9.44	0.78	24.47	440.50			
Respect for Diversity-Gender	Experimental	22	10.64	2.38	21.09	464.00	185.000	0.359	0.719
	Control	18	10.33	2.33	19.78	356.00			
Respect for Diversity-Family & social life	Experimental	22	20.00	3.24	22.05	485.00	164.000	0.940	0.347
	Control	18	18.94	3.23	18.61	335.00			
Respect for Diversity-Disability status	Experimental	22	15.14	2.29	22.86	503.00	146.000	1.436	0.151
	Control	18	14.06	3.06	17.61	317.00			
Respect for Div.Cultural background diversity	Experimental	22	16.50	3.91	19.73	434.00	181.000	0.467	0.641
	Control	18	17.06	4.21	21.44	386.00			
Overall respect for diversity	Experimental	22	61.23	8.34	21.52	473.50	175.500	0.613	0.540
	Control	18	60.11	9.38	19.25	346.50			

*$p < .05$

After the PHIGEC was administered to the experimental group, a significant difference was found between the emotional intelligence post-test scores of the experimental and control groups. The experimental group had significantly higher scores on "Faces," "Comprehension" and the overall emotional intelligence. After the implementation, the children's emotional intelligence scores increased significantly. And was administered to the experimental group; there was no significant difference between the empathy post-test scores of the children in the experimental and control groups. After the PHIGEC was administered to the experimental group, a significant difference was found between the -children's respect for diversity post-test scores in the experimental and control groups. The experimental group had significantly higher scores on all sub-dimensions except for the "family and social life" dimension and overall scores (Table 2).

Table 2. *Results of Mann Whitney U Test for Emotional Intelligence/ Empathy /Respect for Diversity Posttest Scores of Children in Experimental and Control Groups*

Scale	**Groups**	**N**	M	**Sx**	**Mean Ranks**	**Sum of Ranks**	**U**	**z**	**p**
Emotional Intelligence-Faces	Experimental	22	15.27	1.91	24.75	544.50	104.500	2.582	0.010*
	Control	18	13.72	1.87	15.31	275.50			
Emotional Intelligence-Story	Experimental	22	4.41	0.85	23.23	511.00	138.000	1.761	0.078
	Control	18	3.72	1.36	17.17	309.00			
Emotional Intelligence-Comprehension	Experimental	22	8.55	1.60	24.27	534.00	115.000	2.302	0.021*
	Control	18	7.33	1.68	15.89	286.00			
Emotional Intelligence-Management	Experimental	22	5.00	1.75	21.09	464.00	185.000	0.363	0.717
	Control	18	4.50	2.07	19.78	356.00			
Emotional intelligence	Experimental	22	33.23	4.14	24.45	538.00	111.000	2.372	0.018*
	Control	18	29.28	4.81	15.67	282.00			
Empathy Scale	Experimental	22	9.36	1.50	21.61	475.50	173.500	0.825	0.409
	Control	18	9.44	0.86	19.14	344.50			

Respect for Div.Gender	Experimental	22	12.41	1.94	25.05	551.00	98.000	2.758	0.006*
	Control	18	10.11	2.40	14.94	269.00			
Respect for Div. Family & social life	Experimental	22	20.95	3.66	21.80	479.50	169.500	0.788	0.431
	Control	18	19.83	2.66	18.92	340.50			
Respect for Diversity-Disability status	Experimental	22	17.27	3.25	25.34	557.50	91.500	2.933	0.003*
	Control	18	14.22	3.00	14.58	262.50			
Respect For div. Cultural background diversity	Experimental	22	22.68	1.29	25.80	567.50	81.500	3.286	0.001*
	Control	18	18.39	4.67	14.03	252.50			
Overall respect for diversity	Experimental	22	73.32	6.36	26.82	590.00	59.000	3.783	0.000*
	Control	18	62.56	9.08	12.78	230.00			

*$p < .05$

After the PHIGEC was administered to the experimental group, significant differences were found between the experimental group's emotional intelligence pre-test and post-test scores in terms of all sub-dimensions and the overall scale. There was no significant difference between the control group's emotional intelligence pre-test and post-test scores (Table 3).

Table 3. *Results of Wilcoxon Signed-Rank Test for Emotional Intelligence Posttest–Pretest Scores of Children in the Experimental and Control Groups*

Sub dimension	Time of administration	Rank	N	Mean Ranks	Sum of Ranks	z	p
Faces (Experimental)	Posttest–Pretest	Negative ranks	5	8.70	43.50	2.091	0.037*
		Positive ranks	14	10.46	146.50		
		Equal	3				
Story (Experimental)	Posttest–Pretest	Negative ranks	1	9.00	9.00	2.935	0.003*
		Positive ranks	14	7.93	111.00		
		Equal	7				
Comprehension (Experimental)	Posttest–Pretest	Negative ranks	2	7.00	14.00	2.008	0.045*
		Positive ranks	10	6.40	64.00		
		Equal	10				
Management (Experimental)	Posttest–Pretest	Negative ranks	3	6.50	19.50	2.235	0.025*
		Positive ranks	11	7.77	85.50		
		Equal	8				
Emotional intelligence (Experimental)	Posttest–Pretest	Negative ranks	5	4.80	24.00	3.339	0.001*
		Positive ranks	17	13.47	229.00		
		Equal	0				
Faces (Control)	Posttest–Pretest	Negative ranks	10	8.15	81.50	1.234	0.217
		Positive ranks	5	7.70	38.50		
		Equal	3				
Story (Control)	Posttest–Pretest	Negative ranks	5	5.00	25.00	1.782	0.075
		Positive ranks	9	8.89	80.00		
		Equal	4				
Comprehension (Control)	Posttest–Pretest	Negative ranks	3	4.00	12.00	0.863	0.388
		Positive ranks	5	4.80	24.00		
		Equal	10				
Management (Control)	Posttest–Pretest	Negative ranks	2	7.50	15.00	1.916	0.055
		Positive ranks	10	6.30	63.00		
		Equal	6				
Emotional intelligence (Control)	Posttest–Pretest	Negative ranks	6	9.58	57.50	1.227	0.220
		Positive ranks	12	9.46	113.50		
		Equal	0				

*$p < .05$

After the PHIGEC was administered to the experimental group, a significant difference was found between the experimental group's empathy pre-test and post-test scores. There was no significant difference between the control group's empathy pre-test and post-test scores (Table 4).

Table 4. *Results of Wilcoxon Signed-Rank Test for Empathy Skills Posttest–Pretest Scores of Children in the Experimental and Control Groups*

Scale	Time of administration	Rank	N	Mean Ranks	Sum of Ranks	z	**p**
Empathy (Experimental)	Posttest–Pretest	Negative ranks	3	6.50	19.50	2.569	0.010*
		Positive ranks	13	8.96	116.50		
		Equal	6				
Empathy (Control)	Posttest–Pretest	Negative ranks	4	2.50	10.00	0.108	0.914
		Positive ranks	2	5.50	11.00		
		Equal	12				

*$p < .05$

Significant differences were identified between the respect for diversity pre-test and post-test scores of the experimental group in terms of all sub-dimensions except for the "family and social life" sub-dimension and in terms of the overall scale. There was no significant difference between the respect for diversity pre-test and post-test scores of the control group (Table 5).

Table 5. *Results of Wilcoxon Signed-Rank Test for Respect for Diversity Posttest–Pretest Scores of Children in the Experimental and Control Groups*

Sub dimension	Time of administration	Rank	N	Mean Ranks	Sum of Ranks	z	p
Gender (Experimental)	Posttest–Pretest	Negative ranks	4	4.50	18.00	2.966	0.003*
		Positive ranks	14	10.93	153.00		
		Equal	4				
Family & social life (Experimental)	Posttest–Pretest	Negative ranks	5	7.90	39.50	1.481	0.139
		Positive ranks	11	8.77	96.50		
		Equal	6				
Disability status (Experimental)	Posttest–Pretest	Negative ranks	0	0.00	0.00	2.818	0.005*
		Positive ranks	10	5.50	55.00		
		Equal	12				
Cultural background diversity (Experimental)	Post-test–Pre-test	Negative ranks	1	5.00	5.00	3.963	0.000*
		Positive ranks	21	11.81	248.00		
		Equal	0				
Overall respect for diversity (Experimental)	Posttest–Pretest	Negative ranks	1	1.00	1.00	3.982	0.000*
		Positive ranks	20	11.50	230.00		
		Equal	1				
Gender (Control)	Posttest–Pretest	Negative ranks	5	8.30	41.50	0.199	0.842
		Positive ranks	7	5.21	36.50		
		Equal	6				
Family & social life (Control)	Posttest–Pretest	Negative ranks	4	6.88	27.50	1.276	0.202
		Positive ranks	9	7.06	63.50		
		Equal	5				
Disability status (Control)	Posttest–Pretest	Negative ranks	2	2.00	4.00	0.966	0.334
		Positive ranks	3	3.67	11.00		
		Equal	13				
Cultural background diversity (Control)	Posttest–Pretest	Negative ranks	3	6.00	18.00	1.958	0.051
		Positive ranks	10	7.30	73.00		
		Equal	5				
Overall respect for diversity (Control)	Posttest–Pretest	Negative ranks	3	10.17	30.50	1.981	0.062
		Positive ranks	10	8.75	122.50		
		Equal	5				

*$p < .05$

There was no significant difference between the children's emotional intelligence, empathy, respect for diversity post-test scores and their retention test scores administered 4 weeks after the implementation. Therefore, the program's impact was found to be persistent (Table 6).

Table 6. *Results of Wilcoxon Signed-Rank Test for Emotional Intelligence/ Empathy /Respect for Diversity Retention Test–Post-test of Children in the Experimental Groups*

Scale	Time of administration	Rank	N	Mean Ranks	Sum of Ranks	z	p
Emotional Intelligence-Faces	Retention test–Posttest	Negative ranks	13	10.42	135.50	1.150	0.250
		Positive ranks	7	10.64	74.50		
		Equal	2				
Emotional Intelligence-Story	Retention test–Posttest	Negative ranks	3	3.50	10.50	1.469	0.142
		Positive ranks	6	5.75	34.50		
		Equal	13				
Emotional Intelligence-Comprehension	Retention test–Posttest	Negative ranks	3	9.33	28.00	1.241	0.215
		Positive ranks	10	6.30	63.00		
		Equal	9				
Emotional Intelligence-Management	Retention test–Posttest	Negative ranks	4	5.63	22.50	0.540	0.589
		Positive ranks	6	5.42	32.50		
		Equal	12				
Emotional intelligence	Retention test–Posttest	Negative ranks	10	9.25	92.50	0.469	0.639
		Positive ranks	10	11.75	117.50		
		Equal	2				
Empathy Scale	Retention test–Posttest	Negative ranks	2	3.25	6.50	0.850	0.395
		Positive ranks	4	3.63	14.50		
		Equal	16				
Respect for Diversity-Gender	Retention test–Posttest	Negative ranks	9	6.11	55.00	1.288	0.198
		Positive ranks	3	7.67	23.00		
		Equal	10				
Respect for Diversity-Family & social life	Retention test–Posttest	Negative ranks	6	6.58	39.50	1.775	0.076
		Positive ranks	11	10.32	113.50		
		Equal	5				
Respect for Diversity-Disability status	Retention test–Posttest	Negative ranks	6	8.08	48.50	0.661	0.509
		Positive ranks	9	7.94	71.50		
		Equal	7				
Respect for Div. Cultural background diversity	Retention test–Posttest	Negative ranks	8	8.25	66.00	0.884	0.377
		Positive ranks	6	6.50	39.00		
		Equal	8				
Overall respect for diversity	Retention test–Posttest	Negative ranks	9	8.94	80.50	0.585	0.559
		Positive ranks	10	10.95	109.50		
		Equal	3				

*p < .05

Based on the study results, the PHIGEC, developed for pre-school children, can be said to be effective in improving children's scores of emotional intelligence, empathy, and respect for diversity.

4. Conclusion, Discussion and Recommendations

Studies about the emotional intelligence of children in the literature have generally examined the impact of curricula directly aimed at improving emotional intelligence (Altunbaş, 2018; Bruno, England & Chambliss, 2002; "Finley, Pettinger, Rutherford & Timmes, 2000; Gore, 2000; Kolb & Weede, 2001"; Rafaila, 2015; Şahin, 2011; Ulutaş, 2005). Unlike the studies in the literature, current studies involve the social studies (history and geography) activities that were thought to have an indirect positive effect on emotional intelligence. The children's skills such as understanding their own feelings and empathy were expected to be enhanced with the history and geography activities. Additionally, the children were expected to understand that they were a part of the universe as people who have to take responsibilit and had some responsibilities for their environment. They were also expected to develop respect for humans and animals and nature via social studies activities. It was aimed that they recognized their similarities with other people and understood that they were connected to them and that their wishes and needs were common. Because these were mainly associated with emotional intelligence, one of the data collection instruments of this study was a measurement

instrument for determining children's emotional intelligence. It was also a positive result that the scores on the sub-dimensions of the administered scale increased separately. Still, the increased overall emotional intelligence and empathy scores gave the desired clue about the study's success. The strong and different aspect of the study was the demonstration that children's levels of emotional intelligence, empathy, and respect for diversity can be enhanced through activities designed to develop direct emotional intelligence and social studies activities such as history and geography.According to the present study results, the PHIGEC had a positive impact on the children's scores of emotional intelligence, empathy, and respect for diversity. Social studies can contribute to children's ability to make friends, be more open to collaboration, be helpful, empathize for others, and take a more positive stance on diversity (Kostelnik, Soderman & Whiren, 2011). In personal, social and emotional development, geography studies in early childhood teaches children to become respectful for themselves and other people's cultures, appreciate and accept diversity, and understand their culture and community by learning about them. Moreover, it teaches how to talk freely about their community, to talk about similarities and differences in their experiences and causes of their experiences, to exhibit various emotions, to solve and identify problems, to reach solutions, and to contemplate about problems from others' perspectives (Owen & Ryan, 2006). According to Young (2004), geography studies in early childhood encourage children to live more sustainably through critical thinking and reflection and take greater responsibility for their actions. Montessori has pointed out that children who undergo cosmic education, which includes disciplines such as history and geography, enter adolescence more preparedly, become safe and responsible, develop emotional intelligence and become more balanced in physical, academic and social skills (NAMC, 2009).

It would be useful to justify the positive influence of the PHIGEC on the children's scores of emotional intelligence, empathy and respect for diversity based on the content of the curriculum.

The goal of studies on places around the world, especially geography, is to let children understand what it feels like to be and live in a place other than their own country. It may seem independent from each other, but this aspect of geography allows children to get a sense of place, enables them to develop knowledge and understanding, discover their feelings and values, and empathize with others (Catling & Willy, 2009).One of the instruments and knowledge that people need to conserve natural and cultural resources, mitigate conflicts and improve the quality of life in the world is a sense of place (Edelson, 2011). The essence of people's relationship with places is based on the fact that an important need for people is to connect to places that have a special meaning in their lives and their safe attachment to their caregivers (Relph, 1976). According to Tuan (2001), people of all ages need to develop a sense of space to develop self-identity and understand their place in the world. With the help of the geography activities, the children had the opportunity to see that there were different places outside the small environment where they lived and that other children like themselves lived in utterly different conditions. The children discovered symbolic places belonging to countries and cities through activities to improve their perception of space. They encountered many cultural elements, from the language of the people who lived there to their games, from their clothing to the houses they lived in. This allowed them to empathize and experience seeing through someone else's eyes.Personal and local history studies, which most educators think are important in early childhood, help answer two main questions, such as "Who am I?" and "Where am I?" (Purkis & Greenwood, 2008). Answering such questions contributes to children's knowing themselves, understanding their emotions and developing their self-perceptions. First, the children's self-perceptions were improved through the geography activities about direction, location and body perception. Then, their awareness of the place in which they lived and the environment was raised. One of the types of activities that contribute to the development of a sense of place is activities about maps. Such activities enhance the ability to read visuals and the sense of place.

Goleman, Barlow, and Bennett (2012) have put forward a model based on understanding the reciprocal relationship between humans and nature and the implications of that relationship-a model in which emotional, social, and ecological intelligence coexist, which does not limit empathy to humans but encourages it to be extended to all life forms in nature, ecosystems, and all of nature. Melendez et al. (2000) have pointed out that geography studies allow people to take responsibility for the environment. They have also stated that it helps children understand what impact the environment has on human activities and would help them understand what kind of relationship human beings have with animals, plants, the environment and other elements of the environment. Activities carried out in geography regarding environmental pollution and the

negative effects of this pollution on humans, animals and the environment enable children to gain awareness of their responsibility by developing respect and empathy for humans, animals and nature.

Children's ability to understand the effort behind the production and the process of production through geography-related activities and their ability to develop respect and empathy for people in the business and manufacturing world were supported. Moreover, through activities addressing concepts such as production, consumption, wasting, and saving, it was ensured that they would notice people living in difficult conditions in different parts of the world and think about what responsibilities they could take about such conditions. Mindes (2005) found that preschool and elementary school-aged children can develop a sense of civic responsibility through the discovery of rich thematic units such as food, clothing, housing, childhood, money, government, communication, family, life, or transportation.. It is possible to talk about a relationship between economic activities in the context of geography, such as awareness of saving, which includes respect for the world's resources; awareness of the work behind production and respect for work; awareness that every profession is necessary and deserves respect; emphasis on usefulness to people; and avoiding gender discrimination in jobs and professions, as well as emotional intelligence and empathy (Yüksek Usta & Tezel Şahin, 2018).H. Karadeniz (2013) concluded that the children improved their ability to be aware of time through a variety of educational activities. History activities include past events and people, but also and activities about planning time. The children's self-regulation skills were supported by such activitieSuch activities supported the children's self-regulation skills. They gained experiences through which they would be sensitive to time, to be able to wait for a certain period of time, and to exhibit self-regulation behavior.

With historical empathy developed through historical activities, children can understand people's ideas inpeople's ideas in history, recognize their conditions, appreciate the obstacles they faced, and assess the consequences of their actions (Lazarakou, 2008). Children can learn about past or present heroes who can be role models through history activities. People with high emotional intelligence can manage their interpersonal relationships well and look for people who they can take as role models (Sternberg, 1996). Learning about heroes and renowned elders contributes to children's positive self-perception and self-esteem development (Melendez et al., 2000).

Cultural awareness is the starting point for understanding and appreciating people's diversity and their lives in the world. Social studies support children to understand different cultures, establish relationships with others and develop their self-perception, and the experiences they gain in this way enable them to understand themselves and their place in the world better (Seefeldt et al., 2015). Some evidence suggests that pre-school years can be formative for understanding socio-economic diversity. A small number of studies (Leahy, 1981-1983; Ramsey, 1991) indicate that children begin to understand socio-economic differences during their pre-school years and use their learning experiences to construct stereotypes. Through the activities on consumption in Geography, the children were taught that there are people who live in difficult conditions and that this should not be a reason for discrimination.

Young (2004) has stated that geography studies improve the ability to understand and appreciate different people and places around the world by changing racial, discriminatory and biased perspectives. Moreover, the children put themselves in the place of people who worked in different professions through the activities about different professions in the curriculum that was implementedimplemented curriculum. Thus, an attempt was made to help children become aware that every profession did a valuable job.

Based on the results of research studies and the present study, it can be said that the PHIGEC, which was prepared by the developmental characteristics of pre-school children, was effective on the children's levels of emotional intelligence, empathy and respect for diversity.

It is envisaged that the competencies that are to be merged with subjects in the curriculum and mastered by the people a country needs in the 21st century, such as universal awareness, environmental literacy and civic competence, can also be taught to children through social studies such as history and geography. Based on the findings of the study, countries can be advised to include history and geography activities in early childhood education programs and to advise teachers to support all areas of development, especially social-emotional development, with history and geography activities supported by rich materials in their lesson plans.

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The Role of Workplace Spirituality in Reducing Organizational Hypocrisy in Schools

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ABSTRACT

This research aimed to investigate the relationship between workplace spirituality and organizational hypocrisy from teachers' perspectives. The study employed a cross-sectional quantitative survey design. The data for the research was collected from 276 teachers working at lower secondary schools in Turkey. Stepwise multiple regression was performed in the analysis to identify the predictive power of workplace spirituality dimensions for organizational hypocrisy dimensions. The findings suggest that workplace spirituality significantly predicts organizational hypocrisy. In the model, the highest explanatory power of the total variation belonged to workplace spirituality's self-perception, meaningful work, and organizational values dimensions. Consequently, this research emphasizes the importance of workplace spirituality in reducing the effects for schools that have to act hypocritically. This research is the first research on the potential impact of workplace spirituality on organizational hypocrisy behavior in schools. In this context, it was concluded that workplace spirituality was important in reducing perceptions related to hypocritical behavior displayed by school administrations among teachers in the schools.

Keywords:
Workplace spirituality, organizational hypocrisy, model, teachers.

1. Introduction

Currently, organizations worldwide are affected by environmental changes caused by globalization. To adjust to these changes, it is essential to manage them effectively. Organizations need to make various regulations within the organizational structures and mechanisms to respond to environmental pressures while collecting change and preserving their position. However, organizations must maintain their legitimacy while keeping their place (March & Olsen, 1989). This situation may cause differences in the expectations of internal and external stakeholders. Organizational management must continuously attempt to balance meeting the conflicting expectations of stakeholders and developing strategies for this purpose (Barnett, 2007). The complexity of the situation puts management in an unstable moral position. For the organization to maintain its legitimacy, if stakeholders make uncompromising demands, management must develop strategies that meet a level of agreement acceptable to each stakeholder. For this reason, to manage conflicting stakeholder demands, the organization may be encouraged to adopt specific inconsistent stakeholder strategies, which may elevate fundamental concerns related to the integrity of behavior in the organization (Simons, 2002). Brunsson (2002) proposed that organizations generally respond to conflicting stakeholder demands through the *organizational hypocrisy* route.

Although hypocrisy was developed as a case in political organizations (Brunsson, 2002), it is possible to observe the concept in educational organizations like schools. Schools are faced with the obligation to abide by regulations made by educational ministries on the one hand and by conflicting demands of local internal

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and external stakeholders on the other. There may be an inconsistency between their words and actions to overcome this contradiction. For instance, strategic planning practices in schools may be shown as evidence that schools act hypocritically. Schools mainly work to gain a rational and legitimate image in many environments rather than remaining loyal to their strategic plan where they state what will be done to bring them from their current position to where they want to be in the future (Kılıçoğlu, 2017). This shows that schools may display organizational hypocrisy behavior. However, researches performed in schools (Çayak, 2021; Göçen et al., 2021; Kahveci et. al. 2019; Karagül Kandemir & Kahveci, 2019; Kılıçoğlu et al., 2019; Kılıçoğlu & Yılmaz Kılıçoğlu, 2019; Konan & Taşdemir, 2019) indicate the negative outcomes of hypocrisy. For instance, in the study of Kılıçoğlu and Yılmaz Kılıçoğlu (2019), it was seen that as teachers' hypocrisy perceptions increase, their perceptions of organizational commitment, motivation, organizational citizenship and job satisfaction decrease. The study of Göçen et al. (2021) found that as teachers' perceptions of hypocrisy increase, their perceptions of organizational cynicism increase. In other studies, it is possible to see that organizational hypocrisy has negative consequences in schools. In a qualitative research by Kılıçoğlu et al. (2019), it was found that organizational hypocrisy can have devastating consequences such as organizational conflict in schools, the spread of inconsistency to all employees, chaos, and the development of unhealthy school culture at school. Considering the negative consequences of organizational hypocrisy, reducing hypocrisy in schools remains a significant problem. In this context, one of the cases that may be used to reduce the hypocritical behavior of schools appears to be workplace spirituality.

Neck and Milliman (1994) observed that people have a more spiritual orientation toward their work than ordinary life. Workplace spirituality may include many benefits for organizations, such as creating a more motivated organizational culture by increasing trust and interconnections between people and directing organizational performance as a whole. Additionally, workplace spirituality makes a direct path to perfectionism ultimately, and this is proposed to ensure organizationality (Mukherjee et al., 2017). Some organizations encourage spirituality to increase the loyalty and morale of employees (Ashmos & Duchon, 2000). People working in a spiritual environment are more decisive, ethical, and less fearful and make the workplace more flexible, productive, innovative, and creative (Fry, 2003). In this context, direct management of workplace spirituality regulates the attitudes and behaviors of employees in the workplace (James et al., 2011), and the case of hypocrisy may be encountered less often. In recent years, researchers have begun to investigate the importance of spirituality in schools in recent years (Aksakal & Kahveci; 2021; Cook & Babyak, 2019; Paul et. al., 2020; Terzi et. al. 2020; Walker, 2020). Adoption of workplace spirituality and principles in a real sense by school management may be a solution in terms of reducing the orientation toward organizational hypocrisy behavior. It is even stated that hypocrisy can lead to pathological results in organizations (Han & Koo, 2010). However, the limitations of existing empirical studies on which variables this pathological behavior can be influenced by and which variables can affect schools make it difficult to examine the concept of organizational hypocrisy in depth. Inconsistency between the words, decisions, and actions of school administrators among internal stakeholders in schools may create a trust problem in schools. Over time, this problem will weaken teachers' sense of belonging towards the school and cause negative feelings. As a result, hypocrisy may be assessed as an organizational behavior that should be avoided due to effects on schools' structural operations and human resources. In this context, this research is important as it investigates the correlations between workplace spirituality and organizational hypocrisy according to teachers' perceptions. There is no study encountered in the literature focusing on the relationship between these two variables in schools. Considering the gap in the literature, our purpose is to investigate the organizational spirituality of teachers in Turkey and their influence on organizational hypocrisy. For this reason, the research is essential in terms of filling a gap in the literature about organizational behavior in schools. Additionally, it is hoped that models obtained in the study about spirituality dimensions that determine organizational hypocrisy will offer important clues to reduce hypocritical behavior by school administrations.

1.1. Purpose of the Research

This research aimed to investigate the relationship between workplace spirituality and organizational hypocrisy from teachers' perspectives. In line with this aim, answers were sought to the following research questions:

(1) What is the level of perception related to workplace spirituality among teachers?

(2) What is the level of perception related to organizational hypocrisy among teachers?

(3) Do perceptions related to workplace spirituality significantly predict perceptions related to organizational hypocrisy among teachers?

1.2. Educational System in Turkey

Before explaining the theoretical framework in this study, we present contextual information about the education system in Turkey. Turkey is formed from the accumulation of vibrant and diverse cultures coming from the depths of its history. In Turkey, which has a broad power distance and a collectivist culture, education is one of the essential functions of the state and is carried out under the control and supervision of the state. In this structure, which is based on centralism (Erdem et. al., 2011), all regulations are made by the Ministry of National Education (MoNE). All aspects of education, such as its purpose, content, implementation processes, budget, infrastructure, and human resources, are shaped by the decisions taken by MoNE. This understanding of management causes problems in the effective implementation of education policies and makes it difficult to solve the problems encountered at the local level quickly. There is a hierarchical authority in schools in the centralized management approach, strict control by the central government, and a kind of externally supervised management. MoNE has assigned broad responsibilities to the school principal regarding school management. The school principal is responsible for the school's management, evaluation, and development by its predetermined goals. Many regulations and changes have been made in education in recent years in Turkey. For instance, the work on developing, renewing, and updating the curricula started in 2005 and was completed in the 2015-2016 academic year. In addition, FATIH Project was started in 2012 to provide equal opportunity in education and training and improve technology in schools, which continues. Finally, a vision document was announced by the MoNE in 2018, which sets the general framework for the policy steps to be taken in the three years (MoNE, 2018). Despite all these reforms, the positive expectations targeted in the education system could not be achieved, and the education system could not be saved from an exam-oriented basis. In fact, the rapid change of examination systems is frequently criticized by education researchers. In Turkey, the provincial organizations of MoNE and the parents of the students put pressure on the school administrations to increase the students' academic performance. School administrators may feel under pressure because they are caught between central government policies and local dynamics. Because in central administrations, the administrative structure and principles of the school are determined by the guidelines of the central administration, the characteristics and requirements of the school are generally not taken into account, and the school's stakeholders feel themselves under strict control (Cheng, 1996). The pressure and power in question may cause the school principal, who is primarily responsible for school management, to exhibit inconsistent behaviors. Inconsistent behaviors can cause a crisis of trust between teachers and school administrators. In this context, this study examines the importance of workplace spirituality, which can affect teachers' perceptions of organizational hypocrisy displayed by school principals in countries with a centralized education system such as Turkey.

1.3. Theoretical Framework

In this section, after discussing the theoretical background of variables used in the research, the conceptual framework forming the basis of the relationship between workplace spirituality and organizational hypocrisy is explained.

1.3.1. Workplace spirituality

Jacobs (2012, p.239) defined spirituality as "belief in a power beyond the self, hope and optimism, meaning and purpose, worship, prayer, meditation, love and compassion, moral and ethical values and transcendence." In the literature, there are many definitions of workplace spirituality, investigated in various forms like *spirituality in organizations* (Tecchio et al., 2016), *organizational spirituality* (Rocha & Pinheiro, 2020), and *spirituality at the workplace* (Thakur & Singh, 2016). Giacalone & Jurkiewicz (2003, p.1) defined workplace spirituality as "a framework of organizational values encouraging transcendent experiences of employees during the work process proven in culture, easing a feeling of connection to others by providing feelings of fullness and joy." In the definition we adopted in this study, Ashmos and Duchon (2000, p.137) defined workplace spirituality as "acceptance of an internal life fed by meaningful work completed in the context of a community of workers." Despite these differences in the meaning of workplace spirituality, most definitions

comprise the spirituality components of a sense of commitment, purpose, and meaning (Duchon & Plowman, 2005). Spirituality is open to many reports and is personal, subjective, not institutionalized, devoted to values, not limited to any god, and not necessarily linked to any particular religion (Hood et al., 2009). Spirituality has positive consequences in the workplace. Studies have reported that workplace spirituality is positively related to positive organizational outcomes such as *organizational commitment* and *life satisfaction* (Jeon & Choi, 2021), *work engagement* (van der Walt, 2018), *stress management* (Saxena et. al., 2020), *job satisfaction* (Belwalkar et. al., 2018; Zhang, 2020) and *organizational citizenship behavior* (Belwalkar et. al., 2018; Utami et. al., 2020). Moreover, workplace spirituality can have an integrative function to harmonize employees with organizational values.

Workplace spirituality included different dimensions in studies performed in various areas (Ashmos & Duchon, 2000; Duchon & Plowman, 2005; Özğan, 2017; Petchsawanga & Duchon, 2012). When these studies are investigated, generally, it appears that *meaning*, *values*, *transcendence,* and *inner life* concepts come to the forefront. In this study, as teacher perceptions were the focus, the dimensions of "*meaningful work,*" "*transcendence,*" "*self-perception,*" and "*organizational values*" considered by Özğan (2017) are explained below. In the current study, the reason for using the model determined by Özğan (2017) is that, unlike other models, this model was created in educational organizations.

Meaningful work is defined as the experience that a person's job is an important and meaningful part of life (Duchon & Plowman 2005), comprising enjoyment obtained from work, being energized by work, and giving personal meaning and purpose to work (Milliman et al., 2003). *Transcendence* is a fundamental element to understanding workplace spirituality, and nourishing it may lead to an important and productive external life (Ashmos & Duchon, 2000). *Transcendence* involves experiencing positive energy or vitality, a feeling of perfection, and happiness (Petchsawanga & Duchon, 2012). Chalofsky (2003, p.77) stated that *"self-perception"* includes signs that "a person brings their whole self (mind, body, feelings, spirit) to work (and workplaces), a person's awareness and development of their potential, a person knowing their aim in life and how work complies with this aim and having a positive belief system about reaching their aims." *Organizational values* reflect the spirituality of the organization (Milliman et al., 2003). Compliance with the values of an organization means that there is stronger conscience with the appropriate values of individuals, administrators in the organization, and employees and the belief that the organization is concerned with the welfare of employees and society (Ashmos & Duchon, 2000).

1.3.2. Organizational hypocrisy

Hypocrisy may be considered individually or in organizations. The concept of organizational hypocrisy was defined in various forms (Phillippe & Koehler, 2005). Observed as a basic behavioral type in political organizations in the most commonly used definition, which we also considered in this study, organizational hypocrisy is defined as talking to meet one demand, making decisions to satisfy another direction, and providing products to meet the third demand. The legitimacy theory was developed in organizational hypocrisy research (Brunsson, 2002). First mentioned by Dowling and Pfeffer (1975) as the "organizational legitimacy" concept, legitimacy theory was defined by Suchman (1995, p.574) as "a general perception or assumption about the actions of an organization as desirable, appropriate or inappropriate within some socially structured norms, value, belief, and definition systems." The theory attracts attention to whether the organization and social value systems are consistent with each other or not. This shows whether social expectations are met by the organization's targets (Chen & Roberts, 2010). Legitimacy theory assumes organizations attempt to perform activities within the norms and limits of society (Campbell et al., 2003). Suchman (1995) concluded that organizations are managed according to society's standards, including cultural beliefs, to increase legitimacy in the eyes of the public.

Brunsson (2007) explains the hypocrisy in how the organization and individuals address these different needs from different stakeholders. Some needs are met through speech, some through decisions, and some through action. However, these discussions, decisions and actions are not necessarily the same. Also, the likelihood of hypocrisy in the organization increases when other methods of meeting conflicting stakeholder demand are effective. Although hypocrisy is generally widely accepted in an organization, its nature and real implications are not so clear (Philippe & Koehler, 2005). Organizations risk that hypocritical strategies become too obvious to stakeholder groups (la Cour & Kromann, 2011) and ultimately undermine perceived behavioral integrity and legitimacy (Simons, 2002). Organizational hypocrisy negatively affects the employees' *performance,*

commitment, *feelings of trust*, *justice*, and *job satisfaction* (Brunsson, 1989; Cha & Edmondson, 2006; Philippe & Koehler, 2005).

In this study, we used the conceptual model developed by Kılıçoğlu et al. (2017) regarding organizational hypocrisy. We used this framework because it is the only major study to address organizational hypocrisy in schools. Organizational hypocrisy in schools was first considered in 3 dimensions of "*keeping words into practice,*" "*compliance between internal structure and the environment"* and "*inconsistency in practices"* in the scale developed by Kılıçoğlu et al. (2017, p.23). In the study, the *keeping words into practice* dimension "provides the coherence between talk, decision, and actions in school organizations," *compliance between internal structure and the environment* "corresponds to how schools achieve their mission and goals while reflecting the environment's values." In contrast, *inconsistent practices "give information about the school principals' act of deceiving stakeholders, teachers,* school personnel, students and their parents."

1.4. Conceptual Framework

"Workplace spirituality reflects the interaction between the personal spiritual values of an individual with the spiritual values of the organization" (Kolodinsky et al., 2008, p.467). Research by Rust and Gabriels (2011) identified a connection between the personal spiritual values of employees and organizational values. The same research showed that employees attempted to integrate what they saw as their spirituality with spiritual values in the workplace. For this reason, employees combining with organizational values can be said to have increased spirituality perception because integration appears to adopt spiritual values within a work context (Mukherjee et al., 2017). However, integration seems to be an important case to remove organizational hypocrisy (Kılıçoğlu, 2017). In addition to integration, honesty (Kriger & Seng, 2005) is a value within workplace spirituality. School management displaying honest behavior is expected to positively reflect the trust environment (Hoy & Tschannen-Moran, 1999). For this reason, integrity and honesty may reduce teachers' experience of hypocritical situations (Kılıçoğlu & Yılmaz Kılıçoğlu, 2019). Studies conducted in educational institutions have shown that spirituality has positive outcomes. For instance, Boone et al. (2010) reported that spirituality affects effective learning, teacher leadership, and contribution to dynamic organizational life. Stanley (2011) emphasizes that spirituality has serious importance on effective teaching practices. Significant evidence has been obtained that spirituality is a tool that can be used to reduce *teachers' stress* (Akhondi et al., 2017; Cook & Babyak, 2019; Stanley, 2011), increase *teachers'* perception of *confidence* (Hassan et al., 2016) and *job satisfaction* (Forsythe, 2016), ensure *teachers' psychological well-being* (Mahipalan & Sheena, 2019) and increase *teachers' organizational commitment* and negatively affect their perceptions of *organizational cynicism* (Aksakal & Kahveci, 2021). Considering the conceptual framework of workplace spirituality and the positive outcomes of workplace spirituality in educational organizations, teachers' workplace spirituality perceptions may negatively affect their organizational hypocrisy perceptions.

2. Methodology

2.1. Research Model

This study employed a cross-sectional quantitative survey design. This section explains the sample, data collection tools, procedure, and data analysis.

2.2. Research Sample

The research was performed in Mardin, a city in the southeast of Turkey, and used the convenience sampling method. The city's suitability was related to its geographical proximity. Participants comprised 276 teachers in 22 middle schools in Mardin chosen with the simple random sampling method (Fraenkel et al., 2012). We have access to all teachers' names and then randomly select from this list. Of teachers, 89.5% were bachelor's degrees, and 10.5% were master's degree graduates. Among teachers, 52.5% were women, 47.5% were men, 59.8% were married, and 40.2% were single.

2.3. Data Collection Tools

Workplace Spirituality Scale: This research employed the Workplace Spirituality Scale (WSS) developed by Özğan (2017). The scale contains 18 items comprising the dimensions of "*organizational values," "transcendence," "self-perception,"* and "*meaningful work."* Sample items from the scale include "Employees help each other without expecting anything in return." and "My job gives meaning to my life." This 5-point Likert-type scale

was answered on a rating scale from 1 ("totally disagree disagree") to 5 ("totally agree"). The explained total variance was determined as 64%. The goodness of fit indices obtained from confirmatory factor analysis (CFA) results were χ^2/df = 1.89, *RMSEA* = .05, *GFI* = .93; *AGFI* = .90; *CFI* = .96. In this study, first level CFA performed for the WSS found that goodness of fit indices (χ^2/df = 4.83, *GFI* = .87, *CFI* = .93, *RMSEA* = .07) were in the appropriate intervals (Schermelleh-Engel et al., 2003). For the instrument's reliability, the Cronbach's Alpha coefficient was identified as .87. In this study, the Cronbach's Alpha coefficients were .87, .84, .80, .88 and .93 for the whole instrument. These values indicate the instrument is reliable (George & Mallery, 2003).

Organizational Hypocrisy Scale: In this research, the Organizational Hypocrisy Scale (OHS) developed by Kılıçoğlu et al. (2017) was employed. The instrument contains 17 items comprising the dimensions of "*keeping words into practice," "compliance between internal structure and the environment,"* and "*inconsistency in practices."* Sample items from the scale include "The school principal keeps his/her promises." and "The school principal sets unrealistic goals." This scale was answered on a rating scale from 1 ("totally disagree") to 5 ("totally agree"). The explained total variance was determined as 59.44%. The goodness of fit indices reached with CFA were χ^2/df = 1.95, *RMSEA* = .07, *NNFI* = .96; *CFI* = .97 and S*RMR* = .05. In this study, the first level CFA for the OHS had fit indices in appropriate intervals (χ^2/df = 3.19, *GFI* = .89, *CFI* = .96, *RMSEA* = .08). For reliability of the scale, the Cronbach's Alpha coefficient was .86 for the "keeping words into practice" dimension, .74 for the "compliance between internal structure and the environment" dimension, and .77 for the "inconsistency in practices" dimension. In this study, the Cronbach's Alpha coefficients were .96, .88, .93, and .91 for the whole scale.

2.4. Procedure and Data Analysis

Initially, school principals were informed. Later, teachers were informed about the topic of the study, and in order not to put pressure on teachers, care was taken that no one from school administration was present in the teachers' rooms. Participation was based on volunteerism, and teachers were not encouraged or pressured to complete the forms. Teachers were informed about the information to be collected and how their identities will be protected. Thus, their confidentiality was guaranteed to be protected, and their informed consent was obtained from them. In this way, anonymity and confidentiality were ensured. The researcher collected the instrument forms in person, and forms were not seen by anyone in the school administration. A total of 306 teachers were accepted to participate in the research. After removing mistaken or incomplete forms, a total of 276 instrument forms were included in the analysis (90.1% validity rate).

Statistical Package for Social Sciences (SPSS) was used to analyze data. Descriptive statistics involved means and standard deviations. Skewness and kurtosis coefficients were investigated to test the normality of data (WSS>> skewness: -1.60-.22; kurtosis: -1.28-2.12; OHS>> skewness: -.03-.85; kurtosis: -1.36-.28) and data were observed to have distribution close to normal (Kline, 2011). Confirmatory factor analysis related to the instruments used in the research was completed with AMOS software. Correlations between variables were analyzed with Pearson correlation and stepwise multiple regression. There was no multicollinearity issue observed between variables (see Table 1).

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: Mardin Artuklu University Ethics Committee. Date of Ethics Evaluation Decision: 12.02.2020 Ethics Assessment Document Issue Number: 2020/ 1-1

3. Findings

The means and standard deviations related to the workplace spirituality and organizational hypocrisy perceptions of teachers and the correlation coefficients between the relevant variables are presented in Table 1. Teachers' perceptions related to workplace spirituality were at agree level ("*organizational values"* (*M* = 3.63; *SD* = .88), "*transcendence"* (*M* = 3.94; *SD* = .87), "*self-perception"* (*M* = 3.94; *SD* = .93), "*meaningful work"* (*M* = 4.12; *SD* = .98). Teachers' perceptions related to organizational hypocrisy were at disagree level ("*keeping words into practice"* (*M* = 2.93; *SD* = 1.28), *"compliance between internal structure and the environment"* (*M* = 2.45; *SD* = .92), "*inconsistency in practices"* (*M* = 2.89; *SD* = 1.19). Correlations between workplace spirituality and

organizational hypocrisy were investigated with Pearson correlation analysis, and negative correlations were identified. As teachers' perceptions of workplace spirituality increased, their perceptions of organizational hypocrisy reduced.

Table 1. *Descriptive and Pearson Correlation Analysis Results for the Dimensions of Workplace Spirituality and Organizational Hypocrisy*

Variable	Mean	*SD*	1	2	3	4	5	6	7	8	9
ORGVAL (1)	3.63	.88	1								
TRANS (2)	3.94	.87	.69**	1							
SELF (3)	3.94	.93	.59**	.65**	1						
MEANW (4)	4.12	.98	.62**	.78**	.71**	1					
KEEPW (5)	2.93	1.28	-.15*	-.16**	-.51**	-.17**	1				
COMP (6)	2.45	.92	-.14*	-.10	-.41**	-.15**	.73**	1			
INC (7)	2.89	1.19	-.07	-.11	-.27**	-.11	.36**	.00	1		
WS (8)	3.90	.91	.89	.88	.83	.86	-.27	-.22	-.15	1	
OH (9)	2.72	.84	-.16	-.16	-.52	-.20	.92	.77	.57	-.29	1

Note: ORGVAL: Organizational Values; TRANS: Transcendence; SELF: Self-Perception; MEANW: Meaningful work; KEEPW: Keeping Words Into Practice; COMP: Compliance Between Internal Structure and the Environment; INC: Inconsistency in Practices; WS: Workplace Spirituality; OH: Organizational Hypocrisy; * $p < .05$ ** $p < .01$

Stepwise multiple regression analysis was performed to identify the predictive power of the dimensions of workplace spirituality for dimensions of organizational hypocrisy. Of the workplace spirituality sub-dimensions, the stepwise multiple regression analysis results for predicting the organizational hypocrisy are presented in Table 2.

Table 2. *Analysis Results regarding the Prediction of Organizational Hypocrisy by Workplace Spirituality*

Model	Dependent Variable= Keeping Words Into Practice					
		B	SE	β	t	p*
1	Constant	5.71	.28		19.82	.00
	Self-perception	-.70	.07	-.51	-9.92	.00
2	Constant	5.12	.29		17.43	.00
	Self-perception	-1.08	.09	-.79	-11.17	.00
	Meaningful work	.50	.09	-.38	5.45	.00
3	Constant	4.93	.30		16.07	.00
	Self-perception	-1.14	.10	-.83	-11.39	.00
	Meaningful work	.43	.09	-.33	4.38	.00
	Organizational values	.19	.09	-.13	2.09	.03
Model	Dependent Variable= Keeping Words Into Practice					
4	Constant	4.06	.22		18.46	.00
	Self-perception	-.40	.05	-.41	-7.49	.00
5	Constant	3.59	.24		14.80	.00
	Self-perception	-.60	.07	-.60	-8.54	.00
	Transcendence	.31	.07	-.29	4.15	.00
Model	Dependent Variable = Inconsistency in Practices					
6	Constant	4.26	.30		14.20	.00
	Self-perception	-.34	.07	-.27	-4.69	.00
7	Constant	4.03	.32		12.58	.00
	Self-perception	-.50	.10	-.39	-4.72	.00
	Meaningful work	.20	.10	-.16	2.01	.04

(1): $R = .514$; $R^2 = .26$; $F = 98.475$; $p = .00$, (2): $R = .580$; $R^2 = .33$; $F = 69.301$; $p = .00$, (3): $R = .589$; $R^2 = .34$; $F = 48.233$; $p = .00$, (4): $R = .413$; $R^2 = .16$; $F = 56.229$; $p = .00$, (5): $R = .469$; $R^2 = .21$; $F = 38.399$; $p = .00$, (6): $R = .273$; $R^2 = .07$; $F = 22.039$; $p = .00$, (7): $R = .297$; $R^2 = .08$; $F = 13.169$; $p = .00$; *$p < .05$

The stepwise multiple regression analysis started with the model that examined the relationship between keeping words into practice and workplace spirituality (Table 2). Three different models are presented in the first dependent variable prediction. In the third model which involves the highest explanatory power, "self-perception" (β = -.83), "meaningful work" (β = -.33) and "organizational values" (β = -.13) explained 34% of

the “keeping words into practice” dimension (R_3 = .58; R^2 = .34). The effects were strong for "self-perception," moderate for "meaningful work," and weak for "organizational values."

The second analysis continued with the model examining the relationship between internal structure and the environment and workplace spirituality (Table 2). In the fifth model with highest explanatory power, “self-perception” (β = -.60) and “transcendence” (β = -.29) explained 21% of the “compliance between internal structure and the environment” dimension (R_5 = .46; R^2 = .21). "Self-perception" had a strong effect, while "transcendence" had a weak effect.

The final stepwise multiple regression analysis had two models in predicting the inconsistency in practice (Table 2). In the seventh model with highest explanatory power, “self-perception” (β = -.39) and “meaningful work” (β = -.16) explained 8% of “inconsistency in practice” (R_7 = .29; R^2 = .08). "Self-perception" had a moderate effect, while "meaningful work" had a weak effect.

4. Discussion

After the findings are interpreted in light of the literature, we explain some limitations and implications in this section.

4.1. Interpretation

When the findings related to the first research question are investigated, it can be said that teachers have high levels of perceptions of workplace spirituality. The results overlap with findings obtained in studies of educational organizations by Rajappan et al. (2017) and Göçen and Özğan (2018). These studies found that participants had high levels of perceptions of workplace spirituality. In the present study, teachers were reported to have the most heightened perceptions of "meaningful work" and the lowest perception of "*organizational values.”* Notably, all studies had the lowest mean values for perception levels related to the *organizational values* dimension. This situation may be explained by the low level of perceptions related to teachers acting sincerely towards each other and everyone in schools having the same rights and opportunities. It may be concluded that teachers have low perceptions of sincerity and justice values. For the meaningful work dimension, teachers find their profession meaningful and believe there is a spiritual contribution to their lives. A study by Marshall (2009) concluded that the teaching profession represented significance and a target for preservice teachers. Steger et al. (2012) stated that teachers need to find meaningful and purposeful work. Teachers finding their jobs meaningful was evaluated as an essential element increasing spirituality perceptions.

For the second question in the research, it was observed that teachers had moderate levels of perceptions related to organizational hypocrisy. Findings obtained in studies by Kılıçoğlu et al. (2017) support the results of the present research. In this research, teachers were identified to have moderate organizational hypocrisy perceptions. However, findings obtained in studies by Kahveci et al. (2019) and Kılıçoğlu and Yılmaz-Kılıçoğlu (2019) partly overlap with findings in the present research. In these studies, teachers were identified to have low organizational hypocrisy perceptions. The current results indicate the presence of inconsistency between the words and actions of school administrations. This finding may be explained by the inefficiency of schools in reflecting official plans in practice (Kılıçoğlu, 2017) and schools trying to resemble other local schools without regard to their circumstances (DiMaggio & Powell, 1983).

For the third question in the research, analysis with the "*keeping words into practice”* dimension as a dependent variable revealed three different models. In the model with the highest explanatory power among these models, "*self-perception,” ”meaningful work,”* and "*organizational values”* dimensions were observed to explain 34% of the "*keeping words into practice”* dimension. The order of importance in the model was "*self-perception,” ”meaningful work,”* and "*organizational values.”* This finding reveals that these spirituality dimensions were determinants of the "*keeping words into practice”* dimension. It can be said that teachers knowing themselves in social, mental, and psychological terms and performing their job devotedly and patiently is influential in school administrations' keeping their promises. Teachers who bring their whole selves to their school appear to be a determinant that lowers hypocrisy perceptions. Additionally, teachers knowing how their aim in life is compatible with their objective in their profession and having positive belief systems related to this can be said to affect hypocrisy. For the organizational values dimension with the least effect on keeping promises,

teachers with values like assisting, sharing, trust, and ethics appear to be determinants. Researches indicate (Cavanagh, 1999; McGhee & Grant, 2017) that workplace spirituality opposes unethical practices. Contrary to this, a study by Zhang (2020) identified a positive correlation between workplace spirituality with a willingness to engage in unethical pro-organizational behavior. The finding that as the spirituality perceptions of participants increased, their perceptions related to misrepresentation or concealment of facts in favor of their organizations, even if unethical, also increased appears to contradict the present study's findings. This contradiction, though surprising, may be explained by participants being forced to act unethically in favor of their organizations.

Employees in the organization may not behave unethically in any situation that concerns them individually. Because, some researchers (Gupta et al., 2014) proposed that spirituality is only related to personal beliefs. Research by Boone et al. (2010) observed that the spirituality perceptions of teachers did not affect honesty. This finding is surprising because, in the discussion of spirituality above, people with high spirituality perceptions have ethical values; hence, they are stated to have low hypocrisy perceptions. The surprising finding obtained in the study by Boone et al. (2010) is explained by spiritual people being more religious and, as a result, predicted to act honestly. School administrations who do not keep their promises may be said to perform unethical behavior. Research by Kılıçoğlu et al. (2019) documented that ethical leadership negatively affected organizational hypocrisy. Teachers think that if school principals act ethically, the inconsistency between their words and actions will decrease. It is proposed that people working in a spiritual environment will be more ethical (Fry, 2003). Moving from this point, with the increase in spirituality, school principals will act more ethically. It may be said that teacher perceptions about consistency between promises given and actions are taken will increase.

Kriger and Hanson (1999) emphasized the importance of honesty and trustworthiness, seen as spiritual values, to glorify and develop spirituality in organizations. Honesty is accepted as a tool for creating trust among observers (Resick et al., 2006). Value-based approaches by school administrations are proposed to result in organizational integrity (Kurtz, 2015). With the reduction of organizational hypocrisy in schools, considering the importance (Kılıçoğlu, 2017) of the value of organizational integrity (Mukherjee et al., 2017), the effect of organizational values on keeping promises is better understood. For this reason, reflecting honesty, integrity, and consistency in speaking and actions will reduce teachers experiences of hypocritical situations (Kılıçoğlu & Yılmaz Kılıçoğlu, 2019). Ethical administrators' consistency between words and actions, honesty, and trustworthiness are important features (Moorman & Grover, 2009). The aim of an administrator acting based on values management will be to secure the promises made (Law et al., 2003). Administrators working by paying attention to ethical values are understood to affect teachers' perceptions of the hypocritical behavior school administrations display.

For the third research question, two different models emerged in analyses with *"compliance between internal structure and the environment"* as the dependent variable. In the model with the highest explanatory power, *"self-perception"* and *"transcendence"* dimensions appeared to explain 21% of the *compliance between internal structure and the environment* dimension. The order of importance in the model was *"self-perception"* and *"transcendence."* This finding reveals that *"self-perception"* and *"transcendence"* dimensions are determinants of the *"compliance between internal structure and the environment"* dimension. Compliance between the values and aims encourages transcendence (Pratt & Ashforth, 2003), and transcendence is expected to promote compliance among internal structure and the environment. Teachers with high self-perceptions and perceptions related to inner peace, spiritual power, and love of work have positive effects on the reflection of values of the environment in schools. The increase in *"self-perception"* and *"transcendence"* perceptions can positively affect schools achieving their mission and targets. A study dealing with the relationship between workplace spirituality and organizational culture perceptions of teachers (Alas & Mousa, 2016) identified a significant correlation between *"meaningful work"* and *"organizational values"* dimensions with *adaptivity*. Adaptivity is related to the degree of reaction of an organization to both internal and external environments (Dawson, 2010). When examined from this aspect, hypocrisy appears to have similar content to the *"compliance between internal structure and the environment"* dimension. However, research by Sherafati et al. (2015) identified a positive correlation between *meaningful work* and *adaptivity*. Though there were correlations identified between different dimensions of workplace spirituality with the adaptivity dimension in various studies, this

situation is thought to be related to the scales used in those studies (Gupta et al., 2014; Milliman et al., 2003) being different from the present study.

In the final analysis, related to the third question in the research, two different models were predicting the "*inconsistency in practice"* dimension. In the model with the highest explanatory power, the "*self-perception"* and "*meaningful work"* dimensions appeared to explain 8% of the "*inconsistency in practices"* dimension. Notably, the explanation rate is low. The order of importance in the model was "*self-perception"* and "*meaningful work."* This finding reveals that "*self-perception"* and "*meaningful work"* dimensions are determinants of the "*inconsistency in practices"* dimension. When teachers' self-perception and levels of finding meaning in their work increase, it can be said that teacher perceptions about school administrations displaying inconsistent behavior fall. In other words, if teachers feel a strong connection between the values and their jobs, it will negatively affect teachers' perceptions of the display of hypocritical behavior of school administrations. Alas and Mousa (2016) identified a positive correlation between the *consistency* dimension with the "*meaningful work"* dimension. *Consistency* is defined as the degree to which workers can act predictably even when faced with unusual situations in their organizations (Dawson, 2010). Accordingly, when teachers find their jobs meaningful, it can be said their perceptions about consistent behavior displayed by school administrations increase.

In situations where school administrations place unrealistic targets, where problems occurring in school are not solved or even concealed despite promises, and when they must act in breach of norms, teachers will encounter hypocrisy. Inconsistency between the words and actions of school administrations may be interpreted as not acting honestly. This situation will lead to an insecure environment. Research by Goswami and Ha-Brookshire (2016) stated participants felt uncomfortable and uncertain with differences between words and actions. A study by Kılıçoğlu et al. (2017) observed that as the hypocrisy perceptions of teachers fell, organizational trust perceptions increased. In environments with high trust, the reduction in bureaucratic controls and provision of autonomy to individuals can be mentioned (Smylie et al., 2007). It is expected that people's trust in the words and behavior of others will have positive reflections on the climate of the environment (Tschannen-Moran, 2004). For this reason, spirituality as an element increasing trust (Hassan et al., 2016) negatively affects hypocrisy and ensures teachers can act more autonomously.

4.2. Limitations and Future Research

The first limitation is related to the effect sizes. If the effect sizes for workplace spirituality dimensions on organizational hypocrisy are examined, it is understood that there may be some organizational variables affecting it. For this, it is recommended that researchers study the relationships between organizational variables like organizational culture and organizational dissent with hypocrisy. Additionally, a model may be revealed by structural equation modeling using variables with potential mediating effects in workplace spirituality and organizational hypocrisy. The second limitation is related to the research method. Our study is a quantitative relational study, so it is impossible to understand the results obtained. For this reason, it is recommended that studies be performed with qualitative methods. The third limitation of the research is that it was only performed in middle schools. From this aspect, future studies including larger sample groups from other school levels will benefit the generalizability of the results. Fourthly, this study only focused on teacher perceptions. The inclusion of the opinions of school administrators will contribute to the development of a more holistic viewpoint. For this reason, it is crucial to develop scale forms that can measure the workplace spirituality and organizational hypocrisy perceptions of school administrators. Fifthly, data were only collected in one province. The inclusion of other regions may provide different results with a more extensive data set.

4.3. Implications

This research proposed three models with the workplace spirituality dimensions of "*self-perception," "meaningful work,"* and "*organizational values"* playing a role in the "*keeping words into practice"* dimension of organizational hypocrisy; "*self-perception* and *transcendence"* playing a role in "*compliance between internal structure and the environment"*; and "*self-perception"* and "*meaningful work"* playing a role in "*inconsistency in practices."* The proposed models involve some inferences for practitioners and policymakers to reduce hypocritical behavior in schools. Firstly, school administrators should display management based on ethical values, integrate the school and surroundings' values, and not act inconsistently between words and decisions.

Additionally, school administrators should avoid behavior that will disrupt the trust of teachers (Handford & Leithwood, 2013), like not affording everyone in the school the same rights and opportunities. Teachers should interact based on mutual trust with school colleagues and professional, ethical rules. Teachers working with team spirit, helping each other without expectations, and easily sharing their problems will positively contribute to spiritual values and ensure schools act consistently. However, teachers who succeed in this are linked to school administrators taking the necessary steps to increase belief in spiritual mechanisms and teachers' spirituality perceptions. For instance, for self-perception, which was effective on all hypocrisy dimensions, school administrators should be supportive and create a positive school climate for teachers to be aware of their potential and bring their whole selves to work. Teachers should be reminded of the sacredness of their duty and focus on the importance of devotedness and patience required by profession, and a suitable communication language should be developed. In this way, teaching will be perceived not just as a profession by teachers but as a lifestyle. When school administrations make decisions, teachers should be included in the process, and efforts should be made to implement the decisions. Additionally, school administrations should act by norms created in line with realistic targets. Problems experienced in schools should not be concealed, and a just approach should be displayed for solutions.

For policymakers to adopt spirituality in schools, school spirituality programs (Göçen & Özğan, 2018) should be developed and implemented in schools through in-service training. Additionally, some steps that policymakers may take to reduce hypocrisy directly may be mentioned. As previously stated, considering that schools display inconsistent behavior to reach targets determined by central administrations, targets must be more realistic and compatible with the environment around the schools. In this context, allowing schools to act more autonomously (Klein, 2017) will ensure they can be inspected and evaluated according to their circumstances.

5. Conclusion

Inconsistent behavior by school administrations, one of the critical stakeholders in schools, may be assessed as a situation used when necessary to preserve legitimacy. In fact, in some cases, schools may appear to comply with their environments due to inconsistent behavior. Additionally, it may be said that organizational legitimacy may be developed through hypocrisy. However, this situation is not thought to pass beyond "saving the day" for schools. In countries like Turkey, where the educational system is managed centrally, school administrations may feel under pressure as they are stuck between central administration policies and local dynamics. In this situation, schools may display hypocritical behavior. This research emphasizes the importance of workplace spirituality in resolving or reducing the effects for schools that have to act hypocritically. Our research is the first research on the potential impact of workplace spirituality on organizational hypocrisy behavior in schools. In this context, it was concluded that workplace spirituality was important in reducing perceptions related to hypocritical behavior displayed by school administrations among teachers in the schools.

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The Relationship Between Self-Esteem and Approval Dependence in University Students: The Serial Mediation of Interaction Anxiety and Insight

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ABSTRACT

This research examined the serial mediating effect of interaction anxiety and insight into the relationship between self-esteem and approval dependence in university students. The research group comprised 511 volunteer university students, of whom 78,7% were females and 21,3% were males. Research data was collected via "The Two-Dimensional Self-Esteem Scale", "The Scale of Interpersonal Relationship Dimensions", "Interaction Anxiousness Scale", and "Insight Scale". In analysing the data, descriptive statistics were examined and the relationship between variables was calculated using the Pearson correlation coefficient. The bootstrap method was used to test the mediation model.The mediation analysis results revealed that interaction anxiety and insight functioned as mediation variables in the relationship between self-esteem and approval dependence. According to the findings, an increase in self-esteem causes a decline in interaction anxiousness, which causes an increase in insight, which in turn leads to a decline in approval dependence. Findings related to the model that was tested were discussed following the literature. Suggestions for researchers and field practitioners were listed.

Keywords:
Self-esteem, interpersonal relationships, approval dependence, interaction anxiety, insight, serial mediator model.

1. Introduction

Self-perception and self-awareness play an important role both in an individual's relationship with themself and others. As they perceive their environment based on their self-concept, people internalize the experiences that fit into that self- concept, and those that do not deny or change them in ways that do (Burger, 2006).This process involves the individual's gaining insight into who they are, while it also involves having feelings about who they are (Crocker, 2002). Self-esteem, which is considered the emotional aspect of the self, defines the individual's judgments such as contentment, respect, value, and so on, about each part of the self that constitutes the individual's self-concept (Thomaes et al., 2010). While in some approaches attitude is as an attitude that encompasses positive or negative cognitive, emotional, and behavioral responses, for others it is the individual's response to him or herself rather than a mere attitude (Mruk, 2006).

Self-esteem is a structure that shows how much a person values themself and is considered an evaluative component in an individual's self-knowledge (Baumeister et al., 2003). Tafadori and Swann (2001), on the other hand, explain self-esteem with the concepts of self-liking and self-competence. The self-liking aspect represents the ability to regard oneself as socially valuable and consider oneself good or bad. That is to say, it

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reflects the individual's emotional assessments of themself by referring to the content of their emotions and thoughts (Leary, 2004). Self-competence, the other aspect of self-esteem, represents the individual's positive and negative attitudes towards themself as a source of power and competence. In other words, it defines the individual's beliefs regarding their control over their life (Tafarodi & Swann, 1995; 2001). Therefore, the self-competence-based approach to self-esteem emphasized the individual's ability and competence in realizing the things that have the upmost importance for them (Mruk, 2006).

A healthy level of self-esteem manifests itself as accepting oneself as a whole, sense of worthiness and self-confidence, and it effects well-being and functionality (Salmivalli et al., 1999). While high self-esteem indicates a mostly positive assessment of the self, low self-esteem indicates a negative assessment of the self (Baumeister et al., 2003). People with high self-esteem are less stressed than that have low self-esteem (Abouserie, 1994); happier, and less likely to succumb to depression in the face of stressful and traumatic events (Baumeister et al., 2003). On the other hand, people with low self-esteem are prone to undervaluing their skills and denying their success. They experience difficulty in setting goals and solving problems. As a result, they perform well below their academic and social abilities and have self-limiting beliefs (Plummer, 2014). Swann Jr et al. (2007) argue that people who have negative connotations regarding themselves tend to think and act in ways that reduce their quality of life. Some studies have also found that low self-esteem is associated with victimization experiences, bullying, defensive behaviors (Vaughan-Johnston et al., 2020), and internal problems such as depression, suicidality, eating disorders, and anxiety disorders, as well as external problems such as crime, substance abuse, etc. (Mann et al., 2004). Low self-esteem also manifests itself with a tendency to feel dependent on one's partner and be hostile toward them (Schutz, 1998). Individuals with low self-esteem tend to have difficulty in forming close relationships and believing that they are worthy of a satisfactory relationship. Low self-esteem can also lead to confusion, anxiety and misunderstandings, resulting in distorted beliefs about the self and others (Plummer, 2014).

It is assumed that the social environment and the society the individual belongs to play a significant role in developing self-esteem. Individual develops perceptions concerning themself and others based on the interactions with their environment (Koch, 2002). Self-esteem functions as sociometry during these interactions; helping the individual maintain their inner sense of self and motivating them to maintain their bonds with others (Leary et al., 1995). As a creature that both effects the environment and is affected by it, the human being has the opportunity to maintain their existence and fulfill their needs through the relationships they develop (Imamoğlu & Aydın, 2009). While these needs, which necessitate the presence of others, can be social needs such as to love, to be loved, to belong to one's environment, they can also be emotional needs such as the need for approval from others (Avci-Cayir & Kalkan, 2018). Disapproval of rejection experienced during the process of forming relationships can strongly affect individuals' sense of self and social perceptions. This effect within contexts where social exclusion instead of inclusion happens can cause the individual's self-esteem to decrease (Leary et al., 1995). When the individual does not have healthy perceptions, or mental models, regarding themself, others and the world, they may form their self-esteem based on the opinions and assessments of others and tend to seek their approval (Erden-Cinar, 2020).

The term approval dependence refers to the approval-seeking behavior of individuals and the prevalent and adverse effects of this behavior on their lives. It is determined depending on where, in what way, or to what extent it happens (Bebek, 2012). Approval dependence manifests itself as suggestibility, conformity, dependent behavior and sensitivity to interpersonal relationship clues in social situations. Here, the main motivation is the desire to form and maintain nurturing relationships (Bornstein, 1992). The individual, who tries to fulfill their own needs within the network of interpersonal relationships, is dependent on others to the extent that their need for security and love and approval is met (Avci-Cayir & Kalkan, 2018). Hence, notable inconsistencies can be seen in people dependent on their interpersonal relationships in different situations and settings. The desire or the goal to be directed and supported by others, and the belief, or the cognitive context in other words, that they are weak and in need of guidance and protection from others can be determinative in this inconsistency. In this context, the individual assesses the environment in terms of opportunities and risks, and behaves accordingly (Bornstein, 1992).

The need for approval, which has an important place in interpersonal interactions, can cause the individual to live according to the expectations and wishes of others rather than oneself and provide the establishment of social ties (Karasar & Ogulmus, 2016). In such a case, each potential impression the individual will leave on

others becomes a factor in their interactions. As a result of this anxiety, which is called social interaction anxiety, the individual does their best to make the desired impressions or avoid unwanted ones. Social interaction anxiety is defined as the anxiety or distress felt when meeting or talking to people of the opposite sex, strangers, or friends (Mattick & Clarke, 1998). It manifests itself as a person's avoidance or fear of meeting others, interacting, and expressing himself (Kashdan, 2004). It includes fundamental concerns such as the fear of being incomprehensible and boring, not knowing what to say or how to say in social interactions, and fear of being ignored (Mattick & Clarke, 1998).

Everyone might experience anxiety in social settings to a certain degree; however, some people feel this anxiety much more intensely in their interactions with others (Leary & Kowalski, 1995). When this anxiety is high, there is an effort to hide these concerned situations as much as possible or avoid such social environments (Kashdan et al., 2011). It is noted that people with social interaction anxiety constantly relive disturbing experiences in their minds and experience negative emotions (Kashdan & Roberts, 2007). Studies have shown that social interaction anxiety represents the subjective social anxiety that individuals experience regardless of the accompanying behaviors (Leary, 1983), and it has a strong correlation with perceived social support (Konan & Celik, 2019) and low self-esteem (Gumus, 2016; Leary & Kowalski, 1995).

Low self-esteem and social interaction anxiety are closely related to self-awareness and insight. Insight is an internal process expressed as gaining new knowledge and awareness regarding one's strengths and abilities (Akdogan & Turkum, 2018). Having a high level of insight involves the cognitive, emotional, and operational aspects of one's self-awareness (Hamachek, 2000). In this context, insight is conceptualized through a three-dimensional structure as a holistic view of oneself and conditions, self-understanding, and self-accepting with positive and negative qualities (Akdogan & Turkum, 2018). Insight includes awareness, acceptance, and understanding of oneself but also being aware of surroundings (Hamachek, 2000). With this aspect, insight sheds light on an important point in interpersonal interactions. It can be a vital structure for the person to be aware of both oneself and the environment, realize oneself, and act in the relationship systems accordingly.

Studies that have been conducted show that self-esteem is a predictor of life success (Orth & Robins, 2014; Orth et al., 2012) and mental health (Okcu, 2020) and that high self-esteem explains success and well-being in relationships, professional life, and health. Given the evidence concerning the importance of self-esteem, it is clear that the development of self-esteem has significance at a social level (Orth & Robins, 2014). Considering all this information, this study discussed the effects of the above variables on university students. University years coincide with a period called adulthood, where the individuals are still in a process of finding their identity, trying to gain a place in society, declaring their independence, and shaping their life and future (Arnett, 2004). In this period, the desire to gain the appreciation and approval of others in social life and interpersonal relationships may become more prominent compared to other developmental periods. This desire can sometimes distract the person from natural resources and assessments, increase their tendency to act following their value in the eyes of others, and lead to the emergence of approval dependence. This study was conducted to demonstrate the predictive role of self-esteem in the development of recognition dependence in university students and the effects of anxiety and insight on their interactions. Furthermore, insight emphasizes an interactive process with dimensions of self-knowledge and self-acceptance and gaining awareness of self and others. Therefore, in this model, the mediation effect of the insight variable through interaction anxiety in explaining approval dependence in interpersonal relations was also wanted to be examined. In addition, the fact that insight can be intervened in both individual and group counselling processes shows that this variable may have an important place in reducing approval dependence in relationships. With the data obtained at the end of this study, it aimed to contribute to the knowledge of experts and educators who work with university students regarding the general structure of this period and make inferences and suggestions for the prevention of possible problems. Thus, it was desired to create a steppingstone for the protective and preventive steps that will contribute to the healthy development of the students in this period. In this study, in which the serial mediating effect of the interaction anxiety and insight in the relationship between self-esteem and approval dependence, answers to the following questions were sought in line with the main objective: (i) Does interaction anxiety have a mediating role between self-esteem and approval dependence? (ii) Does insight have a mediating role between self-esteem and approval dependence? (iii) Do interaction anxiety and insight have serial mediating roles in the relationship between self-esteem and approval dependence?

2. Methodology

2.1. Research Model

The correlational survey model was used in this study, which examined the serial mediating roles of social interaction anxiety and insight in the relationship between self-esteem and approval dependence. Correlational survey models are used to determine the correlation between two or more variables and the extent of the correlation (Fraenkel, Wallen and Hyun, 2011).

2.2. Research Sample

This study was used a convenience sampling technique. Convenience sampling is that the researcher selects participants based on their willingness and availability to study (Creswell, 2012). The research group consists of university students studying at the faculty of education of a university located in the western part of Turkey in the 2019-2020 academic year. The students were studying in the departments of Elementary Mathematics Education, English Education, Pre-school Education, Primary Education, Turkish Education, Psychological Counseling and Guidance, and Special Education. The study was conducted on 511 university students, and the age range varied between 18-26. The average age of the students was 20.84. Regarding gender variables, 78,7% of the group consisted of female participants, while 21,3% were male participants.

2.3. Data Collection Tools and Procedure

Two-Dimensional Self-Esteem Scale: It is a measurement tool developed by Tafarodi and Swan (2001) to measure self-esteem with self-liking and self-competence sub-dimensions. The scale consists of 16 items, and each sub-dimension contains eight items. The adaptation study of the scale into Turkish culture was conducted by Dogan (2011) on university students. Confirmatory factor analysis was performed as part of the scale's validity, and criterion validity was examined. The results of the confirmatory factor analysis confirmed the two-factor structure of the scale and revealed that the fit indices ($\chi 2$ = 258.93, df = 98, p = .001, RMSEA = .05, RMR = .05, AGFI = .91, GFI =.94, NFI = .95, CFI = .97) were at an acceptable level. When examining the scale in terms of criterion validity, it was found that the concurrent validity of the scale also has a sufficient level.Cronbach's alpha internal consistency coefficient and test-retest reliability coefficient were calculated to test the scale's reliability. Cronbach's alpha coefficients of the sub-dimensions self-liking and self-competence were found to be .83 and .74, respectively. The test-retest reliability coefficient for both sub-dimensions was reported to be .72 (Dogan, 2011). In this study, the Cronbach's alpha of the scale was calculated as .86.

The Scale of Interpersonal Relationship Dimensions: The scale was developed by Imamoğlu and Aydın (2009) on young adults. The scale is graded as a 5-point Likert scale, and consists of 53 items. Principal Component Analysis tested the construct validity of the scale, and it was found that it had a four-factor structure. In addition, there are reverse items in the scale, which consists of four sub-dimensions: approval dependence, emotional awareness, trust for others, and empathy. The social desirability scale was used as part of construct validity, and it was found that the scale was not influenced by social desirability. Cronbach's alpha internal consistency coefficient and test-retest reliability coefficient were calculated to test the reliability. Cronbach's alpha internal consistency coefficients of the sub-dimensions of the scale were found to be between .78 and .85., while the test-retest reliability coefficients varied between .62 and .96 (Imamoğlu & Aydın, 2009). In this study, the approval dependence sub-dimension of the scale was used, and Cronbach's alpha was calculated as .84.

Interaction Anxiousness Scale: The scale was developed by Leary and Kowalski (1993) and adapted into Turkish by Coskun (2009) with a sample of university students. Interaction Anxiousness Scale is a 5-point Likert scale consisting of 15 items. As a result of the confirmatory factor analysis that was conducted to verify the construct validity, it was found that the scale confirmed the single-factor structure, and the fit indices ($\chi 2$ = 292.90, df = 90, p =.00001, RMSEA =.06, RMR=.06, GFI=.82, NFI=.87, NNFI=.89, CFI=.90) were acceptable. The scale contains reverse items. Cronbach's Alpha value for the scale's internal consistency was calculated as .91. The test-retest reliability analysis performed every three weeks revealed the reliability coefficient as .80. It was found that the item-test correlations varied between .39 - .70. High scores from the scale represent high social interaction anxiety (Coskun, 2009). Cronbach's alpha coefficient of the scale was calculated as .86 in this study.

Insight Scale: The scale was developed by Akdogan and Turkum (2018) on university students. The scale consists of a holistic view, self-acceptance, and self-understanding sub-dimensions. It consists of 20 items and contains reversed items. The responses to statements are rated on a 5-point Likert scale. The three dimensions formed at the exploratory factor analysis explain 45,24% of the total variance. The confirmatory factor analysis confirmed the three-dimensional structure of the scale, and it was found that the fit indices ($\chi 2/df$ =1.77, RMSEA=.053, SRMR =.059, CFI=.90, GFI=.90) were at acceptable levels. Cronbach's alpha internal consistency coefficient and test-retest coefficient were calculated for reliability analysis. Cronbach's alpha internal consistency coefficient was calculated as .84 for the whole scale. In addition, scores of .80, .69, and .78 were calculated for the subdimensions of holistic view, self-acceptance, and self-concept, respectively. The test-retest reliability coefficient was calculated to be .84 (Akdogan & Turkum, 2018). Cronbach's alpha coefficient of the scale was calculated as .84 in this study.

2.4. Data Analysis

Model 6 in PROCESS v3.5 developed by Hayes (2018) as the SPSS macro was used to test the serial mediation of interaction anxiety and insight into the relationship between self-esteem and approval dependence. Mediation analysis is used to test and understand how X' s effect on Y operates (Hayes & Rockwood, 2017). Interaction anxiety is the first mediator in the direct and indirect effects of self-esteem, the antecedent variable in the serial mediation model, on approval dependence. Mediation hypotheses clarify how an antecedent variable (X) affects an outcome variable (Y) through one or more intervening variables or mediators (M) (Preacher ve Hayes, 2008). Therefore, a mediation model refers to two or more sets of causal events. The mediator should be positioned between X and Y, affected by X and affecting Y (Hayes & Rockwood, 2017). In this study, the bootstrap coefficient was obtainedThis study obtained the bootstrap coefficient by using 5000 bootstrap sampling. The effect's significance was tested by considering that the 95% confidence interval values do not include zero with the bootstrap technique (MacKinnon et al., 2004). Also, this study was examined the effects of interaction anxiety on approval dependence through insight, which is the second mediator variable. For this reason, the different mediation models that were intertwined for the mediation hypothesis were analyzed together. This way, the mediating roles of interaction anxiety and insight in the relationship between self-esteem and approval dependence were tested. In addition, it was examined whether interaction anxiety and insight displayed serial mediation in predicting approval dependence by self-esteem.

2.5. Ethical

The approval of the Ethics Committee required for the study was obtained by the resolution of the University Ethics Committee dated 29/11/2019 with resolution number 2019/19. Therefore, there are no issues affecting the mental and physical health of the participants.

3. Findings

This serial multiple mediator model examined the effect of interaction anxiety and insight, the mediator variables, on the relationship between self-esteem and approval dependence. Before conducting the mediation analysis, descriptive statistics regarding the variables were examined. Descriptive statistics (mean score, standard deviation, kurtosis, and skewness values) and Pearson Correlations for these variables are presented in Table 1.

Table 3. *Descriptive Statistics Results Regarding the Variables*

Variable	1	2	3	4
1.Self-Esteem	-	-,511**	-,525**	,419**
2.Approval Dependence		-	,539**	-,332**
3.Interaction Anxiety			-	-,362**
4.Insight				-
Mean	57,94	40,17	40,05	75,95
Standard Deviation	9,44	9,09	10,38	10,01
Skewness	-,215	,103	,174	,069
Kurtosis	-,247	-,445	,007	-,590

***p < .01*

As can be seen in Table.1, self-esteem in university students have a significant negative correlation with approval dependence (r=-,51, p<.01) and interaction anxiety (r=-,53, p<.01). In contrast, it has a significant positive correlation with insight (r=,42, p<.01). Approval dependence has a positive correlation with interaction anxiety (r = ,54, p < .01), and a negative correlation with insight (r=-,33, p<.01). Also, interaction anxiety and insight have a significant negative correlation with each other (r=-,36, p<.01). When examined in skewness and kurtosis values, the variables ensure the normality conditions (Tabachnick & Fidell, 2013). The serial mediation of interaction anxiety and insight in the relationship between self-esteem and approval dependence was analyzed through PROCESS Macro based on bootstrapping. The findings that were obtained are presented in Figure 1.

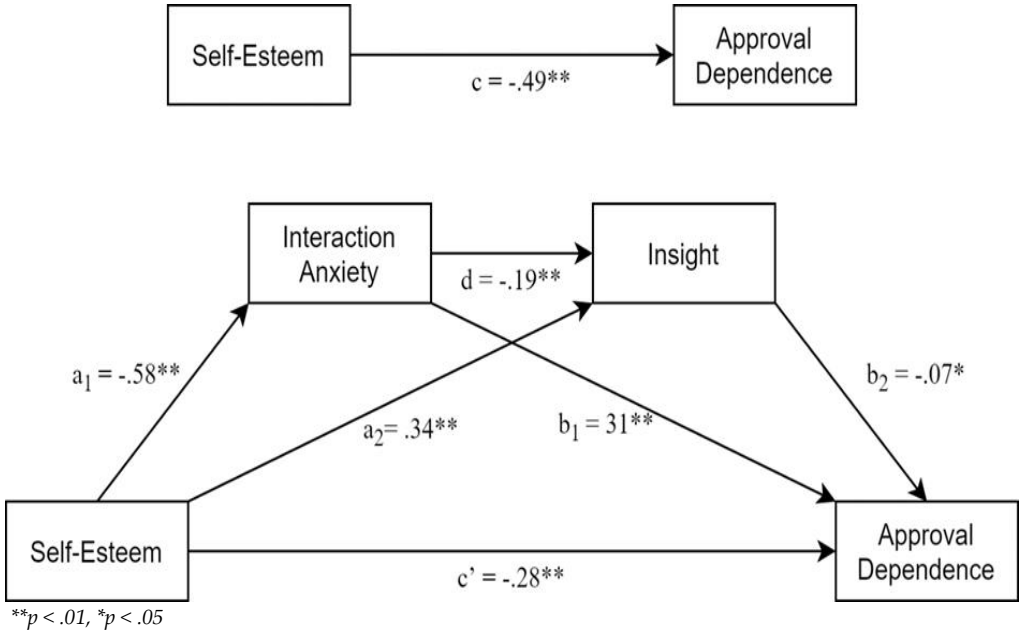

Figure 1. *Results of Serial Multiple Mediation Model in the Prediction of Approval Dependence*

As seen in Figure 1, self-esteem in university students directly negatively predicts approval dependence (c=-.49, p<.001). When interaction anxiety and insight, which are serial multiple mediators, are included in the model, a decrease in the value is observed (c'=-.28, p<.001), but it still shows a significant result. If the effect size decreases when the mediators are included in the relationship between the variables X and Y, the mediating relationship can be significant (Preacher & Hayes, 2008). Therefore, it is seen that interaction anxiety and insight are partial mediators in the relationship between self-esteem and approval dependence. In addition to that, it is seen that self-esteem negatively predicts approval dependence (a1= -.58, p<.001) and positively predicts insight (a2 =.34, p <.001). On the other hand, interaction anxiety positively predicts approval dependence (b1 = .31, p <.001), while insight negatively predicts approval dependence (b2 = -.07, p < .05). The serial multiple mediation established is significant [F (3, 507) = 98.26, p<.001], and the independent variables and mediators explain 37% of the variance in approval dependency. In the model, the increase in self-esteem causes a decrease in interaction anxiety. The decrease in interaction anxiety causes an increase in insight, resulting in a decrease in approval dependence. The bootstrapping coefficients at 95% confidence intervals obtained at the end of the analysis performed to determine whether the indirect paths in the model are significant are presented in Table 2.

Table 3. *Bootstrapping Coefficients Regarding the Serial Multiple Mediation Model*

Effects	Coefficient	Standard Error	Bootstrapping Lower Limit	Bootstrapping Upper Limit
Total effect	-,4922	,0367	-,5643	-,4201
Direct effect	-,2789	,0417	-,3609	-,1969
Indirect effect(s)				
Total	-,2133	,0306	-,2768	-,1561
$X \rightarrow M_1 \rightarrow Y$	-,1807	,0277	-,2372	-,1292
$X \rightarrow M_2 \rightarrow Y$	-,0246	,0128	-,0504	-,0006
$X \rightarrow M_1 \rightarrow M_2 \rightarrow Y$	-,0080	,0048	-,0188	-,0002

(X = Self-esteem, Y = Approval dependence, M_1 = Interaction Anxiety, M_2 = Insight)

As seen in Table 2, three different indirect effects were found as a result of the serial multiple mediation model. In the first indirect effect, self-esteem significantly affected approval dependence through interaction anxiety (b=-.181, %95 GA [-.2371, -.1292]. In the second indirect effect, it was found that self-esteem significantly affected approval dependence through insight (b=-.025, %95 GA [-.0504, -.0006]. Lastly, in the third indirect effect, it was found that self-esteem significantly affected approval dependence through interaction anxiety and insight (b=-.008, %95 GA [-.0188, -.0002].

4. Conclusion, Discussion and Recommendations

This study examined serial mediation of interaction anxiety and insight in the effect of self-esteem on approval dependence in university students. As a result of the analysis that were conducted, it was found that interaction anxiety and insight were partial mediators between the two variables. While self-esteem directly affects approval dependence, this effect is decreased when interaction anxiety and insight are included in the model. Consequently, as self-esteem increases, interaction anxiety decreases, and as interaction anxiety decreases, insight increases, and as a result of this indirect effect, approval dependence decreases.

As a first step in the study, the mediating effect of interaction anxiety in the relationship between self-esteem and approval dependency was examined. It was observed that self-esteem negatively predicted interaction anxiety, and interaction anxiety positively predicted approval dependence. The literature has parallel research results that show that self-esteem predicts interaction anxiety (Sübasi, 2007; Erozkan, 2011; Ahmad et al., 2013). According to the findings obtained, increased self-esteem leads to a decrease in anxiety (Sübasi, 2007; Pettijohn et al., 2010; Sabini et al., 2000). Studies show that need for approval as a dysfunctional attitude predicts anxiety (Erozkan, 2011; Gumus, 2016) and self-esteem (Hamarta & Demirbas, 2009). This phenomenon has been explained by a high expectation of approval by those who care about the people's assessments (Hamarta & Demirbas, 2009). These findings support the discussion of self-esteem, approval dependence, and interaction anxiety together. In accordance with the aim of the study, the mediation of insight into the relationship between self-esteem and approval dependence was discussed. Our study concluded that self-esteem positively influences insight, whereas insight negatively influences approval dependence. When the literature is examined, it is found that clarity in the concept of self has a positive correlation with self-esteem (Kawamoto, 2020). In the theoretical definition of insight, there is an emphasis on accepting oneself with both negative and positive aspects (Akdogan & Turkum, 2018). The individual's accepting themself with all their sides is a sign of self-esteem (Salmivalli et al., 1999). These findings explain the predictive value of self-esteem on insight. On the other hand, no direct research findings have been found regarding insight predicting approval dependence. However, the assessment of insight as a structure positively correlated with cognitive flexibility and self-regulation (Grant et al., 2002) supports these findings. Based on the relevant literature and our findings, it can be deduced that people with high levels of insight have a high self-awareness. Thus, they can review themselves from a wider perspective, and show less approval dependence in their relationships.

In line with the study's main objective, the serial mediation of interaction anxiety and insight in the effect of self-esteem on approval dependence was discussed. In the analysis that was performed, interaction anxiety and insight were found to have serial mediator effects. In other words, increased self-esteem decreased interaction anxiety, and the decrease in interaction anxiety caused an increase in insight, which in turn caused a decrease in approval dependence. When the literature was examined, parallel research findings that explained the negative correlation between self-esteem and approval dependence were found (Schutz, 1998; Ozkan & Ozen, 2008; Hamarta & Demirbas, 2009). Also, findings suggest that individuals with low self-esteem try to protect themselves from social rejection by applying to indirect support (displaying distress or whining to get social support) (Don et al., 2019). When interaction anxiety and insight in the effect of self-esteem on approval dependence is considered, there are research findings that support the negative correlation of self-esteem with interaction anxiety (Pachankis & Goldfried, 2006; Rudich et al., 2007; Sübasi, 2007; Sabini et al., 2000; Ahmad et al., 2013). Eryananda and Oriza (2020) emphasize that individuals with social anxiety disorder are more sensitive to social approval and self-evaluation, which manifests as low self-esteem. All these findings reveal that as self-esteem increases, interaction anxiety decreases. According to Akdogan and Turkum (2018), insight refers to a high level of awareness regarding their emotions, thoughts, and behaviors. Based on this, it can be inferred that in situations where the individual can focus on themself, away from concerns and anxiety, insight will further increase. Stefan and Cheie (2020), states that late adolescents with a high level of insight are more protected against social anxiety. All this data explains how the interaction anxiety of our

participants decreased with the increase in their self-esteem, and how they were able to focus more easily on themselves and increase their self-awareness as their anxiety decreased, and thus needing less approval from others and reducing their approval dependence.

There are some limitations to this study. First of all, the findings obtained from the study are limited to the students that participated in the study. Therefore, in future studies, data collection from more representative samples is essential in terms of the generalizability of the findings. In addition, this study did not examine the participants' demographic differences in detail. So, it was not focused on the possible effect of these differences. However, in future studies, the inclusion of demographic structures may be necessary for research findings. Moreover, including other variables that may affect the cause-effect relationship in the model or controlling the effects will ensure uncovering of the structures that have remained in the background.

The findings obtained from this research are expected to contribute to the consolidation of the field practitioners' interventions and determine the direction of the future studies of the field researchers. As mentioned before, the research study group consists of university students. The process of knowing and understanding oneself and building an identity through interactions with others takes place during university years. At this point it is quite important for the individuals to gain strength in their interpersonal interactions in their social lives and their relationship with themselves. Self-esteem, interaction anxiety, insight, and approval dependence, which are the study's main variables, provide useful ideas regarding people's relationships with themselves and others. Based on these findings, conducting studies that are protective, preventive, and supportive of the students' mental health in university guidance and research centers will play a significant role in the students' lives. It is possible to positively contribute to the development of students both through individual counseling interventions and psycho-education programs. Especially in interventions related to self-esteem, the position of university students in their interpersonal relationships can be studied. To prevent and work with anxiety, it is essential to gain awareness of whether it depends on the approval of others. Especially in psycho-educational interventions, their insight and awareness formed by sharing within the group can be functional. In this way, the anxiety they experience will be reduced, and the insight and awareness they gain will reduce the need to receive approval in their relationships. Eryananda and Oriza (2020) also emphasize the necessity of psychological interventions in addressing the emotions and thoughts of students that cause social anxiety. These two constructs are vital for university students to be stronger individuals and to have healthier relationship systems. For this reason, these interventions will be very functional for them regarding the roles and positions in the emerging adulthood process.

One other suggestion will be the necessity of studies requiring family participation. When family is considered the building block of the identity and the institution where learning about self and others first takes place, raising awareness within the families will be once more evident. Therefore, seminars, training and courses by experts through ministries, municipalities and non-governmental organizations aimed at raising awareness in the families on the issues of interfamilial relationships and parenting will be extremely helpful. Thus, when viewed from a broader perspective, it is believed that these gains will benefit the family and society and all individuals in social life. It is thought that individuals with high self-esteem, who are not worried about their interactions, who know themselves in all aspects and who care about their resources rather than the approval of other people, and the relationships established through these individuals will make a healthier society. It can be specified some recommendations for future research. First, it is essential to test the causal relationships between variables in social science. Therefore, it will be essential to control variables that can affect approval dependence for the study's validity. For instance, the difference in personality traits may determine both self-esteem and approval dependence. Likewise, some cognitive and emotional variables may be determinative in the relationship between these two variables. Therefore, it is vital to take consider these possible variables. Finally, it can be suggested that quantitative findings should be handled more comprehensively with qualitative research designs in future studies. Significantly, the effect of interaction anxiety and insight in this relationship may be examined using qualitative interviews and other qualitative data collection tools. Thus, it is thought that more comprehensive knowledge about the subject area will be obtained with mixed-method studies.

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The Way University Students Cope with Real-World Problems: Daydreaming

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ABSTRACT

Daydreaming is a type of mental time travel into the future. Although many cultures consider daydreaming a waste of time, the vast majority of people spend part of the day daydreaming. The age at which daydreaming is most intense is self-reported to be between 17 and 29. In this qualitative research, I wanted to find out what university students' daydreams are, who is in their most intense daydreaming phase, and how these daydreams affect their lives. To this end, I conducted qualitative interviews with 41 university students aged 19 and 27. As a result of the thematic analysis, I identified the following three key themes: "daydreaming", "positive aspects of daydreaming", and "negative aspects of daydreaming". Within the framework of the findings, I provided practical advice for professionals offering psychological help.

Keywords:
Daydreaming, university student, thematic analysis.

1. Introduction

Daydreaming is considered one of the fascinating phenomena of human behavior and is a widespread mental activity that encompasses approximately 3% to 70% of daily life (Klinger et al., 2009). During the day, people experience mental freedom, going beyond the moment's demands, not focusing on momentary awareness of the environment, but thinking about off-tasks or topics unrelated to their surroundings (Baird et al., 2011; Killingsworth & Gilbert, 2010). Regardless of the stimulus, this situation accounts for nearly 50% of the daily thinking process (Killingsworth & Gilbert, 2010). This ratio shows that people spend a considerable amount of time daydreaming. It has been found to enable individuals to face future challenges, plan for the future, solve problems, think creatively, and navigate the social world (Andrews-Hanna et al., 2013; McMillan et al., 2013). On the other hand, it prevents people from achieving daily life goals (McVay & Kane, 2010) and causes performance problems (Smallwood & Schooler, 2006). Moreover, daydreaming has been linked to personality traits associated with psychopathology risk and negative emotional consequences (Moberly & Watkins, 2008).

We can generate creative thoughts unrelated to external conditions, such as daydreaming about our next vacation while commuting or reading a book (Schooler et al., 2011). Students may daydream about getting high scores on exams, receiving praise from their teachers, sharing this happy news with their friends and family, or even having a special celebration for their success (Kappes et al., 2011). Other people may be in an entertaining process, dreaming of receiving an unexpected inheritance or winning a large amount of money in the lottery (Taylor et al., 1998). A patient in a hospital may dream of being discharged or spending time outside with friends (Van-Tillburg et al., 1999). Sometimes individuals may resort to the defense mechanism of daydreaming to resolve the conflicts within themselves or with the outside world and to relax (Freud, 2004). As a result, people may daydream differently in different moods. In the literature, daydreaming is a necessity

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that manifests itself in varying intensity from childhood to old age. Giambra (2000) reported that daydreaming decreases in frequency and duration with age, and daydreams' content, frequency, and duration are also important for functionality. Daydreams with positive content have been reported to positively affect the planning and organization of the individual's goals (Atli, 2016). They also positively influence motivation (Atli, 2016) and keep the individual from emotional conflicts (Lang, 1995). Kappes et al. (2011) argued that daydreaming reduces depression and anxiety. Atli (2016) and Mar et al. (2012) reported that daydreaming increases happiness. It is also claimed that some people have maladaptive daydreaming to solve a problem; therefore, they are detached from reality and their life skills decrease (Greene et al., 2020; Somer, 2002). Maladaptive daydreaming (Somer, 2002), which occurs for prolonged periods, frequently and intensely in a manner that disconnects the individual from reality, impairs functionality, causes significant distress in individuals, and is associated with some dissociative disorders (Ross et al., 2020). As a result, although daydreaming is seen as time wasted wandering above the clouds (Klinger et al., 2009), consciousness maintains cognition with external events (Schooler et al., 2011), allows the individual to know themselves and distances and relieves the individual from the problems they experience (Atli, 2016). Daydreaming is not thought to have sweeping positive or negative consequences, and the content and frequency of daydreaming determine functionality.

The university years are described as young adulthood when romantic relationships intensify and new developmental tasks in work and work skills emerge (Havighurst, 1972). During this period, there are transitions such as leaving the parental home and autonomy in decision making; it is a period when adult responsibilities such as financial independence and employment become tangible (Nelson et al., 2008). These students also face new developmental tasks in developing and maintaining romantic relationships, graduating from college, finding jobs, and working, which causes anxiety (Arnett, 2000). According to a study conducted in Turkey, it has been reported that almost half of single young people between the ages of 17-24 daydreams about their profession and career because they are worried about how they will make a living in the future (IPSOS, 2014). The literature finds that individuals daydream more when tired, stressed, in stimulating chaotic environments, or engaged in unpleasant activities. They daydream less frequently when they feel happy and competent or concentrate and participate in pleasurable activities (Kane et al., 2007). It can be said that young adults daydream to cope with the stress they experience, considering the pleasurable and relaxing function of daydreaming.

It is observed that people spend almost half of their daytime daydreaming (Killingsworth & Gilbert, 2010); thus, daydreaming plays a major role in our lives (Schooler et al., 2011). In the literature, the relationship between daydreaming and mind and cognition (Schooler et al., 2011), intelligence and memory (Baird et al., 2011), dreaming (Gross et al., 2021), personality disorders (Ross et al., 2020), and cultures (Soffer-Dudek et al., 2020) has been investigated. In addition, some studies have examined the relationship between the positive and negative functions of daydreaming (Andrews-Hanna et al., 2013; Greene et al., 2020; Mar et al., 2012; McMillan et al., 2013; Lang, 1995). When these studies on daydreaming are examined, it is seen that this experience is a complex phenomenon with varied dimensions. Daydreaming, a mental activity used by many people, seems to have positive and negative effects that vary from person to person. Examining the literature, one finds insufficient studies on what kind of daydreams university students have in young adulthood when anxiety about the future is intense and what positive and negative effects these daydreams have on their lives. The present study aimed to understand what types of daydreams university students have when they have anxiety about the future and feel responsible for completing certain developmental tasks and what impact these daydreams have on their lives. The findings of this study, conducted using the exploratory power of qualitative research (Creswell, 2003), will help understand what young adults' daydreams are about, identify the impact and function of daydreaming on young adults, and change perceptions of daydreaming. In this context, the research question was structured as follows: What are the daydreams of university students, and what are the positive and negative effects of these daydreams on their lives?

2. Methodology

2.1. Participants

The purposive sampling method was utilized in the present study to collect rich, in-depth data on the daydreaming experiences of university students (Patton, 2002). The Undergraduate Senior Students of Inonu

University Psychological Counseling and Guidance (PCG) were informed of the research and asked to contact students in their circle who would volunteer to participate in the study. The participants in the present study consisted of 41 students studying at a university in Turkey's Eastern Anatolia region (female = 24, male = 17). Of the students aged between 19 and 27 (M = 22.14; SD = 1.50), two were first freshmen, five sophomores, 11 juniors, and 23 were seniors. The distribution of the departments in which the students studied according to faculties is as follows: 11 = Faculty of Science-Literature, 8 = Faculty of Economics and Administrative Sciences, 8 = Faculty of Education, 7 = Faculty of Health, 4 = Faculty of Engineering, and 3 = Faculty of Law.

2.2. Data Collection and Procedure

The research data was collected in 2019. To reach the participants of the study, 15 PCG senior students reached out to 54 students in their circle who volunteered to participate in the study. 13 of these students stated they would not be available for qualitative interviews on the specified day and time or would choose not to participate in the study. Many of the participants stated that they would like to conduct the interviews with the PCG students they had contacted. Therefore, the study's author organized two briefings with the students who would conduct the interviews to train them on what to consider during the interview process and how to ask main questions and follow-up questions. Training for the PCG undergraduate students, previously led by the researcher, included "psychological counseling principles and techniques" and "individual counseling practices." Each PCG senior student conducted qualitative interviews with approximately three participants at the university`s Psychological Counseling Practice Center. Some of the interviews took place in the canteen or suitable classrooms within the university campus. Before the qualitative interviews began, participants were informed of the research's purpose and content, obtaining their consent. The interviews lasted approximately 10-15 minutes. The interviews were recorded using a smartphone application with the participants' permission. Participants' names and information that could have revealed their identities were changed during transcription. Participants were given code names to protect their anonymity further. In the article's final version, the participants' identities were anonymized by presenting the modified version. Questions of the semi-structured interview questionnaire used to identify the daydreaming experiences of the participating university students are presented in Table 1 below.

Table 1. *Semi-Structured Interview Questions*

What do you think about daydreaming?
What kind of things do you daydream about?
What do you think are the benefits of daydreaming?
What kind of disadvantages do you think daydreaming offers?
How do you feel after daydreaming?

2.3. Data Analysis

Inductive thematic analysis was used, the procedure of which was defined by Braun & Clarke (2006). In this procedure, the analysis was carried out through the following procedure:

Author (Coder 1) and domain expert (Coder 2) initially shared four of the 41 transcripts equally and randomly. Coder 1 familiarized himself with the texts by reading these two transcripts without notes and then creating initial codes containing deterministic, interesting, and meaningful statements. Afterwards, Coder 2 performed the same procedure. The researcher and the domain expert came together, and the codebook was created considering the similarities and differences. This book contained codes, definitions, and sample expressions. Later, the transcripts were exchanged between the researcher and the domain expert and the original coding was initiated. The actual coding process was carried out according to the codebook, and when new codes emerged, the researcher and the domain expert came together and revised the codebook. Throughout the process, an attempt was made to maintain a holistic and analytical view of the data by writing memos about what the codes meant, their relationships to each other, and under what possible themes they were grouped. After coders coded their documents, they coded the other coders' documents over their uncoded version.

The researcher and domain expert met after completing coding and reached a full agreement on generating nine initial codes and three potential themes. Preliminarily generated candidate themes were verified by checking their compatibility with the coded data content and the entire dataset. The boundaries, names, and definitions of the created themes were clarified following the essence of thematic analysis to cover the entire

dataset with its deep and rich content. After the dataset and the created themes were reviewed one last time, the participants' salient, detailed, and persuasive statements were determined to be used in the article.

2.4. Validity and Reliability

There is no single way to check the consistency of the analysis (Miles et al., 2014). It is suggested that Coder 1 can code over the document coded by Coder 2. However, it is recommended that Coder 1 goes over the uncoded document rather than the coded document to check for consistency (Miles et al., 2014). Coder 1 coded the documents coded by Coder 2 over the uncoded version. Coder 2 also encoded the documents encoded by Coder 1 over the uncoded version. Coder 1 and Coder 2 met to discuss the similarities and differences, and consistency was checked. The researcher and the domain expert met and shared information about the consistency between coders after and throughout the analysis process.

2.5. Ethical

Permission was obtained from the Scientific Research and Publication Ethics Board of Inonu University Rectorate (Date: 11.12.2020, Number of Sessions: E.82100).

3. Findings

Three key themes and nine sub-themes emerged, presented in Figure 1, resulting from the thematic analysis. I preferred to present each sub-theme to allow narrative presentation under the key theme rather than presenting under separate headings to ensure integrity in the presentation of the findings.

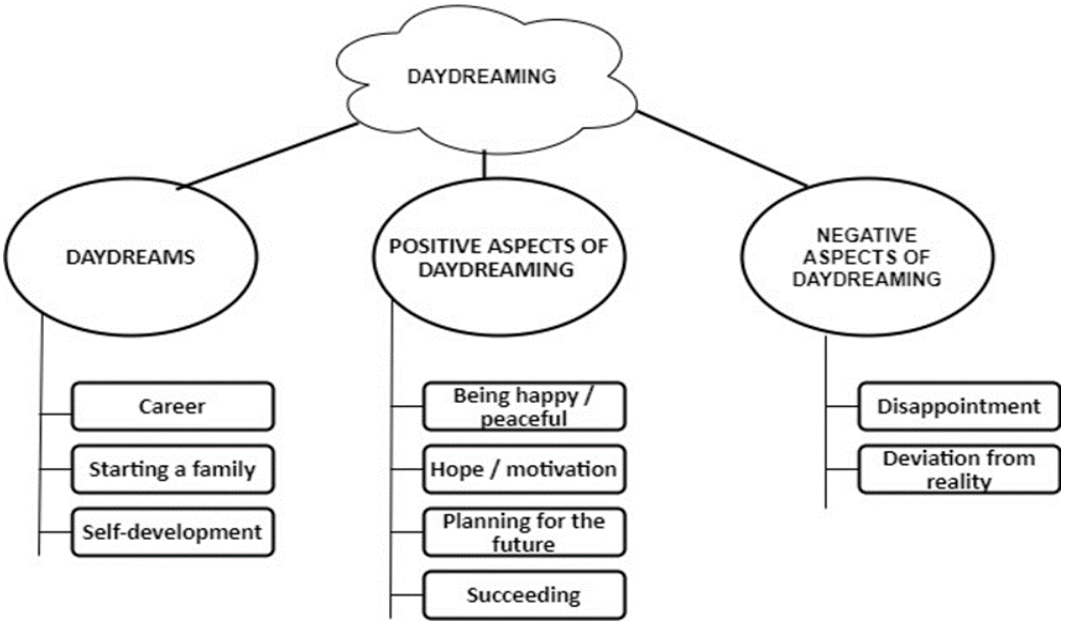

Figure 1. *Thematic Map of Key Themes Related to Daydreaming*

Daydreams

This theme includes the daydreams of the students, who express their daydreams as "beautiful," "good," "free world," "pure-clean," and "something to hold on to." It can be seen that the daydreams of university students are mainly about "career", "starting a family", and "self-development". It can be seen that almost all participants had worries about the future, thoughts of not finding a job or not being hired after graduation, and therefore they mostly had career-related daydreams. Ahmet, a 21-year-old finance student, thinks that it will be difficult to find a job in the future:

> *Like most people who live in this country, I daydream of having a job first. Having a good job already seems like a daydream now. Unemployment is rising, and it's getting harder and harder to get a public service job.*

And he goes on to explain the importance of finding a job in his life by saying, *"Let's save ourselves by getting a job first, and the rest is easy. I mean, if I have a roof over my head and a job to go to, nothing else is necessary."* Bora, a 20-year-old sophomore computer programming student who thinks it is necessary to daydream, explains that his daydreams relate to his job and that he daydreamed that he is well-positioned in his job with these words:

> *A person cannot live without daydreaming. I, too, daydream from time to time. I am 20 years old today, when I turn 30 I think and dream of working in a big company. I dream of the days when I will be a computer programmer in a big company.*

It is also observed that some participants dream of a profession since childhood, long before their college days. Sevval, a 21-year-old junior law student, explains that she can easily find a job after graduating from university, where she has wanted to be since childhood, *"I dream of sitting on a judge seat, which has been my daydream since I was little. I want to be a judge with a normal life."*

Besides university students who dream of working somewhere, some want to be their own bosses. Caner, a 21-year-old junior audiology major, talks excitedly about starting a hearing aid company, which he calls *"my biggest daydream,"* and he will become a manager in that company. University students who dream of having a good job seem to know that it is not easy; they have to work hard and improve themselves. Melek, a 23-year-old senior student in mathematics, is one of those who worry about finding a job after graduation, *"I think my probability of finding a job is low."* She adds that she needs to improve by saying:

> *I dream of getting a good place related to my profession, i.e. the department I study. It's more about getting ahead academically. It's more about staying at a university like this, getting a postgraduate degree and continuing in that direction.*

It is seen that the daydreams that university students express intensely concern *"starting a family"*, followed by daydreams about one's job. For university students concerned about finding a job after graduation, starting a family seems to be at the top of their daydreams because they think they will have no problems finding a job, even if it is, in their own words, *"behind"* their career plans. Gulay, a sophomore computer engineering student, says her job will be ready when she graduates and expresses her daydream by saying, *" I often daydream of a life with my husband and child in which my only concern is growing vegetables and fruits in the garden of our wooden house by the lake, away from the city."*

For those who are not as fortunate as Gulay and those who worry about what they will do after they graduate from university, the daydream of raising a family seems to take a back seat. Kadriye, a Public Relations and Publicity senior student, is just one who is not as lucky as Gulay. Kadriye, who seemed very anxious to find a job, expressed her opinion about the place of starting a family among her goals, saying, *"My primary goal is to get a job to start my career. If you ask me what my daydream is after that, I can say to get married, but of course, with the person I love."*

The Positive Aspects of Daydreaming

This theme includes the contribution of the daydreaming experience to the students themselves, who expressed daydreaming as *"a reinforcement," "a goal," "halfway to success,"* and *"a means to balance"* in their own words. All participants stated that they daydream and that daydreaming helped them in the areas of *"being happy/peaceful," "hope/motivation," "planning for the future,"* and *"succeeding."* Daydreaming, which for some is a way *"when in a state of difficulty and negative emotions"* and for others as an action that *"relieves fatigue before sleep,"* leaves participants feeling happy/peaceful, relaxed, and rested. Adnan, a 25-year-old senior student in the English Language and Literature Department, talks about the effect of daydreaming on him with these words, *"I feel relieved for the moment, I feel happy for the moment. That is, it feels like it has come true when you are daydreaming."*

Daydreaming makes participants happy, gives them hope for the future, and motivates them to realize their dreams. Bahar, a 22-year-old junior student of the Turkish Language and Literature Department, is one of those thinking that *"people cannot live without daydreams"* even if they do, they will be incomplete. She expresses that daydreaming increases the motivation of people at the point of fulfilling daydreams, saying:

> *If there is one beneficial effect of having daydreams are good at, it is the effort of making it real. For example, I've always wanted to be a teacher, I've imagined myself that way. The more I daydream about it, the more I strive. I study harder.*

Ela, a 22-year-old senior student in the Psychological Counseling and Guidance Department, is concerned about finding a job in the future. She says that she wants to be a public worker and is disappointed due to the

low probability of having the job. She expresses how she becomes hopeful and takes action by daydreaming with these words:

> *I think daydreaming motivates a person more. When you envision a daydream in your mind, your desire to make it real increases. For example, it gives me more energy. If I have the feeling I like when I daydream, I want to do it in a better way; I want to push it more. I see it as a source of strength, as a motivation.*

Participants state that daydreaming also helps them plan for the future. Sedef, a 23-year-old junior student in the Turkish Language and Literature Department, loves her field. Still, she dreams of studying in a health department where she is more likely to find a job because, in her own words, her field is *"not a guarantee"* of getting a job. She has fulfilled that dream. She says daydreaming works in planning for the future with these words:

> *If you daydream, you get all your wishes in the long term. Whatever you put at the center of your life, such as a career, a spouse, love, you move towards it. Daydreaming is of great benefit to make them true.*

Negative Aspects of Daydreaming

This theme is about the harmfulness of daydreaming to students, who describe daydreaming in their own words as *"a lost cause"* and *"harmful in the extreme"*. All participants stated that daydreaming must have a certain duration and frequency. If its content is feasible and accessible, it helps; otherwise, utopian daydreaming can lead to *"disappointment"* and *"deviation from reality." "It is a reality that daydreams come true or come to naught,"* says Ertugrul, a 23-year-old senior student in the Economics Department. He adds that he daydreams too much, but he is neither a starry-eyed dreamer nor is on a wild goose chase. Thinking that there is a fine line between daydreaming and fancifulness, Ertugrul says that having daydreams that can be fulfilled is beneficial and that having unattainable daydreams will inevitably result in disappointment. Serkan, a 22-year-old student in the Psychological Counseling and Guidance Department, is just one of those who think one cannot live without daydreams. He explains that people who, in his own words, have an *"extremely fanciful lifestyle"* have unrealistic daydreams because of the media effect, and when their dreams fall apart, they become depressed with these words:

> *Television and media are very important factors today. All the people in them make a quick buck, and they get rich in a short time. And all of them lead rich lives. They admire them and daydream about having a life like this. They say, "I will live like that, too." When you always daydream this way and without perseverance, you still make no headway. And then you fall into depression.*

One aspect of daydreaming, which can lead to frustration, sadness, or even depression, is how frequently and for how long you daydream. Participants stated that spending too much time daydreaming can cause a person to move away from the real world, live in a fantasy world, and deviate from reality. Merve, a 19-year-old freshman student in the Classroom Teaching Department, says she loves daydreaming and that she daydreams too much. However, she explains that spending too much time daydreaming is bad with these words:

> *Daydreaming moves people away from real life. If people who need to prepare for an exam constantly daydream about winning the exam and what they will do after the exam, it can be a waste of time.*

Oktay, a 21-year-old junior student in the Philosophy Department, resembles daydreaming to *"heroin"* in his own words. However, he daydreams and is more of the opinion that it is useful. He explains that daydreaming should be in moderation with these words:

> *If you are delusional about everything, if you completely lose sight of what's real and live completely in a fantasy world, as a result of this, psychological problems emerge. Let's think of it like this, like heroin. Maybe nothing happens the first time you use it, but when you start using it constantly, you become addicted.*

4. Conclusion and Discussion

In this study, I collected a range of information about the content, benefits, and harms of daydreaming. I saw that daydreaming is a mental activity that university students experience frequently. The interviews revealed that the participants' daydreams were mostly concerned with the developmental tasks of their own lives and the times they were in. In addition, their daydreams involved time travel into the future under the influence

of future concerns (e.g., career, family formation, and self-development). Participants indicated that non-excessive daydreaming played an important role in their happiness, peace, and planning their future. They argued that it increased their motivational desire to succeed. However, they also argued that excessive daydreaming causes negative consequences such as disappointment and deviation from reality.

This study replicated some of the findings of previous studies. First, the finding that people daydream during the day that does not relate to the here and now (Baird et al., 2011; Killingsworth & Gilbert, 2010), and my finding that participants often daydream about the future to escape difficulties they face are similar to the findings of previous studies. Second, daydreaming is influenced by the context in which it occurs. The majority of the study participants stated that they daydream to relax when they feel bad. The literature indicates that individuals are more likely to daydream when tired or stressed, in a stimulus-chaotic environment, completing a stressful task, or when they are in a negative mood (Kane et al., 2007; Smallwood et al., 2009). In this study, most participants were concerned that they would not easily find a job after graduation, and these concerns caused them to daydream that they would have an easier job in the future. In contrast, the participants who were not worried about finding a job in the future mostly daydreamed of starting a family and self-development. In short, the emotional state and desires we are in trigger daydreaming and determine its content. In other words, the desires that were pressuring the participants and that had not yet been fulfilled occupied their minds, and these desires relieved them for a short time by coming true in daydreaming. Considering that the individual's personal goals or current concerns shape their thoughts during daydreaming (McVay & Kane, 2010) and that young adults use daydreaming as a way to cope with stress, the participants in the study are stressed because they feel the responsibility of the developmental tasks of the period they are in. For this reason, they daydream from time to time, and these daydreams usually revolve around career, family formation, and self-development related to their personal goals or current concerns.

Third, participants generally indicated that daydreaming had positive effects on them. All participants emphasized that they felt it was necessary to daydream and that it was a nice thing to do, provided it did not go too far. They stated that they became happy and relaxed, clarified their goals, were motivated to work for their goals, and positively affected their success by daydreaming. Daydreaming has been reported to have a positive effect on the planning and organization of the individual's goals (Atli, 2016), has a positive effect on motivation (Atli, 2016), keeps the individual away from emotional conflict (Lang, 1995), reduces depression and anxiety (Kappes et al.,2011), and increases happiness levels (Atli, 2016; Mar et al., 2012). However, despite claims that daydreaming prevents the achievement of daily life goals (McVay & Kane, 2010) and causes performance problems (Smallwood & Schooler, 2006), participants in the present study did not mention such an effect.

Fourth, participants indicated that the positive aspects of daydreaming could also have negative effects such as disappointment and deviation from reality. The literature has suggested that some people have long-term frequent and intense daydreaming to solve a problem; therefore, they are disconnected from reality, their life skills are reduced (Greene et al., 2020; Somer, 2002; Winnicott, 2002), and are associated with negative emotional consequences (Moberly & Watkins, 2008). Maladaptive daydreaming (Somer, 2002), experienced over a prolonged period, frequently and intensely impairs functioning and causes significant distress in individuals. It has also been associated with dissociative disorders (Ross et al., 2020). Participants in the study also made statements supporting this finding. They emphasized that one should daydream but not see the world through rose-colored glasses. They argued that it is useful to have feasible and achievable daydreams. The participants also said that daydreaming should be done in moderation; otherwise, it can lead to disappointment and depression. In conclusion, this study presented findings that support the view that daydreaming is influenced by context, that it cannot have exclusively positive or negative consequences, and that the content and frequency of daydreaming determine functionality.

5. Recommendations

5.1. Strengths, Limitations, and Future Research

One of the most important contributions of this study was the finding that daydreaming occupies an important place in the lives of university students who are at the critical threshold of planning their futures. I believe that this research will contribute to the literature on this topic with the findings on what daydreams university students have and how they affect their lives. In the Turkish culture, many consider daydreaming a "bubble",

and older people advise young people to deal with real things and act more seriously and responsibly. Nevertheless, I found that the daydreaming experiences of participants were similar to the Western culture, that participants daydreamed when they felt stressed, and that their daydreaming was influenced by the context they were in (Kane et al., 2007; McVay & Kane, 2010; Smallwood et al., 2009). Another contribution of this study is the finding that one of the main strategies participants use to cope with anxiety is daydreaming. I believe that it may be beneficial for professionals providing psychological help to consider the daydreams of young adults while offering them help and learning the content and function of their daydreams to know the individual better.

This study's limitations should be considered to plan more comprehensive research on this topic in the future. The first limitation of the study is that the data was collected from the participants in a cross-sectional way. During the research process, most participants daydreamed about having a job and starting a family, and they said that these daydreams motivated them. Longitudinal research to be conducted in the future can examine how daydreams change at different stages of development. The second limitation of the study is that the frequency and duration of the participants' daydreaming were not examined. During the research process, all participants daydreamed, but they felt that excessive daydreaming, in their own words, had negative effects on the individual. These negative effects were more related to disappointment and detachment from reality. Further studies can examine the duration and content of daydreaming and its relationship to hope, depression, and similar psychological factors.

5.2. Implications for Policy and Practice

The participants' daydreams mostly consist of starting a profession, earning money, getting married, and having children. Seeing that they come true even in daydreams is good for people, and it makes them happy and contributes to taking action. This study has shown that daydreaming has positive effects on our participants in coping with problems and taking action to solve them. Daydreaming is often seen as an activity in which university students rehearse their problems and develop new coping strategies. When they lose their motivation, they are daydreaming and storing energy. For this reason, professionals working in university centers to provide psychological assistance services should discuss what kinds of daydreams their clients have and how these daydreams affect their lives. In addition, school counselors should inform university students and children about the functionality of daydreaming. Through family education, parents should be told that children should talk about their daydreams, not blame them for their daydreams and that daydreams can give insights from their inner world. Another thing I noticed in this study was that the problems young people were experiencing determined the content of their daydreams. Policymakers should offer solutions, taking into account that the daydreams of young people offer valuable clues to their problems. For example, daydreams about finding a job reflect a problem that occupies their minds.

Ethical Compliance Section

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Compliance with Ethical Standards: All procedures performed in studies involving human participants followed the ethical standards of the Inonu University Social and Human Sciences Scientific Research and Publication Ethics Committee and the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

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The Road to Ecological University: A Metaphor Analysis from the Perspectives of Academicians and External Stakeholders

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ABSTRACT

This study sought to explain the idea of the university from the perspectives of academicians and external stakeholders through metaphors. The study was designed as a qualitative phenomenological study. Semi-structured interviews were held with 33 key people, 11 of whom were from the university and 22 of whom were external stakeholders, notably experts on the industry, natural environment, and culture of Gaziantep province in Turkey. The findings of this study revealed that participants used metaphors such as mother, factory, scientist, and conductor, emphasizing the university's role as a center of research, teaching, and the leader in the region. The most significant finding of the study, however, is that the participants in the study produced metaphors such as octopus, forest, and brain that point out the interconnectedness of the university with its surrounding ecologies, just as indicated in the ecological university model, which tries to develop the many surrounding ecosystems with which the university is interconnected, and which works systematically with the other institutions in its eco-system.

Keywords:
Ecological university, idea of the university, metaphor

1. Introduction

The historical development of higher education may be divided into four major periods: first-generation universities, second-generation universities, third-generation universities, and lastly the entrepreneurial university that emerged as a result of neoliberal policies. The pre-modern university was entirely based on teaching dogmatic truths, and the primary philosophy was scholasticism; there existed a religiously oriented education system that ignored individual reasoning until the beginning of the nineteenth century. The primary goal of these universities was to educate academics, lawyers, theologians, and medical doctors. Education was founded on the disciplines of medicine, religion, and law. Students at the time were chosen from the aristocratic privileged class (Alan, 2016; Burkle & Cobo, 2018; Rip, 2008; Scott, 2006).

The modern university emerged in the nineteenth century, with a shift away from medieval philosophy and toward enlightenment and individual reasoning. Rather than transferring dogmatic truths, the "misleading truth" might thus be openly studied and discussed by students and scholars alike. As a result, the modern university realised the importance of "individual free will and values" and began to value "humanization." The modern university was also highly concerned with industrialization and modernization, therefore one of the college's duties was to conserve high culture while sustaining modern life. (Barnett & Bengsten, 2017; Donovan, 2013; Moutsios, 2012; Wissema, 2009).

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Later, names from German philosophy such as Kant, Humboldt, Schelling, and Schleiermacher influenced the idea of the university and justified its existence. With these names, the value of free thought, questioning, and scientific discoveries became important issues, and they were viewed as " university duties. Humboldt took attempts to construct a university based on his liberal ideas, which took into consideration the basic norms and laws of science, and he encouraged students to think freely and scientifically, laying the foundations of research universities. After that, students and academics at universities were expected to produce science in addition to teaching. Political, economic, and religious influences were excluded from scientific research (Akbulut Yıldırmış & Seggie, 2018; Barnett, 2015; Wissema, 2009). During this period, "meritocracy" was linked to "technocracy," and the most gifted students were schooled in scientific skills regardless of their income or social class. The main goal was to boost the national economy and train the necessary white-collar workers for the country (Batko, 2014; Donovan, 2013).

With the neoliberal policies in the twenty-first century, a new age in higher education has begun. They got connected to the markets after entering the service of technical, technocratic, and political interests. Thus, today, measures such as how much research is conducted, how many projects are developed, and how much money is raised on the market are used to determine if a university is ideal (Francisco, 2008; Ingleby, 2015). Furthermore, programs are developed to fulfill the demands of the market, and students are shaped with an emphasis on profession and career (Gumus, 2015; Saunders, 2010; Savigny, 2013). University curricula are often oriented on vocational education in order to meet the demands of the market, and courses such as art, philosophy, and literature are often neglected. In short, knowledge or education is regarded as a commodity that can be purchased and sold on the market (Burkle & Cobo, 2018; Mengual-Andrés, 2013; Olssen, 2016; Olssen & Peter, 2005; Savingy, 2013).

As a result, Several academics (Barblan, Erguder, & Guruz, 2008; Barnett, 2011a; Tekeli, 2007) have argued that being a university is now a very complex phenomenon and that the university is in chaos today. To elaborate, Mengual-Andrés (2013) states that the university is in a dilemma since it must either continue its traditional teaching role or educate future generations in the desired quality in line with the demands of the market. According to Tekeli (2007), neoliberal policies and transformations in the knowledge economy resulted in the emergence of the entrepreneurial university. Thus, ethical rules are violated in order to connect the university and the market. Barblan, Ergüder, and Güruz (2008) argue that one type of university has already lost its efficiency due to the competitive market in the rapidly changing globalized world, and they emphasize the need for post-modern universities with more complex structures that can meet the needs of the changing world. As a result, according to Barnett (2011a), it is urgently important to produce new ideas for the university as well as feasible utopias in order to bring the university back from the edge of its collapse.

Barnett (2011a) used the idea of the university to explain the purpose, potential, and duties of the university as an institution. According to Mengual-Andrés (2013), we must rethink the roles of universities today since universities must do much more than just teach. Universities should also adapt to change. According to Barnett (2011b), there is no single idea of the university, and he suggests four different university models: the liquid university, the therapeutic university, the authentic university, and the ecological university.

The liquid university has embraced innovation and is constantly ready to adapt to new developments in its surroundings. It has no borders and hence is open to the entire world. The liquid university assumes that knowledge and the act of knowing are ever-changing phenomena that occur throughout life. As a result, universities must be able to adapt to change (Batko, 2014; Mbao, 2020). The basic philosophy of the therapeutic university is that the world cannot be entirely controlled, and hence the concept of control should not be included among the principles of the university as an institution. Among its fundamental policies are equal participation and human rights on campus (Barnett, 2011b; Hayes, 2017). The authentic university has adopted the principle that every university in the world has the power to influence and be influenced by its environment. The relationship of the university with its surroundings impacts its expectations, resources, and practices. The authentic university has likewise recognized the basic notion of continuous research and reasoning. It backs that up with cutting-edge technology and aims to reach out to the entire world via the internet (Barnett, 2011b; Barnett, 2015).

The ecological university, on the other hand, is a combination of these three utopian universities; it does not have a closed campus like a research university, nor does it build external linkages for profit like an

entrepreneurial university, but instead works for the benefit of the environment. Although it performs its traditional roles, such as teaching and research, it is also conscious of its responsibilities to the outside world. (Barnett, 2011b; Barnett, 2017).

Today, universities all around the world are subjected to the push and pull of their surroundings. These pushes and pulls are mostly caused by the expectations of the university's surrounding environments; as a result, universities frequently have to undergo structural modifications or adopt new regulations. In short, this circumstance might be interpreted as the existence of a university that is linked to several eco-systems via complicated networks. The ecological university is intertwined with all human and non-human elements around it. Therefore, it is sensitive to all the elements around it, and it's a university model that develops its environment while developing itself. It is connected both to its environment and to the whole world (Barnett, 2018).

According to Barnett (2018), several ecosystems influence the university's being and activities, but the university also has an impact on these ecosystems. Seven of these systems stand out in particular: the economy, knowledge, learning, institutions, persons, culture, and the natural environment. Each of these seven ecosystems is linked to the university on an internal level. The university is embedded in these ecologies, and in order to advance and develop them, it must engage with each ecosystem at various levels. There are also fragile bonds between these ecologies, which implies that any movement in one ecology might effect the movements of other ecologies as well as the university.

As a result, it is deemed reasonable to investigate what the university is from the perspectives of academicians and external stakeholders. The goal is to define the ideal university model that can help the university get out of its current state of chaos, the ideal university model that can lead the universities to the next level, and the one that will contribute to the growth of the universities and the surrounding world.

2. Methodology

2.1. Research Model

The phenomenological design was employed in the study as a qualitative research approach. The phenomenological pattern focuses on how individuals understand and experience the concept we are searching (McMillan, 2012; Patton, 2014) by concentrating on people's personal experiences, perceptions, and interpretations.

In the study, metaphors were used as a tool to reveal the idea of the university held by academics and external stakeholders, because metaphors are a strong mind mapping and modeling mechanism for us to comprehend or figure out our world, a tool that makes circumstances clearer and brighter to grasp.

A metaphor is a method for comparing one concept or phenomena, to another concept or phenomenon (Levine, 2005; Moser, 2000). Metaphors are frequently used techniques to get a better grasp of complex concepts, making the meaning more effective and bringing meaning to life (Ekici, 2018; Moser, 2000).

2.2. Research Sample

The research included 33 key people, 11 of whom were from the university and 22 of whom were external stakeholders who were considered experts in the industry, natural environment, and culture of Gaziantep province. Table 1, Table 2, and Table 3 show the demographic profiles of the participants. Maximum variation sampling was used in this study, and the participants were chosen on volunteer basis. It was tried to guarantee diversity in terms of expertise in various fields (Craig, Fischer, & Lorenzo-Arribas, 2018).

Table 1. *Characteristics of the Participants working in Industry*

Participants	Sector	Post	Working experience
P1	The Chamber of Exporters' Association	Secretary-general	31
P2	The Chamber of Industry and Commerce	Secretary-general	34
P3	Industry	The chief executive / Engineer	26
P4	Industry	Marketing manager	20
P5	Industry	Firm owner / Engineer	12
P6	University/ Faculty of Business	Assoc. Prof Dr. / Consultant	20
P7	City Development Agency	Secretary-general	17
P8	Chamber of Commerce and Trade/ Industry	Councilman/ Firm owner	32
P9	University / Technopark	General Manager	6
P10	KOSGEB (Small and Medium Industry Development Organization)	SME Expert	9
P11	University	Prof. /Rector	27
		Total: 11 participants	

Table 2. *Characteristics of the Participants working in Natural Environment*

Participants	Sector	Post	Working experience
P12	Department of Agriculture and Stock Breeding	Agricultural Engineer	21
P13	Department of Agriculture and Forestry *	Agricultural Engineer	28
P14	Pistachio Research Institution	Agricultural Engineer	9
P15	TEMA Foundation	Manager	6
P16	University / Agriculture	Assoc. Prof Dr. / Expert	20
P17	Directorate for the Protection of Cultural Heritage	Architect	8
P18	Department of Transportation	Head of the Department	27
P19	Directorate for the Protection of Cultural Heritage	Archaeologist	25
P20	Directorate for the Protection of Cultural Heritage	Architect	7
P21	Directorate of Environment and Urbanism	City Planner	11
		Total: 11 participants	

Table 3. *Characteristics of the Participants working in Culture*

Participants	Sector	Post	Working experience
P23	University / vocational school	Assoc. Prof. Dr. / Director	23
P24	The Chamber of Merchants and Craftsmen	The General Manager	41
P25	University / Faculty of Literature	Prof. / Rector Advisor	23
P26	University / Faculty of Conservatoire	Assoc. Prof. / Director	30
P27	Directorate of Culture and Tourism	Director Assistant	30
P28	Museum	Museum Director	20
P29	Gastronomy and Chefs Association	Chairman	15
P30	University / Gastronomy and Culinary Arts	Assoc. Prof. Dr. /Head of the Department	41
P31	Poets and Writers Association /Literary Society	Chairman	11
P32	Chamber of Coppersmiths and Sedefciler	Chairman	40
P33	University / Department of Anthropology	Research Assistant	11
		Total: 11 participants	

2.3. Data Collection Tools and Procedure

Semi-structured interviews were used to obtain the data for the study. Following a thorough examination of the relevant literature, the semi-structured interview form was developed. First, the questions were reviewed by two higher education professionals. Second, The questions were given to two engineers and two academics

in order to clear up any misunderstandings concerning the questions. Finally, the following question was formed: "What metaphor would you use to describe the university? Why?"

Throughout the study, meetings with the participants were scheduled before the interviews, and the participants were informed about the purpose of the study. The interviews were conducted at the offices of the participants and were recorded with an audio recorder.

2.4. Data Analysis

The data was examined using the NVivo 12 software program for content analysis. Content analysis is a scientific method for examining data objectively and systematically according to specified categories and themes (Patton, 2014). The following stages were used to analyze the metaphors created by the participants:

(1) Transcription of interviews, (2) Examination of transcripts, (3) Sorting and numbering of transcripts (4) Metaphor analysis, (5) Developing categories and classifications, (6) Categorizing metaphors, (7) Checking for validity and reliability, and (8) Data interpretation (Ekici, 2018; Steen, 2011).

2.5. Validity and Reliability Studies

Three critical procedures have been taken to ensure the research's validity. They are as follows:

The length of the interviews was kept as long as feasible during the research in order to create a long-term relationship with the participants. As a consequence, more precise data was gathered. The interviews lasted roughly 30 minutes on average. Credibility (Lincoln & Guba, 1985) was strengthened as a result of extensive engagement. The results of the analysis were presented to a different researcher for their opinions, and therefore credibility was established through peer debriefing (Moon, Brewer, Januchowski-Hartley, Adams, & Blackman, 2016).

Different perspectives were acquired using the maximum variation sampling method (Hammarberg, Kirkman, & de Lacey, 2016), allowing for transferability. The analyses, interview records, and notes kept during the research were submitted to an external expert within the scope of dependability studies, and the process of encoding and analyzing processes was discussed in depth. Following that, a critical review of the research was carried out (Streubert, 2007). Within the scope of confirmability studies, the approach and methodologies employed during the research reporting process were fully and properly explained (Shenton, 2004). Finally, the opinions of the participants were highlighted in the related section using participant numbers, such as (P10).

2.6. Ethical Procedure

Several efforts have been taken to assure the study's ethical process. First, ethics committee approval was received for this study from Gaziantep University, Faculty of Education. This study has an ethical committee document from Gaziantep University's Ethical Board with the number 48601 and the date 04.06.2021. Second, participants were told about the study during the research process, and their participation was secured using informed consent forms. As a result, autonomy was achieved (Orb, Eisenhauer, & Wynaden, 2001). The transcribed data was also shared with the participants and used only after their approval. Finally, the participants were anonymized to preserve anonymity (Orb, Eisenhauer, & Wynaden, 2001). Furthermore, the researcher did not guide the participants in any way throughout the interviews, and individuals expressed their own ideas for the questions. During the interview, the researcher only asked more detailed questions on the participants' responses.

3. Findings

In this section, the metaphors created by the participants for the university, their evaluation under the relevant categories, direct excerpts from the individual transcripts, and the explanations given are presented.

Table 4. *The Metaphors Produced by the Participants for the Idea of University*

Categories	Metaphors
1. University as an Ecological Identity	*Octopus, Brain, Studio, Forest, The Body, Mother*, Research Center, Locomotive of the City, Networked Box*
2. The University as a Place of Growth and Change (Teaching university)	*Door, Mother*, Kitchen, Factory, Airport*
3. University as the Center of Science/Research	*Scholar/Scientist, Laboratory, Cell*
4. University as a Figure of Authority /Leader	*Head of the Family, Conductor, High Building, The Endpoint*
Total number of metaphors:	21
Being a mother is a metaphor with different explanations for different categories*	

Table 4 shows that the concept of the university was explained using four different categories and a total of 21 metaphors. Surprisingly, the participants generated roughly the same number of metaphors for the categories of the university as a place of growth and change, the university as a research center, and the university as a figure of authority/leader, while they generated a total of 9 metaphors for the category of ecological identity. This finding indicates that the participants' idea of the university is already an ecological university.

Figure 1 depicts the word cloud of metaphors based on the frequency with which they were used by the participants. As can be seen from this image, the metaphor "mother" serves as the primary explanation for the university concept. The metaphors are displayed in the diagram in various font sizes based on their frequency values.

Figure 1. *The Word Cloud of Metaphors of the Participants for the Concept the University*

1.3.1. University as an ecological identity

In each of the categories in Table 4, the participants in the study used a variety of metaphors to describe the university. However, with a total of 9, the number of metaphors developed for the category of ecological identity was higher than the number of metaphors created for the other categories. The metaphors proposed for this category are *an octopus, brain, studio, forest, body, mother, research center, the locomotive of the city,* and *a networked box*. Even though the participants were unfamiliar with the ecological university concept, the reasons they gave for creating these metaphors revealed that they had the idea of an ecological university. The participants' statements below exemplify each of the metaphors in this category.

Participant 11 used the brain metaphor to highlight that it is the brain that thinks, directs, and facilitates the needed movement of other organs, as well as processes the information that all other organs need and then sends the results to the appropriate units. He came up with the idea of creating an ecological university that is connected to other ecologies and systems, as well as being the leader of that ecosystem. He explained:

> *Brain; "The university, in my opinion, is the brain. When you conceive of a human body, the brain is in charge of making decisions. It is the brain that develops human beings. Of course, the entire body is important, the heart is vital, all organs are important, but I believe the area where decisions are made is the brain, which is the locomotive and thinking center, which moves all the organs in harmony, which takes and processes knowledge. The brain and the university handle knowledge in similar ways; I've always assumed it's the brain. Like intelligence engines, memory, it's the university where the knowledge is processed, synthesized, and finalized, where the outcome is applied or transported to wherever it will be needed" (P11/ Rector).*

Participant 25 also mentioned the ecological university, which refers to the university's integrity with its surrounding ecologies, as well as its contribution to social and governmental organizations and the community. He portrayed the university as a research center, but one that is linked to other ecologies and has the potential to advance them:

> *Research Center; 'The university is a research center, an institution that appeals to a wide range of actors, an institution that should be intertwined with public institutions, scientists, the community, and the local and rural; it is the most essential component of the development ecosystem." (P25/ Rector Advisor).*

Participant 15 defined the university as "a studio," however the major goal of this university should be to produce knowledge not only for the economy, but also for other fields such as the natural environment and society:

> *Studio; "The university is a vital and valuable studio. That is where science and practice meet. Societies in which science is not blended with practice are in significant difficulty, both socially and physically. Universities should have such a vision and goal. Through its very character, the university should help to elevate its society. It must compete with the world's top governments and itself, but on the other hand, it must be able to provide remedies, and, like a research hospital, it must aim to find answers to societal problems. Universities, in my opinion, should provide supervision to all units of society in all aspects." (P15/Manager of TEMA).*

Although participants 2, 12, 16, and 30 used various metaphors to describe the university, they all defined it as an institution that is related to its surroundings. Participant 12 emphasized the university's role as a leader, as well as the significance of working cooperatively and in harmony with the other ecologies. The following are direct quotations addressing these metaphors:

> *The locomotive of the city; "The university is the locomotive of a city. All of the other institutions may be thought of as wagons trailing behind. The university may produce more beautiful things by assisting other institutions in the area; they work together to complete the missing pieces. They must be intertwined." (P12/Agricultural Engineer),*
>
> *Forest; "I liken the university to a forest. When one side is lost, the balance is disturbed. Let's say that the links of the chain must be complete and strong; if one of the chains is broken, the consistency is significantly damaged, thus each unit must function well" (P 16/Assoc. Prof. Dr. in Agriculture),*
>
> *The body; "The university, of course, is similar to the human body. It collaborates with other parts, such as the region's industry. Consider this scenario: you can use one of your legs well, but if your other leg limps, you won't be able to walk properly. As a result, all parties involved should collaborate in a manner that benefits everyone in the region" (P2/ Secretary General of Chamber of Industry),*
>
> *Networked Box; "I pictured a box with various holes, both large and little, a large box. That was the first thought that sprang to me. It's a box containing numerous networks, connections to numerous places, inputs and outputs, or something like that." (P30/ Assoc. Prof. Dr. in Gastronomy).*

Participants 14 and 21 both emphasized the university's role as an educator, emphasizing how it assists individuals in learning and subsequently contributes to the learning process of the larger society, thereby reaching the entire society through its resources, as the ecological university indicates. Participant 14 pointed out that the learning process affects the entire society, not just the students. He described the learning ecology outlined in ecological university, in which the university contributes to the learning processes of individuals as well as the learning processes of the entire community by sharing the knowledge it possesses. The following are direct quotes from these two participants:

> *Mother; "The mother, like a mother, fulfills her kid's needs in some manner, (...) she spreads her arms over the children. In my opinion, the university is like that; the university feeds the students with knowledge, but I also mean the entire public, the entire country. Through its students, the university shares its knowledge and spreads it throughout the country. The students then share their knowledge with the society." (P14/ Agricultural Engineer),*
>
> *Octopus; "Like the legs of that octopus, octopus. Yes, the university has vocational schools in many districts, which function similarly to the limbs of an octopus. You may also think in terms of veins; the university reaches all the way to the province's and the country's boundaries" (P21/City Planner).*

1.3.2 The University as a Place of Growth and Change (teaching)

The metaphors produced in this category include "door, mother, kitchen, factory, and airport." The university was defined by the participants as an institution where individuals acquire the necessary knowledge and qualifications to obtain a career, which highlights the university's teaching role. The following are direct quotes from the two participants in this category:

> *Mother; "I believe the university is a mother since, of course, a high school graduate has little knowledge of the professional training they will receive in the following years. (…) To achieve this goal, universities provide both theoretical and practical knowledge, (...). If we consider the process from the birth of her kid until the moment the child marries, we can see that a mother raises, grows the child" (P3/ Chief Executive Engineer),*
>
> *Kitchen; "Yes. I suppose we can say that the university is both the beginning and the end of the kitchen since it is the place where a child begins his career pathway, where he is trained for his job and then graduates, it is the place where he learns his profession for the rest of his life." (P29/ Chairman of Gastronomy & Chefs Association).*

Participant 10 used the metaphor of a "door" to describe the university, defining it as an essential stage in an individual's self-development:

> *Door; "When I think of the university, the first thing that comes to mind is a door. Yes, I believe the university is a door. When you step through this door, you change in many ways: culturally, professionally, academically, and in every other manner, and you emerge as someone new. It's a place where you can further your profession, where you can lead a new life, where you can grow and change" (P10/SME Expert).*

Participant 27 used the metaphor of a "factory" to describe the university as a place where knowledge is both created and transmitted. As shown in the following excerpt, he expressed his thoughts:

> *Factory; " The university may be compared to a factory. Assume that, like the items that come out of a factory, mankind, future generations grow at university, and science is created here as well" (P27/Director Assistant of Culture & Tourism).*

Participant 7 made a different point about the teaching role of the university; he compared it to a chaotic but also organized institution; an airport, where there is a continuous, reciprocal learning system; as can be seen in the following account:

> *Airport; " The world's largest airport. It is a live airport that operates 24 hours a day, seven days a week, where everyone buys and sells something and everyone learns from one another" (P7/ Secretary-General of Development Agency).*

1.3.3 University as the center of science/research

In this category, participants described the university as a place of research and science using metaphors such as scholar/scientist, laboratory, and cell. They highlighted the importance of the university's role in conducting research, creating knowledge, and producing science. The excerpts below show how two individuals compared the institution to a center of science and research:

> *Scholar; "I compare the university to a scholar or scientist who is well-versed in numerous fields. Because universities research the truth. Scientists are the ones who look into the truth. Universities are then more like a researcher or a scholar. (…) Universities, in my opinion, should be places for producing scientifically valuable knowledge." (P33/ Research Assistant in Anthropology).*
>
> *Laboratory; "The university is a science lab, namely a sociological research lab. It's an institution that broadens people's horizons and encourages them to think freely. (...) It is a unique place where science is created. (...) You must create science; for example, the engineering faculty can construct an automobile prototype. The archaeology department can do excavations and make new discoveries. Dentistry may become a surgical authority " (P22/ Faculty Dean of Geography).*

Participant 9 described the university using the metaphor "the cell." In his explanation, he referred to the two categories; research center and teaching:

A cell; "It's a research center, therefore I imagine it looks like a cell, where there's continuous learning; constant improvements; continuous inputs and outputs, a cell with continuous DNA, a cell with continuous outputs." (P9/ General Manager of Technopark).

1.3.4 University as a figure of authority /leader

For this category, four metaphors were created: head of the family, conductor, high building, and endpoint. The university is regarded as the region's or city's locomotive. It is described as an authority with the knowledge and expertise required to advance the region.

Participant 13 identified the university as a science-producing institution that must first preserve its internal integrity in order to direct the scientific process with the expertise of a conductor, which is considered vital for strengthening the economy. It is noteworthy that the participant also mentioned the university's teaching and research roles. He stated:

Conductor; "You should be concerned with creating science and products, (...) That's entirely the point. To put it in other words, you must first go through the production process. By putting science on top of it. We have no other choice. Finally, what is the conductor's duty in the orchestra as a whole? He detects a cracking sound coming from the orchestra and directs it there. Otherwise, the final products would be wrecked. Here, the university is the chef "(P13/Agricultural Engineer).

The university, according to participant 24, is the most significant component of a city's or region's growth. Without a university, a city is like an orphan kid. This participant's direct quote for this metaphor is as follows:

Head of the family; " The university is the family's leader. When a father dies in a family, for example, something is missing, and without a university, it is impossible for a city to grow or develop. " (P24/ General Manager of Chamber of Craftsmen).

Both participant 4 and 32 described the university as a tough location to get to; the university is a prominent and high-quality institution with the expertise and power to solve the challenges of other institutions. Here are the direct quotes from these participants:

The endpoint; " We see university as the ultimate endpoint, i.e., the summit. Problems that we can't solve at the bottom should be solved at the top, at the university "(P32/ Chairman of the chamber of Coppersmiths),

High building; "The university might be likened to a high building with more than 15 stories. It's a tall, difficult-to-reach structure. I imagine it as something that only a few people can do, and that reaching its peak is difficult" (P4/ A marketing Manager of a Holding).

4. Conclusion and Discussion

The goal of this study was to find out what the university was from the perspectives of key people in the economy, culture, and natural environment. The findings of the study revealed that the participants had an idea of a university that was similar to the ecological university model, which could develop all ecologies by using its sources; knowledge, research, students, and academics.

The most striking finding of the study is that the participants created metaphors such as; *octopus, brain, studio, forest, body, mother, research center, the locomotive of the city*, and *networked Box*, all of which highlight the university's interconnectedness with the outside world, as proposed by Barnett (2018) in his ecological university model. The findings also support that the ideal university is not a traditional university, a research university or the entrepreneur university. The ideal university is one that is concerned with its surroundings, including culture, natural environment, social institutions, learning, individuals, and the entire world (Barnett, 2011b; Barnett, 2018). Likewise, Jones (2013) claims that the university, like humans, has a biological bond with its surroundings.

The metaphors *door, mother, kitchen, factory, airport*, on the other hand, all refer to the university's teaching role. The results, however, indicate that this is not the traditional understanding of the teaching. The participants emphasized personal growth and change in all aspects, including cultural and social development, which could indicate change in the educational philosophy involving teachers, students, and other stakeholders (Chou, Shen, Hsiao, & Shen, 2018; Conrad, 2007; Harrop, Casey & Shelton, 2018; Laurillard, 2005) and a more

innovative educational environment (Batko, 2014; Kaku, 2012; Laurillard, 2002). The learning environment should be more student-centred, productive, creative, and innovative. These results indicate that the university should pursue more innovative and productive teaching approaches.

Participants also used metaphors like *scholar/scientist, laboratory, cell* to describe the university suggesting that the university should be more productive and research-oriented. Research (Altbach & Salmi, 2011; Donovan, 2013; Hood & Peters, 2004; Loaiza & Andrade Abarca, & Cisne Salazar, 2017) has long been seen as an essential component of a country's economic growth and stability. Universities are expected to create new technologies through creating knowledge today, and hence contribute to their country's economic growth.

The findings of the study also revealed that participants used metaphors such as *head of the family, conductor, high building, the endpoint,* which highlight the university's role as a regional and national leader. It is evident that the university is expected to contribute to the development of its region, raise the welfare level of its society, and do that by working with its stakeholders, and also to be a pioneer and locomotive of social and cultural developments in the city and the region (Covelli, Morrissette, Lindee, & Mercier, 2020; Dimitrova, 2016; Etzkowitz, H. Webster A. Gebhardt & Terra, 2000; Popescu, 2011; Sánchez-Barrioluengo, & Benneworth, 2019). The location of a university may influence its characteristics, while the university can determine the future of that region (Aybarç, 2018; Brennan, Cochrane, Lebeau, & Williams, 2018; Newlands, 2003; Wolfe, 2016; Yusifzada, 2021). Therefore, universities are now expected to contribute to economic and regional growth by local governments, business, and the wider public. Universities have the potential to transform their region by using the sources they have for the benefit of their environment.

To summarize, the modern university, in addition to its traditional roles of teaching and research, must also take on additional missions such as advancing culture, region, and society. Therefore, it needs to reach out to the society and accelerate the society's learning in each of the ecologies with which the university is interconnected. As a result, the ecological university, which collaborates with other institutions in its ecosystem, may be an ideal model for developing the many surrounding ecosystems with which the university is interconnected.

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A Case Study on Online Teaching during the Covid-19 Pandemic Perceived by Primary School Teachers

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ABSTRACT

Research shows that teachers are one of the most influential factors in student learning in online classrooms during the COVID -19 pandemic and discusses teachers' efforts to get the most out of their online classrooms with their students. However, how the teachers experience online teaching is understudied. To address this concern, this case study aimed at revealing the experiences of primary school teachers in online teaching during the COVID-19 pandemic with a particular focus on the difficulty in teaching different subjects such as mathematics and science. The participants were 12 primary school teachers working in different places (e.g., village and district) with various professional experiences in years (such as 1-10 years and 11-20 years). The data was generated through semi-structured interviews and analyzed by content analysis. The results revealed four main themes, namely guidance and support, planning and instruction, technical issues, and the use of technological tools. Since most of the results were contextual, it is suggested that schools provide some school-based training to support teachers and parents in this process. When the results of the research are evaluated, it is important that university teacher education departments provide comprehensive pedagogical support, especially for pre-service teachers who will be the teachers of the future and families to improve online learning.

Keywords:
Primary education, distance learning, online learning, technology, case study, COVID-19

1. Introduction

It was declared a global pandemic by the World Health Organization on March 11, 2020, due to the New Coronavirus Disease (COVID-19), which emerged in Wuhan, China and showed its effect on other countries (World Health Organization [WHO], 2020). The rapid spread of the pandemic in the society had negative impacts in many areas of human life, particularly health, economy and education. In this context, countries have taken a series of decisions and various measures to minimize the impact of the global pandemic on social life and prevent the pandemic's further spread. The transformation of educational activities from face-to-face education to distance education is one of these measures, which affected many teachers and students all around the world.

Due to the pandemic, the distance education decision started to be implemented in China on February 16, 2020. It spread to 45 countries on March 13rd, and became more widespread on March 26, with 166 countries closing schools at all education levels and planning a transition from face-to-face education to distance education. Finally, on April 1, 2020, with 172 countries, the countries implementing distance education reached the highest number (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2020a). Turkey is among the countries that face a rapid transition to distance learning education in this pandemic

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process. The Turkish Ministry of National Education (MoNE) has broadcast through Turkish Radio and Television channels, TRT kindergarten, TRT elementary school, TRT middle school, and TRT high school, and continues to actively use a Turkish learning management system EBA as of March 23 (see Ministry of National Education [MoNE], 2020d). Distance education continued synchronously and asynchronously until May 31 (MoNE, 2020b); then, the students entered the summer vacation period.

To increase the quality of online education, the Ministry of National Education in Turkey has made improvements in the Internet infrastructure, and software as well as providing necessary hardware to schools just upon the launch of distance education. After the summer, education started. A complimentary online education programme was implemented to teach the missing subjects and objectives of the second term of the 2019-2020 academic year as of August 31, 2020 (MoNE, 2020d). The online education process has been a transition in education levels from as early as primary school to upper secondary school (see MoNE, 2020c; 2021a). With this transition process, in addition to asynchronous videos and sources, synchronous learning-teaching environments were provided to students and teachers with live lessons on EBA. Support points are established for students who do not have the necessary mobile phones, tablets or computers, and tablets have been provided to 650.000 students (MoNE, 2021b). For those who do not have an Internet connection, the Ministry of National Education has made agreements with the GSM operators and provided 6 GB to 8 GB Internet to be used on EBA channels (MoNE, 2020a). Moreover, the provided 650.000 tablet computers also have a monthly 25 GB capacity GSM internet service that students will need to benefit from the live lesson and EBA platform (MoNE, 2021b). Online lessons in the COVID-19 process led teachers to face with the need to use technological tools extensively. According to the researchers, many teachers worldwide had little experience or training on online teaching platforms and tools before the COVID-19 pandemic (e.g., Yu, 2020). Yu (2020) argues that most of the teachers gained necessary online teaching skills during the online education process 'when they were actually using online teaching'. Considering this argument, the focus of this study is to reveal the experience of primary school teachers during online teaching. The Ministry of National Education in Turkey continued following the policy of integrating STEM education into primary school teaching during the Covid-19 pandemic through various projects such as Scientix and Edusimsteam (MoNE 2021c; 2021d).

1.1. COVID-19 and Online Education Process

Since the beginning of the COVID-19 pandemic, governments and education actors have started developing systems to provide education and training activities remotely. Looking at the latest data, it is seen that more than 90 per cent of the Ministries of Education around the world started to use distance learning approaches that include radio, television or the Internet. At the global and regional levels, most students (about 70 per cent) continue their education in an environment that allows them to learn remotely through digital or asynchronous broadcast classes at home (UNICEF, 2020b). At the same time, students and teachers in many countries have had to move quickly from traditional classrooms to online classes without enough time to adapt to these changes (Sykes, 2020). COVID-19 has transformed homes worldwide into classrooms within weeks, if not days, and many schools have had to create overnight distance learning programmes and resources. It is argued that the transition to home learning in such a short time without any warning or advance preparation has raised concerns that will become a focal point for researchers, educators, policymakers, and anyone interested in the education and social welfare of young people in the coming years (Bayrakdar & Guveli, 2020). At the beginning of these concerns were whether students could realize their learning with online education, whether students and teachers had sufficient technological equipment and infrastructure to participate in online training, and whether teachers and students could use technology effectively.

Considering the studies in the literature, it is known that before COVID-19, there were some needs of particularly in-service teachers (Sarı & Akbaba-Altun, 2015; Sarı & Keser, 2021), pre-service teachers (Saralar et al., 2018; Saralar-Aras & Güneş, 2022) and teacher educators at universities (Amhag et al., 2019); these were reported in various countries including Sweden and Turkey. The transition to online teaching with the COVID-19 process has left teachers with an experience most of them have never encountered before. According to Sykes (2020), many teachers in Japan have little or no teaching experience from home. For teachers who have not taught online before, fully online teaching has undoubtedly been a challenge (Sykes, 2020). For instance, in a study conducted in Chile (Sepulveda-Escobar & Morrison, 2020), teachers had to learn how to work with previously unfamiliar software and tools to prepare teaching materials for the courses they will give in the COVID-19 process. The transition to online education with the COVID-19 crisis has also created

challenges for families and students. There have been changes in working hours in line with the working from home regulations. These changes have led to problems. These include the inadequate relationship of parents (who work from home) with their children even when both are at home, the installation by parents of technological devices for teaching their children online, and the difficulty of complying with schools' online regulations (Haekkilae et al., 2020).

The COVID-19 crisis has shown most of the education systems under the OECD's 2018 International Student Assessment Program (PISA) are not ready for the world of digital learning opportunities (Schleicher, 2020). Considering that teachers need to be prepared to integrate technology into their teaching and to teach online (Cooper et al., 2020) to meet the needs of their future students, the current study aims to reveal the experiences of primary school teachers who have used distance education completely during the COVID-19 process, and it is considered important in terms of shedding light on not only researchers but also policymakers and educators.

2. Methodology

2.1. Research Model

The study was conducted in a case study design, as it was aimed to reveal the contextual experiences of primary school teachers in online education during the COVID-19 pandemic process. Particularly, in this multiple case study where 12 participants took part, the purpose was to classify teachers' experiences in online teaching as themes. The themes were depending on the case(s), which were observed in the majority of the cases within a certain period. The data was generated through interviews and documentation in their natural environment as suggested by Creswell (2007). With the help of a case study design, the current situation was investigated in a real context: online teaching environments (Yin, 2004). In short, a case study design was used in the current study to address the experiences of primary school teachers in online education during the COVID-19 pandemic process.

2.2. Research Sample

Criterion sampling, one of the purposeful sampling methods, was used in determining the participants (Yıldırım & Şimşek, 2013). The criterion was set to choose the experience of elementary school teachers in years 1-10, 11-20, and 21 and above. In addition, the second criterion selected in the study was teachers' places of work (villages, district centres, and provincial centres) to understand whether experiences in the online teaching process differed in relation to the different teachers' settlements. These teachers teach lessons including mathematics, science and social sciences. The characteristics of the participants were given in Table 1. In Table 1, FT represents a female teacher and MT represents a male teacher.

Table 1. *Information about Participants*

Pseudonym	FT	FT2	FT3	FT4	FT5	FT6
Experience (In years)	3	5	7	8	16	24
Place	Village	Province	District	District	District	Province
Pseudonym	MT1	MT2	MT3	MT4	MT5	MT6
Experience (In years)	6	6	6	11	17	20
Place	Village	Village	Village	Village	Province	Province

As seen in Table 1, a total of 12 primary school teachers were interviewed within the scope of the study. 6 of the teachers were male and 6 were female. The teacher with the lowest experience had 3 years of teaching experience, and the teacher with the highest experience had 24 years of teaching experience. 6 of the teachers worked in a village, 3 in a district centre and 3 in a city centre, coded as a province in Table 1. All teachers had been using online teaching since August 30, 2020 due to COVID-19 measures.

2.3. Data Collection Tools and Procedure

The research data were collected using open-ended semi-structured interview questions. In this context, two demographic questions (teaching experience and place of duty) and one basic question were asked to the teachers, and parallel to this question, questions were posed at the end. The main questions asked to teachers in the interviews are as follows: How did you experience the online education process as a primary school

teacher during the COVID-19 pandemic? Were there any lessons such as mathematics and science you found particularly difficult to teach online? Interviews were conducted through a program enabling online interviews, started after getting permission from the teachers. The shortest of the interviews was about 30 minutes and the longest was 40 minutes.

2.4. Data Analysis

The data were analysed by the content analysis method. The audio recordings of the interviews, which were primarily recorded as videos, were transferred to the computer environment, and a total text of 126 pages was obtained. In the second stage of the analysis, the data were encoded. In the light of the codes that were defined in the third stage, themes (which can explain the data in general and collect the codes under certain categories) were found. The data were organized and defined according to codes and themes in the next stage. Themes and sub-themes are also visualized. Findings were interpreted in the last stage, where direct quotations supported research findings.

2.5. Ethical Concerns and Trustworthiness

Necessary ethical permission was received from the ethical community of the first authors' university prior to the study. The Ethics Committee of the School of Education at that university approved this study. The study did not cause any concerns for the committee. Ethics was received on November 11, 2020; Ref: 9872/20.

In providing transferability in this qualitative study, sampling and detailed/rich description strategies were used (Merriam, 2013; Yıldırım & Şimşek, 2013). In the purposeful sampling, teachers who had at least 3 years of teaching experience at the time of the data collection and continued to teach through online channels during the COVID-19 process constituted the study participants. The purpose of choosing these participants is to think that they will be more effective in revealing the issues as they are experienced in years and experienced in online teaching.

The purpose of including teacher groups with different teaching experiences in the study is to understand primary school teachers' perspectives from various experiences (in years). In the detailed description, the points made by each teacher in the interviews were accurately reflected, and the ideas expressed by the teachers were presented in bold descriptions under the themes. Participant and expert confirmations were used as part of the reliability (dependability) of the study (Merriam, 2013; Yıldırım & Şimşek, 2013). The obtained subjects were recoded by an expert other than the researchers. Inter-coder reliability was calculated using the formula [Consensus / (Consensus + Disagreement) x 100] suggested by Miles and Huberman (1994). It was found that the agreement between the researchers' and the expert's assessments was 84%, which is high enough to report reliability. Nevertheless, topics and subtopics where the assessments differed were reviewed and the agreement between the researchers' and the expert's assessments increased to 88%.

3. Findings

This study revealed the experiences of online education during the COVID-19 process from the perspective of primary school teachers. The teachers found the lessons they teach in similar difficulty; that is to say, they did not find e.g., teaching mathematics more difficult than teaching social sciences. Instead, they reported more general issues. These findings were collected under 4 main themes. These are as follows: guidance and support, planning and teaching processes, technical issues, and the effective use of technological tools. The four main themes, emerging regarding the primary school teachers' experiences of the online education process, were also divided into sub-themes (see Tables 2 to 5). In this context, the first main theme was guidance and support. Sub-themes obtained within each main theme were discussed in the following sub-titles.

3.1. Guidance and Support

Guidance and support theme had three main sub-themes (Table 2). The first was about teachers' guidance where teachers stated that they guided parents through various platforms in order for them to guide their children in the distance education process. The 12 participating teachers indicated that this consultation takes time and parents need to better manage their time, especially if they have more than one child, as all children in the distance education process need their parents' time and attention at times.

Regarding parental guidance and support, the lack of parental interest in online instruction was seen as an important problem by elementary school teachers. At the same time, it is stated by more than half of the teachers that seeing only mother support in online education was in this process caused insufficient parental guidance and support. It is emphasized that only maternal support was more common for students residing in rural areas and villages. Inadequate level of family support for homework (given by teachers after online education) was another important parent-related problem, where according to participants, some parents showed enough support for homework while some other provided almost no support. Regarding this, the teachers stated the following:

FT4: Some parents may be irresponsible that they always have an excuse. Even the most responsive parents can inevitably slack off and not want to help their children... I believe that children's learning should be in the hands of children, but should also be supported by parents. As far as I see, this support was usually by mothers for my class. This also was hard… For example, one day, the mother was sleepy, hence her child did not attend the morning classes. The child got up and texted me, but she could not join the class because the mother was sleeping.

MT5: For example, I gave homework to my students, and asked the parents to send me the children's work. Some of the parents sent photos of homework to me without checking them.

The study participants stated that the teachers also got some support from their schools. These included the use of the materials and resources in EBA and included technical support for how to use related technologies. Many participants were also aware that detailed teacher training sessions describing distance education and EBA use have been prepared by the ministry and made available to them from the EBA Professional Development Area. Some of the teachers also stressed that they were encouraged to participate in professional development groups, providing an effective environment for project groups and interacting with colleagues.

Table 2. *Sub-themes and Codes of Guidance and Support Theme*

Theme	Sub-theme	Code
Guidance and Support	Teacher	Time management
		Parental demands
	Parent	Parent indifference
		Support for homework
		Single parent support
	School	Materials and resources
		Technical support

3.2. Planning and Teaching

The second of the main themes that emerged within the scope of the study was the planning and teaching processes. This main theme consisted of three sub-themes: planning of teachers, parents and students (Table 3).

One of the sub-themes that emerged in the planning and teaching process was teachers' planning and teaching. All of the participating teachers stated that they used technology more in their courses with distance education, thus they learned a lot by practising and discovered various sources, which, according to them, had a positive effect on their technology, pedagogy and content knowledge.

Another sub-theme was the intervention of parents in teaching while conducting online lessons. Most of the participating teachers emphasized parental interventions, saying that some parents answered teachers' questions during online classes, some parents intervened in online classes by doing some activities, such as feeding their children and asking questions outside the classroom while students were sitting on the screen. Another important parental problem was that some parents did not have sufficient knowledge of technology, in order words they were not technology-literate. To illustrate, two of the participants stated the following:

MT5: Parents, for example, I was just starting the live lesson. The parent sat next to her child and said the answer to the first question is "a". I experienced this. Another example is that I asked students to turn the page, and the parent did not let her son turn the page and asked me a question. My response was to say that she could not intervene in the class.

FT6: Some parents give true and false information about the answer to my question, true or false, parents' answers were such a disadvantage. The biggest disadvantage is that this kid may not talk freely.

Interest and focus were the two main points that almost half of the participants emphasized. Considering the student-related issues, which is the last sub-theme, according to the teachers, students were not interested in the lessons in the online education process and they could not focus on the screen in the online education process. Furthermore, apart from the online education process, the participants saw students' failure to complete their homework as an important problem.

MT6: We need to keep children's attention on the screen, which, for some of the students, is a boring environment. Some of the children cannot stand still and move around during live lessons. There was also one child who listened to the lesson, but he kept rocking on a chair while listening to the lessonMT3: I think it has been a bit difficult for the students to focus during online education right now…both looking at the phone and writing it down in their notebook or something might be hard for the students… And I turned off the voices during some of the lessons because sometimes there is a lot of noise from behind, for example, today, a student's house's roof was repaired during the live lesson.

Table 3. *Sub-themes and Codes of Planning and Teaching Theme*

Theme	Sub-theme	Code
Planning and teaching	Teacher	Technology, pedagogy and content knowledge
	Parent	Parental intervention to teaching
		Technology literacy
		Single parent support
	Student	Interest toward lessons
		Focus problems
		Homework
		Technology literacy

3.3. Technical Issues

Under the main theme of technical issues in online education during the COVID-19 process, the analysis of the interviews with 12 participants found four sub-themes which were (a) hardware and (b) software problems, (c) Internet connection problem and (d) power outages (Table 4).

As seen in Table 4, the first of the most common hardware problems encountered in online education during the COVID-19 process was that the microphone does not work. This issue, which almost all primary school teachers frequently emphasize, was encountered especially by children residing in rural areas and villages. According to the participants, it can be said that parents and students could not turn on or use the microphone due to the lack of parents' and students' technological literacy skills.

MT4: When I was taking attendance, sometimes, students start talking, and some other times student seems that he is in the live lesson but there is no sound, and there is no image. Students and parents need to learn about turning their microphones and cameras on.

FT5: ... Apart from that, a few of my students still have microphone problems, and I continue to my lesson without hearing their voices. And at the middle of the lesson, when everyone is fully concentrated, one of the parents manages to work her child's microphone on, and all students hear echo and disruptive voices that interrupt the teaching.

In the subtheme of software problems, errors received in online education software were mentioned as the most common problem encountered in online education during the COVID-19 process. In particular, problems such as screen freezing, sound turning on and off, no sound and teacher's/students' screen sharing which were not seen by the other students/teacher were the most commonly mentioned software errors.

MT3: First of all, the phone issue in children, they joined online lessons with the phone, and when we project a screen on the system, they may not see it from there.

MT6: Because some of the students are connected with the phone, the screen is small, and their screen is not large enough to see what we share.

Table 4. *Sub-themes and Codes of Technical Issues Theme*

Theme	Sub-theme	Code
Technical issues	Hardware problems	Broken microphone Broken screens including black screen problem Battery/charge problem
	Software problems	Errors received in online education software packages
	Internet connection	
	Power outages	

3.4. The Use of Technological tools

The last main theme obtained from the research findings was the use of technological tools. Within this main theme, teachers', parents', and students' use of tools were classified (Table 5). After some practice, teachers mostly did not need help and effectively used the technologies. Regarding this, one of the teachers said:

FT4: Frankly speaking, apart from these technological failures that I said at the beginning (microphone issues etc.), I did not experience such a big problem.

The problem of using technological tools (as well as concrete manipulatives during online teaching) was observed by most parents, especially mothers who felt responsible for their children's online teaching during the COVID -19 process, especially in the young groups (grades 1 and 2, corresponding to ages 5.5 to 7). Parents and primary school students prepared for online lessons together and dealt with both hardware (ineffective use of tablets, cameras, microphones etc.) and software (difficulty of loginning into digital learning platforms) problems together. Hence, students experienced the same problems with their parents.

Table 5. *Sub-themes and Codes of Technological Issues Theme*

Theme	Sub-theme	Code
The use of technological tools	Teacher	Software
	Parent	Hardware Software
	Student	Hardware Software

4. Conclusion and Discussion

The findings of this study, which aimed at describing experiences of primary school teachers who continued education through online platforms during the COVID-19 process, were collected under four main themes. These were listed as guidance and support, planning and teaching, technical issues, and technological tools. According to the participants, there were positive (e.g., receiving guidance and support when needed and learning more about educational technologies) and negative experiences (technical issues such as microphone and camera problems).

In terms of research findings, the first finding was that it was not a problem for students in more developed regions to gain access to hardware resources and the Internet. These research findings support the findings of the international literature (Ali & Kaur, 2020; Janssen, 2020; Li & Lalani, 2020; Schleicher, 2020; UNESCO, 2020b; UNICEF, 2020a). The COVID-19 crisis revealed many inequalities in many countries, such as lack of access to computers and the Internet (Janssen, 2020; Schleicher, 2020). Teachers also reported that primary school students had issues with turning on their microphones and cameras. It was also observed that the parents did not have enough knowledge and skills to eliminate these problems. Considering these problems, a question comes to one's mind: "Are primary school students and parents at a sufficient level of technological literacy in online education?" Considering the findings in the studies of international literature, it was seen that similar problems were experienced in different countries in online education during the COVID-19 process (Ali & Kaur, 2020; Anwar et al., 2020; Yu, 2020). According to Yu (2020), the transition to online learning in China has brought some difficulties, especially for young students and their parents. Young children often lack the skills required for online learning entirely. They have lower competence in using technological tools and following teachers' instructions online (Yu, 2020). Similarly, in Pakistan, lack of family

support, technological skill problems and technical problems in online education appeared as the problems experienced in distance learning during the COVID-19 process (Anwar et al., 2020).

Parent indifference was also a major problem in the COVID-19 process. Family support was insufficient in homework during the online education, which resulted in many students not doing their homework. It was observed that only mother support was more common among students residing in rural areas and villages, rather than both parents' support – despite having the necessary knowledge and skills. Having busy parents and/or no parents at home was likely to emerge as another major problem. For example, some of the online lessons were in the morning and mothers were busy with housework or the needs of other household members during these hours. Similarly, in a study conducted in Pakistan, the absence of family support in online education emerged as a big problem (Anwar et al., 2020).

For this reason, Spoel, Noroozi, Schuurink and Ginkel (2020) suggested increasing the number of guidance and support services provided by teachers to parents; hence, undoubtedly, with this process, there would be so much time pressure and increase in the workload of the teachers. Therefore, technology and online learning tools have been complementary teaching materials for teachers to use in classrooms (Wan, 2020). Especially during the COVID-19 process, the necessity to give online lessons has increased the importance of being competent in technology, pedagogy and content knowledge, in short TPACK.

Finally, it was observed that parents did not have sufficient technological knowledge. Parents also had difficulty in finding a solution immediately when they encountered software and/or a hardware problem (turning microphone and camera on-off etc.) during online courses. In addition to these, parents' intervention (giving answers to teachers' questions, feeding their children, distracting teaching with extracurricular questions, etc.) in teaching during online lessons and extracurricular activities was seen as a major problem for teachers. Wan (2020) emphasized that parents should be educated to help and guide children with the COVID-19 pandemic. Children of less-educated parents were at a disadvantage in this process; they were left on their own and needed help with how to take advantage of digital tools (Wan, 2020).

5. Recommendations

Students' indifference to the lessons in the online education process, inability to focus on the screen, not doing homework, and low technology literacy were the problems experienced in the planning and teaching process. It could be said that online education was a disadvantage especially for young children during the COVID-19 process. As Yu (2020) stated, young children completely lack the skills required for online learning and are less capable of using technology and following teachers' instructions; they do not always have the self-discipline to stay away from distractions. For this reason, it was emphasized that a structured environment is necessary especially for young children not to be easily distracted (Li & Lalani, 2020). Such an environment could be compared with the common teaching environments through a quasi-experimental study which could provide more information and an opportunity for generalising.

Considering the effective use of technological tools revealed within the scope of this study, parents and students experienced problems in using both software and hardware tools. These problems were mostly experienced by mothers and students in younger age groups (1st and 2nd grades). Regarding this, it may be suggested to update related teacher training courses at the universities to prepare pre-service teachers to teach with technology when they graduate. Moreover, particular short courses for parents could be planned. Researchers may design these courses, and further research may explore their effectiveness.

Last but not least, it is important that the teacher training departments of the universities provide especially pre-service teachers with comprehensive pedagogical support to improve online teaching. According to Sepulveda-Escobar and Morrison (2020), the COVID-19 crisis has demonstrated the importance of practical and adaptive focus teacher training and how the emerging disruptions caused by the COVID-19 pandemic can be used as an opportunity to reshape the role of teacher education.

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A Research on the Environmental Identities and Environmental Risk Perceptions of Classroom and Science Teachers According to Different Variables

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ABSTRACT

Environmental identity in human environmental behaviour expresses the extent to which the person relates to the environment while defining himself or herself. The relationship between human and the environment is mutual, and human's understanding of environment is essential to the environment. Perception of environmental risk is subjective because it is about personal view of environmental risk. The purpose of this study is to evaluate classroom teachers' and science teachers' perceptions of environmental risks based on several variables. For this purpose, a total of 309 classroom and science teachers participated in the study. The instruments used for data collection were the Environmental Identity Scale and the Environmental Risk Perception Scale. Both descriptive and inferential analyses were conducted on the data obtained. The analyses conducted revealed that environmental identity and environmental risk perception were high among teachers, there were no differences between subjects, and there was a positive relationship between environmental identity and environmental risk perception.

Keywords:
Environmental identity, environmental behavior, environmental risk perception, nature connectedness

1. Introduction

The human-environment relationship is among the most studied subjects in environmental education. Human behavior is important in the reciprocal relationship between humans and the environment. Wherever a person is, they are physically and socially in contact with the environment. Human relations cannot be explained independently of context, place, and environment. Environmental research presents the effects of individuals on the environment or their perceptions about the environment. People's actions on a local or global scale, the effects of these actions on the environment, and many threats to the sustainable environment originate from human behavior (Yaşaroğlu, 2020). Therefore, it is crucial to examine the environmental behaviors of humans to adopt healthier approaches to the environment and make environmental education activities more effective.

The importance of human behavior on the environment increases the importance of environmental education. Environmentally friendly behaviors help to provide a more livable world and a sustainable environment. Environmental identity and environmental risk affect environmental behavior, as will be discussed in detail in the theoretical part. Another factor is teachers' environmental risk perceptions and environmental identities as an important figure in environmental education because teachers' attitudes also affect teacher motivation

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for education. This study is about environmental identities and environmental risk perceptions of classroom and science teachers.

Environmental education is important for raising an environmentally conscious, sensitive, and responsible generation. The proficiency levels of educators who will give environmental education are also significant (Öztürk et al., 2015). Raising individuals who are conscious about and sensitive to the environment, who have environmental knowledge, and who can also be active participants in environmental problems is one of the effective ways to find solutions to environmental problems.

Perceiving and making sense of the immediate phenomena around the individuals is an effective agent in developing positive attitudes towards the environment (Yücel & Özkan, 2018). In addition, the aim of environmental education should be the development of behaviors to protect the environment. People should be raised as individuals who have a high perception of environmental risk, and they should turn this perception into attitudes and behaviors. Environmental education should be provided at an early age for an environmentally sensitive and conscious society (Tümer & Sümen, 2020; Yaşaroğlu, 2012).

1.1. Environmental Identity

Identity is defined as a collection of signs, qualities, and characteristics that show what kind of a person is as a social being (TDK, 2020). The identity of humans as social beings significantly affects our communication and interaction with our social and physical environments. Environmental identity is an important factor used in environmental studies to understand environmental-human interaction.

Identities define social roles, and these roles require several responsibilities. Environmental identity can describe how abstract global issues become urgent and personal for an individual. Environmental identity also determines the course of action in line with their sense of self. Understanding identity and its role in mediating behavior towards the natural world helps us understand research results and enables us to draw important practical implications. The better we understand what makes people passionate about the environment, the better we understand the psychological mechanisms that promote protective environmental policies and behaviors (Clayton & Opotow, 2004).

Environmental identity defines who people are while reflecting the extent to which people place environmental protection at the center of their lives and the extent to which they express environmental protection through their behavior (Gatersleben et al., 2012). Blatt states that people can define themselves in different ways about their identities related to nature by using studies in fields such as deep ecology, environmental ethics, ecopsychology, environmental education research, and history of science. In an extensive list, Blatt notes that humans can define themselves as an essential or insignificant part of nature, as someone who harms nature, as superior to nature, as conquerors of nature, as independent or separate from nature, as separate but connected to nature, as dependent on nature, as protectors of nature, and as defenders of nature. Our environmental identity can contain one or more of these feelings, which we think may conflict with each other (Blatt, 2013).

A critical aspect of identity is it being linked to the natural world. As humans, we try to express our environmental identity by making connections (place identity) to certain natural objects such as pets, trees, or geographic locations (Clayton, 2003). Research also proved that the physical environment has strong connections with the sense of self and that identity is an important behavioral mediator (Devine-Wright & Clayton, 2010). On the other hand, Clayton et al. associated environmental identity with general environmental anxiety and with the sense of connection with animals (Clayton et al., 2011).

Along with environmental identity, it is necessary to include place identity and green self-identity in environmental identity. “Place identity”, which is one of these concepts, is a cognitive mechanism according to most studies and is a component of self-concept or personal identity. Place identity also develops environmentally responsible behaviors and plays a vital role in developing pro-environmental behaviors (Hernández Bernardo et al., 2010). Another concept is the green identity. “Green” self-identity, in other words, to which extent do the individuals consider themselves as environmentalists, generally predicts pro-environmental intentions and behaviors (Lalot et al., 2019). In fact, green identity as a concept can be associated with being more environmentalist. Lalot et al. revealed an overall positive correlation between self-identity and pro-environmental intentions in four empirical studies evaluating green self-identity and measuring

green and non-green behaviors in a person's past life. In addition, the environmental identities of the participants were also found to be high in this study (Lalot et al., 2019).

Environmental identity is an important predictor of the intention to actualize pro-environmental behaviors. If the environmental self-identity is strong, a person's judgments, attitudes, and intentions are pro-environmental and environmentally friendly (Carfora et al., 2017; Gatersleben et al., 2012; Van der Werff et al., 2014). Many studies show that environmental identity is effective on pro-environmental behaviors. Although Payne (2001) claims that research on environmental identity is insufficient, the number of studies has increased in recent years, especially within the scope of environmental psychology (Devine-Wright & Clayton, 2010). Studies have shown that a solid environmental self-identity increases behaving pro-environmentally and increases motivation (Ajibade & Boateng, 2021; Carfora et al., 2007; Clayton et al., 2011; Gatersleben et al., 2012; Kashima et al., 2014; Van der Werff et al., 2014; Whitmarsh & O'Neill, 2010), it contributes to energy savings (Bonan et al., 2021) and is also associated with support for animal rights (Clayton et al., 2011). There is an urgent need for people to take action to reduce the environmental damage caused by climate change and other environmental crises they face. Accordingly, it is suggested that the relationship between nature attachment and environmental activism can be understood as a result of collective identity processes (Schmitt et al., 2018).Understanding what makes people passionate about the environment also makes it easier to understand the psychological mechanisms that encourage protective environmental policies and behaviors (Clayton & Opotow, 2004). This leads us to environmental education. Environmental education is an element that affects the formation or strengthening of environmental identity. One study shows that the Environmental Science course affects the environmental identities of students. It has been observed that many students taking the course care about environmental identity as they gain knowledge about environmental problems and become aware of the environmental effects of their behavior (Blatt, 2013). In another study, a group of young people travelling to South Asia to participate in a global education program focusing on the effects of climate change shows that these experiences and interactions effectively develop environmental identity. Social interactions with different types of people have been shown to have characteristic effects on the development of young people's environmental identities (Stapleton, 2015).Environmental Risk

In general, risk is a situation, event, or activity that has uncertain or negative consequences and affects something people value. The two critical components of risk are the severity and uncertainty of the negative outcome or loss. To characterize an outcome as negative involves assessing the events, namely judgment. Perception of risk refers to people's subjective judgments about the risk associated with any situation, event, activity, or technology (Böhm & Tanner, 2019). As an emotion, risk expresses our quick, instinctive, and intuitive reactions to danger (Slovic et al., 2004). In other words, risk is the subjective judgment of individuals about the severity and characteristics of threat. For a risk to be a problem for an individual, it must first be perceived as a problem (Böhm & Tanner, 2019; Kahyaoğlu, 2012).

Environmental risks differ from other risks in various ways. First, environmental risks are characterized as complex causal relationships and high complexities and uncertainties, requiring multiple outcomes. Second, environmental risks stem from the collective behaviors of individuals rather than single acts. Therefore, problems may not be solved easily since many people should respond collectively. Third, the consequences of environmental risks are generally delayed, and they are geographically dispersed. The people who cause a risk and those who suffer from the consequences may differ. Hence, environmental risks cause ethical problems (Böhm & Tanner, 2019).

Different factors affect risk perception. The perceptions of regular participants and experts were examined in a study investigating ecological risks related to human activities that may adversely affect water resource environments. Four factors were determined in this study: ecological impact, human benefits, controllability, and knowledge (McDaniels et al., 1997). It was stated that higher risk perception might positively impact increasing people's willingness to deal with environmental risks (De Dominicis et al., 2015). Personal and sentimental values and ethos affect the awareness of ecological risks (Böhm & Tanner, 2019; Slimak & Dietz, 2006). For example, in a study, it was found that there is a moderately significant positive correlation between the human-centered approaches of primary school teacher candidates and their environmental risk perceptions and environmental behaviors (Kaya et al., 2012). Environmental education is another factor affecting environmental risk. In a study conducted with university students, a significant and positive relationship was found between environmental education and environmental risk perceptions of students.

The students who participated in the research stated that taking at least one environmental course during their university education affected all aspects of their environmental risk perceptions (Durmuş-Özdemir & Şener, 2016).

A study measuring flood risk perceptions in a residential area in Italy concluded that flood risk perception alone explained most of the variance in preventive behaviors to cope with flood risk (De Dominicis et al., 2015). This shows that a high perception of environmental risk increases the probability of exhibiting environmentalist behaviors. It was found out in another study conducted with university students that the most frequently consulted sources of information about risk perceptions were the internet and social networks. Nevertheless, information from internet resources and social networks was associated with an even higher risk perception (Carducci et al., 2019).

Place attachment is another factor of environmental risk. A study on environmental risk showed that place attachment is an important variable (De Dominicis et al., 2015). Another study determined that security feelings about a place cause environmental risk perception to be higher (Quinn et al., 2019). This can be interpreted as the higher the importance of the place, the higher the reflexes to protect it are. Likewise, people's responsibility to protect their family and friends also significantly affects their individual risk perceptions (Liu et al., 2020).

This study evaluates classroom and science teachers' environmental identities and environmental risk perceptions. In primary schools in Turkey, life sciences are given as a course in the first three grades, and science is taught in the third and fourth grades. Classroom teachers' environmental identities and environmental risk perceptions should be evaluated since environmental issues are also covered within the scope of life sciences courses. However, no studies in the literature directly evaluate risk perceptions and environmental identities of classroom teachers. On the other hand, comparing the environmental identities and environmental risk perceptions of science teachers using the findings obtained from the study with classroom teachers can also contribute this research to the literature.

1.2. Research Problems

This study aims to assess environmental identities and perceptions of environmental risks by classroom and science teachers using several variables. Within this objective, answers to the following questions were sought:a. What are the environmental identity and environmental risk perceptions of classroom teachers and science teachers?

b. Do classroom and science teachers' environmental identities and environmental risk perceptions differ according to gender, subject, and natural disaster experiences?

c. What is the relationship between the environmental identities and environmental risk perceptions of teachers?

Today, with the introduction of information and communication technologies into every aspect of daily life, it is seen that we are in rapid change through the formation of a digital world. The digital world consists of every activity carried out in the cyber world (Kabakçı Yurdakul et al., 2013). Digitizing in every aspect gathered momentum with the pandemic experienced in 2020 in the whole world. Online classes during the pandemic resulted in increased screen time, and AAP recommends that parents be more lenient about this subject (AAP, 2020). Increased screen time has also been reported in Turkey due to COVID-19 (BAU, n.d.). Research indicates that students' screen time increased five hundred times with the pandemic period in Turkey (Hürriyet, 2021). One of the most fundamental reasons for the increase in screen time is the transformation to home-based online education instead of face-to-face education. Face-to-face education at schools officially stopped in Turkey when the first COVID-19 case was declared, and online education started. Other countries experienced similar events; for example, China introduced similar measures as well (Wang et al., 2020).

2. Methodology

2.1. Research Model

Since this study aims to determine the environmental identity and risk perceptions of classroom and science teachers, the correlational study method, one of the quantitative research method modelswas used.

Correlational research is a survey type that allows the researcher to determine the size and degree of a current relationship between two or more continuous quantitative variables. Correlation research involves collecting data from a sample of individuals or objects to determine the degree of relationships between two or more variables for the probability of making predictions based on these relationships (Lavrakas, 2008).

2.2. Research Sample

The study group of this research consisted of 197 classroom teachers and 112 science teachers, who were included in the group using the convenience sampling method, working in a province in the Eastern Anatolia Region (n= 309). Convenience sampling is a technique that aims to include close, easily accessible, or suitable people in the research and is frequently used in social research (Bailey, 1994; Bhattacherjee, 2012; Bryman, 2012; Howitt, 2016).

The demographic information of the teachers who participated in the study shows that 63.75% of 309 teachers were classroom teachers, and 36.25% were science teachers. 180 (58.25%) were female, and 129 (41.75%) were male. According to seniority, 136 teachers have 1-3 years, 97 teachers 3-5 have years, 43 teachers have 5-7 years, and 33 teachers have seven years or more experience. Finally, 161 teachers (52.10%) stated that they had experienced a natural disaster, while 148 teachers (47.90%) indicated that they did not experience any natural disasters.

2.3. Data Collection Tools and Procedure

A data collection tool consisting of three sections was used as a data collection tool in the research. The first section consists of questions written by the researchers to collect demographic information about classroom and science teachers. The second part of the data collection tool is the Environmental Identity Scale (EIS), and the third part is the Environmental Risk Perception Scale (ERPS). Descriptive information on scales is provided below.

Environmental Identity Scale: The EIS developed by Clayton (2003) and adapted to Turkish by Clayton and Kılınç (2013), consists of 24 5-point Likert-type items and 4 sub-dimensions. The items in the scale consist of items at the level of individuals' relations with the natural environment to determine the environmental identities of the participants. The scale consists of the following sub-dimensions: "Environmental Identity", "Desire to be Nature-Connected", "Resemblance to Nature", and "Environmental Behavior". Participants who filled out the scale were asked to rate each item between 1 (Strongly Disagree) and 5 (Strongly Agree). Clayton (2003) found Cronbach's Alpha reliability coefficient of the scale to be 0.90, while Clayton and Kılıç found it between .60 and .80 for four factors. In this study, the internal consistency coefficients of the sub-dimensions were calculated as between .62 and .92.

Environmental Risk Perception Scale: The ERPS was developed by Slimak and Dietz (2006), and adapted to Turkish by Altunoğlu and Atav (2009). The 5-point Likert scale was adapted to Turkish as a 7-point Likert scale. It consists of 23 items and four sub-dimensions: ecological risks, chemical waste risk, resource depletion risk, and global environmental risks. Participants were asked to rate the items in a scale between 1 (Not at all Important) and 7 (Very Important). Slimack and Diez calculated the Cronbach's Alpha internal consistency coefficients of sub-dimensions as0.64 and .91; Altunoğlu and Atav calculated it as .69 and .82. In this study, the reliability coefficients for the sub-dimensions were calculated as between .65 and .87.

The data were collected in 2020 – 2021. The scales were converted into online forms after obtaining the necessary permissions. The online forms prepared were sent to the classroom and science teachers by the researchers using digital environments, and the teachers were asked to fill out the form. It took three weeks for the teachers to fill out the form. Ethical rules were followed in all processes of this article.

2.4. Data Analysis

The obtained forms were checked physically after the teachers filled out the online forms. It was observed that the forms were correctly and appropriately filled. The data were transferred to the SPSS program, and analyses were carried out using 309 data collection tools. Both descriptive and inferential statistics were used in the analysis of the data. Descriptive statistics such as arithmetic mean and standard deviation were used to analyze the scale and its sub-dimensions. In the inferential analysis, the normality distribution of the data was

tested first, and analyses were carried out on the data that were not found to have a normal distribution (Table 1). Accordingly, Kruskal-Wallis and Mann-Whitney-U tests were applied according to the gender, subject of the teachers, and whether or not the teachers experienced natural disasters. In addition, the Spearman correlation coefficient (*r*) was calculated to determine the environmental risk perceptions of teachers according to their environmental identities.

Table 1. *Kolmogorov Simirnov Tets Results for Normality*

Variables	Statistic	df	p
Environmental Identity	.13	309	.00*
Desire to be Nature-Connected	.19	309	.00*
Resemblance to Nature	.13	309	.00*
Environmental Behavior	.18	309	.00*
Ecological Risks	.18	309	.00*
Chemical Waste Risk	.21	309	.00*
Resource Depletion Risk	.08	309	.00*
Global Environment Risk	.22	309	.00*

*p < .05

2.5. Ethical

This study was performed in compliance with ethical procedures. The approval of the ethics committee was required. It was granted by the decision of the Ethics Committee of Bingöl University on 30.12.2020 under the number E-23859.

3. Findings

This section presents the descriptive findings of the scales, the difference in environmental identity and risk perceptions according to the subject, gender, seniority, and natural disaster experience, and the mutual relationship between environmental identity and environmental risk perceptions. The environmental identities and environmental risk perceptions of classroom teachers (n= 197) and science teachers (n= 112) were analyzed in accordance with the first problem.

The analysis showed that the desire to be nature-connected ($\overline{X}$ = 4.40; ss=.64) and environmental identities ($\overline{X}$ = 4.30; ss=.64) of classroom teachers (n= 197) were extremely high (Strongly Agree). Resemblance to nature ($\overline{X}$ = 4.15 ss=.66) and environmental behavior ($\overline{X}$ = 4.04; ss=.77) were high (Agree). It was seen that the level of environmental identity ($\overline{X}$ = 4.30; ss=.64), desire to be nature-connected ($\overline{X}$ = 4.40; ss=.64), resemblance to nature ($\overline{X}$ = 4.15 ss=.66), and environmental behavior ($\overline{X}$ = 4.04; ss=.77), sub-factors of environmental identity, of science teachers (Strongly Agree) were extremely high.

When the environmental risk perceptions of teachers were analyzed, it was concluded that the classroom teachers thought that the resource depletion risk ($\overline{X}$ = 5.43; ss= 1.13) as important, and ecological risks ($\overline{X}$ = 6.25; ss=.86), chemical waste risk ($\overline{X}$ = 6.34; ss=.82) and global environment risks ($\overline{X}$ = 6.22; ss= .82) as very important. Similarly, science teachers thought that resource depletion risk ($\overline{X}$ = 5.57; ss= 1.11) as important, ecological risks ($\overline{X}$ = 6.37; ss=.68), chemical waste risk ($\overline{X}$ = 6.51; ss=.63) and global environment risks ($\overline{X}$ = 6.34; ss= .75) as very important.

There is no significant difference in environmental identity (U=11342.50, p > 0.05), desire to be nature-connected (U=11462.50, p > 0.05), to nature (U=10462.50, p > 0.05), and ecological behavior (U=10799.50, p > 0.05) according to the results of the Mann Whitney U test, which was conducted to test the differences in environmental identity and environmental risk perception among teachers based on gender. A significant difference in favor of women regarding perceptions of global environmental risks (U=9348.50, p<0.05) and ecological risks (U=9870.00, p<0.05) was found in environmental risk perceptions. There is no significant difference between the chemical waste risk (U=10354.50, p<0.05) and the resource depletion risk (U=10643.500, p>0.05).

Table 2. *U-Test Results on Differences in Environmental Identity and Environmental Risk Perception by Gender*

Factor	Gender	n	Mean of Ranks	Total of Ranks	U	p
Environmental Identity	Female	180	156.49	28167.50	11342.500	.727
	Male	129	152.93	19727.50		
Desire to be Nature-Connected	Female	180	115.82	28047.50	11462.500	.845
	Male	129	153.86	198.4750		
Resemblance to Nature	Female	180	161.38	29047.50	10462.500	.134
	Male	129	146.10	18847.50		
Environmental Behavior	Female	180	159.50	28710.50	10799.500	.282
	Male	129	148.72	19184.50		
Ecological Risks	Female	180	164.67	29640.00	9870.000	.022*
	Male	129	141.51	18255.00		
Chemical Waste Risks	Female	180	161.98	29155.50	10354.500	.091
	Male	129	145.27	18739.50		
Resource Depletion Risk	Female	180	160.37	28867.00	10643.000	.209
	Male	129	147.50	19028.00		
Global Environment Risk	Female	180	167.56	30161.50	9348.500	.002*
	Male	129	137.47	17733.50		

*p<.05

Table 3. *U-Test Results on the Difference in Environmental Identity and Environmental Risk Perceptions by Subject*

Factor	Subject	n	Mean of Ranks	Total of Ranks	U	p
Environmental Identity	Classroom Teacher	197	150.87	29720.50	10217.500	.276
	Science Teacher	112	162.27	18174.50		
Desire to be Nature-Connected	Classroom Teacher	197	152.11	29965.50	10462.500	.438
	Science Teacher	112	160.08	17929.50		
Resemblance to Nature	Classroom Teacher	197	149.26	29403.50	9900.500	.130
	Science Teacher	112	165.10	18491.50		
Environmental Behavior	Classroom Teacher	197	148.25	29205.50	9702.500	.070
	Science Teacher	112	166.87	18689.50		
Ecological Risks	Classroom Teacher	197	151.96	29937.00	10434.000	.418
	Science Teacher	112	160.34	17958.00		
Chemical Waste Risk	Classroom Teacher	197	149.58	29467.50	9964.500	.141
	Science Teacher	112	164.53	18427.50		
Resource Depletion Risk	Classroom Teacher	197	150.20	29588.50	10085.500	.208
	Science Teacher	112	163.45	18306.50		
Global Environment Risk	Classroom Teacher	197	150.93	29734.00	10231.000	.271
	Science Teacher	112	162.15	18161.00		

Table 3 shows the results of the Mann-Whitney U test conducted to determine the differences between environmental identity and teachers' perceptions of environmental risks by their subjects, which is another subproblem.The analysis conducted did not result in a significant difference in environmental identities and environmental risk perceptions of teachers according to their branches [environmental identity (U=10217.50, p>0.05), desire to be nature-connected (U=10462.50, p>0.05), resemblance to nature (U=9900.50, p>0.05), environmental behavior (U=9702.50, p>0.05), ecological risks (U=10434.00, p>0.05), chemical waste risk (U=9964.50, p>0.05), resource depletion risk (U=10085.50, p>0.05) global environment risk (U=10231.00, p>0.05)].

Table 4. *U-Test Results on the Differences in Environmental Identity and Environmental Risk Perceptions According to the Natural Disaster Experiences of Participants*

Factor	Natural Disaster Experience	n	Mean of Ranks	Total of Ranks	U	p
Environmental Identity	Yes	161	153.02	24637.00	11596.000	.683
	No	148	157.15	23258.00		
Desire to be Nature-Connected	Yes	161	145.16	23370.00	10329.000	.038*
	No	148	165.71	24525.00		
Resemblance to Nature	Yes	161	151.03	24315.50	11274.500	.410
	No	148	159.32	23579.50		
Environmental Behavior	Yes	161	156.66	25223.00	11646.000	.725
	No	148	153.19	22672.00		
Ecological Risks	Yes	161	158.24	25476.50	11392.500	.497
	No	148	151.48	22418.50		
Chemical Waste Risk	Yes	161	157.46	25351.00	11518.000	.599
	No	148	152.32	22544.00		
Resource Depletion Risk	Yes	161	168.24	27086.00	9783.000	.006*
	No	148	140.60	20809.00		
Global Environment Risk	Yes	161	159.07	25610.00	11259.000	.387
	No	148	150.57	22285.00		

*p < .05

Table 4 presents the Mann-Whitney U Test results regarding the significant difference in teachers' environmental identities and environmental risk perceptions according to their natural disaster experiences, which is another sub-problem. The analyzes revealed a significant difference in favor of teachers who had not experienced natural disasters in the desire for nature connectedness sub-dimension of environmental identity (U=10329.00, p < 0.05), no difference was found in other sub-dimensions [environmental identity (U=11596.00, p > 0.05), nature connectedness (U=11274.50, p > 0.05), environmental behavior (U=11646.50, p > 0.05)].While there was a significant difference in the sub-dimension resource depletion (U=9783.000, p < 0.05) of the environmental risk perception scale in favor of teachers who had experienced natural disasters, in the other sub-dimensions [ecological risk (U=11392.50, p > 0.05), chemical waste risk (U=11518.00, p > 0.05), global environmental risk (U=11259.00, p > 0.05)], no significant difference was found.

Table 5. *Correlations for Study Variables*

Variables	Ecological Risks	Chemical Waste Risk	Resource Depletion Risk	Global Environment Risk
Environmental Identity	.44**	.44**	.11*	.39**
Desire to be Nature-Connected	.35**	.35**	.06	.31**
Resemblance to Nature	.41**	.41***	.12*	.36**
Environmental Behavior	.37**	.36**	.13*	.35**

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

Table 5 shows the Spearman correlation analysis results. According to the results of Spearman correlation analysis performed to determine the relationship between teachers' environmental identity (n= 309) and their perception of environmental risks, which is the last problem set, environmental identity and ecological risks were (r=.44; p <.01), chemical waste risk (r=. .44; p <.01), and global environmental risks (r=.39; p <.01) were positively moderately correlated, and resource depletion risk (r=.11; p <.05) was positively weakly correlated with the above risks. The other sub-dimensions, the desire to be nature-connected and ecological risks (r=.35; p<.01), chemical waste risk (r=.35; p<.01) and global environmental risks (r=.31; p<.01)) was positively moderately correlated, and no correlation was found with the resource depletion risk (r=.06; p>.05). There was a moderate positive correlation between the resemblance to nature sub-dimension and ecological risks (r=.41; p<.01), chemical waste risk (r=.41; p<.01), and global environmental risks (r=.36; p<.01), and a weak positive correlation with the resource depletion risk (r=.12; p<.05). Lastly, there was a moderate positive correlation

between environmental behavior and ecological risks (r=.37; p<.01), chemical waste risk (r=.36; p<.01), and global environmental risks (r=.35; p<.01), and a weak positive correlation with the resource depletion risk (r=.13; p<.05).

4. Conclusion and Discussion

Data collected from 309 teachers were analyzed in this study. The environmental identities and environmental risk perceptions of classroom and science teachers were examined according to several variables using the correlational survey model. The results obtained as a result of the analysis are presented and discussed.

First, the descriptive analysis results of teachers' environmental identity and environmental risk perceptions are presented. Classroom teachers' environmental identities and desire to be nature-connected were relatively high, and their resemblance to nature and environmentalist behaviors was high. Environmental identity perceptions of science teachers were quite high in all sub-dimensions. Different results were obtained from studies conducted to measure environmental identities or risk perceptions in different sample groups. It was determined that the environmental identities of pre-service teachers in different subjects were very strong (Öztarakçı, 2019), and the environmental identities of pre-service science teachers were relatively strong (Tanık Önal et al., 2020).

According to the descriptive analysis results of environmental risk perceptions of teachers, classroom teachers perceive the resource depletion risk high and chemical waste, ecological, and global environmental risks at a very high level. On the other hand, science teachers perceive the resource depletion risk of environmental risks at a high level and chemical waste, ecological and global environmental risks at a very high level. Due to the inadequacy of studies to determine environmental risks in teacher groups, the findings obtained in this study were discussed with the results obtained from different sample groups. Accordingly, in a study conducted with high school students, the perception of environmental risks was found to be above the mean level (Altunoğlu & Atav, 2009), while in a study conducted with adolescents, the perception of environmental risks was at a significant level (Tuemer & Suemen, 2020).Risk perceptions of university students (Sam et al., 2010) and nursing department students in another study were also found to be high (Sayan & Kaya, 2016). In different studies, the highest perceived risk in university students was found to be the release of radioactive materials associated with nuclear energy production (Yapici et al., 2017), and the risk for chemical pollution of water and food was at a high level (Carducci et al., 2019).

The study concluded that the environmental identities of classroom and science teachers did not differ according to gender. This finding partially overlaps with the findings in the literature. While one study concluded that pre-service teachers' environmental identities did not differ by gender (Oeztarakçı, 2019), another study that measured environmental identity found that female teachers identified more strongly with an environmental consumer identity than male teachers. (Gatersleben et al., 2012).

Looking at the result of differentiation in teachers' perception of environmental risks, it became clear that women perceive ecological risks and global environmental risks more than men doThere was no difference in the views of male or female participants in other sub-dimensions. Some studies in the literature showed no difference based on gender in environmental risks, while in some studies, it was observed that male participants had higher risk perceptions, while others stated that female participants had a higher risk perception. To support the finding of this study, studies have shown that environmental risk perception does not differ by gender among secondary school students (Kahyaoğlu, 2012; Palancı & Sarıkaya, 2019), adolescents (Tümer & Suemen, 2020), and young professionals (Kızılay & Tanık Önal, 2019). A study conducted with university students determined that female participants had higher risk perceptions than male participants (Sam et al., 2010; Yapici et al., 2017). Again, in the study in which the environmental risk perceptions of nursing department students were measured, it was determined that the risk perceptions of female students were significantly higher than male students (Sayan & Kaya, 2016). There are also findings indicating that environmental risk perceptions are higher in males. For example, in a study with a total of 1700 surveys in six cities in China, it was found that men have a higher risk perception than women (Liu et al., 2020).

According to the subject they teach, there was no difference in the environmental identity and environmental risk perceptions of classroom and science teachers. According to a similar finding, the environmental risk

perceptions of pre-service teachers do not differ according to the subject (Kahyaoğlu, 2012). This study has stated that environmental identities and environmental risk perceptions are important because classroom and science teachers are important actors in environmental education. In this study, it can be said that the environmental identities and environmental risk factors of classroom and science teachers did not differ, as the high environmental identities and environmental risk perceptions of both subject teachers can be understood from the descriptive analyses.

Teachers who stated that they did not experience natural disasters were more willing to be nature-connected than teachers who experienced natural disasters. Teachers who experienced natural disasters perceived the risk of resource depletion more strongly than teachers who did not experience natural disasters. On other subdimensions, the views of teachers who experienced natural disasters and those who did not did not differ. No other study in the literature examines the relationship between natural disaster experience and risk perception or environmental identity.However, it has been stated that the interaction of young people with citizens affected by climate change is essential for developing their environmental identities (Stapleton, 2015).

Teachers who did not experience natural disasters had a higher desire to be nature-connected than teachers who experienced natural disasters can be explained by the fact that teachers who have experienced natural disasters associate themselves less with the environment. On the other hand, the perception of the resource depletion risk of teachers experiencing natural disasters may be related to the possibility of establishing a relationship between resource depletion and the environmental disasters they experienced.

There was a positive relationship between environmental identities and environmental risk perceptions of teachers. There was a moderate positive correlation between the dimensions of environmental identity, being nature-connected, resemblance to nature and environmental behavior, and ecological risks, chemical waste risk, and global environmental risks when the context of sub-dimensions was considered. There was a low positive correlation between environmental identity, resemblance to nature, environmental behavior, and resource depletion risk. However, there was no correlation between being nature-connected and resource depletion risk.

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The Mediating Role of Resilience and Personality Traits in the Relationship between Social Isolation and Psychological Well-Being in the COVID-19 Pandemic

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ABSTRACT

The present study investigates the mediating role of psychological resilience and personality traits in the relationship between the social isolation process implemented during the pandemic period and the psychological well-being of individuals. The predictive correlational model based on the relational survey method, one of the quantitative research methods, was used in the study. The study participants consisted of 238 people through the convenient sampling model, 66 men and 172 women. Personal Information Form, Social Isolation subtest of Nottingham Health Profile Scale, short form of the Psychological Resilience Scale, Warwick-Edinburgh Mental Well-Being Scale and short form of the Five-Factor Personality Scale were used as data collection tools in the study. While determining the mediating effects in the data analysis, a regression analysis based on the bootstrap method was performed with the Process Macro. As a result of the research, it was found that resilience mediated the relationship between the perception of social isolation and psychological well-being. When the mediating effect of personality dimensions was examined, it was found that the mediating effect of conscientiousness, neuroticism, and extraversion dimensions were significant. In contrast, the mediating effects of openness to experience and agreeableness dimensions were not statistically significant. Since the psychological effects of the pandemic differ from person to person, determining the differentiation of the effects of social isolation in individuals may contribute to understanding the possible risky and protective factors. For this purpose, it is thought that this study, which reveals the possible mediating effects of psychological resilience and personality traits as two individual characteristics, will contribute to the determination of priority treatment groups by mental health professionals.

Keywords:
Social isolation, psychological well-being, resilience, personality traits

1. Introduction

The coronavirus (COVID-19) first appeared in Wuhan, China, in late 2019 and soon turned into a global pandemic (World Health Organization [WHO], 2020). In the process of spreading the pandemic on a global scale, in line with the recommendations of the WHO, countries implemented measures to prevent the gathering of human communities such as short and medium-term quarantines, voluntary or compulsory curfews, suspension of formal education, cancellation and postponement of artistic, social and public events (Usher et al., 2020). The quarantine and social isolation practices, which were implemented within the scope of pandemic measures and uncertain when they will end, have changed people's daily life routines, brought significant limitations to social relations, and made it difficult to reach social support. Social isolation does not mean to isolate oneself from people as a voluntary choice, but to physically distance from other people

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(Cacioppo & Patrick, 2008); however, in cases of prolonged social isolation, the tendency to become lonely may increase (Hwang et al.,2020; Lee et al.,2020). Variables such as rapidly changing daily routines, work and working conditions, economic difficulties, loneliness, disconnection from social support networks, fear of disease and contagion, fear of losing relatives, and uncertainties about the future can cause negative changes in people's psychological well-being.

It has been demonstrated that the measures implemented during the COVID-19 pandemic may cause an increase in the severity of symptoms in people with psychiatric diagnoses and symptoms in people who do not have any psychiatric diagnoses (Cullen et al., 2020). A meta-analysis found that socially isolated patients, caregivers, and healthcare workers reported high levels of mental health problems, and the most common health problems were depression, anxiety, mood disorders, psychological distress, post-traumatic stress disorder, insomnia, fear, stigma, and low self-esteem and self-control (Hossain et al., 2020). A publication compiled of 24 studies investigating the effects of social isolation on the mental health of healthy samples shows that symptoms of post-traumatic stress, fear, anger, confusion, and emotional exhaustion are common (Brooks et al., 2020). The psychological effects of the epidemic on a global scale show similarity between cultures. In a study of 1210 participants in China, more than half of the participants rated the psychological effects of the epidemic as moderate to severe, with 16.5% moderate to severe depressive symptoms, 28.8% moderate to severe anxiety symptoms, and 8.1% reported moderate to severe stress levels (Wang et al., 2020). In a study conducted in Spain with 976 participants, it was reported that the anxiety, depression, and stress levels of the participants increased during the one-week period when quarantine measures were applied (Ozamiz-Etxebarria et al., 2020). In a study conducted in Norway with 10,084 participants, it was shown that social isolation increased the depression and anxiety levels of the participants (Hoffart et al., 2020). In a recent meta-analysis, data from eight countries (China, Spain, Italy, Iran, Turkey, USA, Nepal and Denmark) since 17 May-2020 were examined. The results showed that participants had relatively high levels of anxiety (from 6.33% to 50.9%), depression (from 14.6% to 48.3%), post-traumatic stress disorder (from 7% to 53.8%), psychological distress (from 34.43% to 38%), and stress (from 8.1% to 81.9%) (Xiong et al., 2020). A recent study that conducted a meta-analysis of twenty-five longitudinal studies stated that the long-term effects of quarantines on mental health had a small effect size for depression and anxiety (Prati & Mancini, 2021). In this context, although the literature presents different data in cross-sectional and longitudinal studies on the effects of isolation on mental health, it is clear that cross-sectional studies consistently show the significant negative effects of social isolation on mental health that last for a certain time.

When the factors that contribute to the protection of the mental health of individuals during the social isolation process are examined, interpersonal relationships and some individual characteristics come to the fore. In this context, it is reported that participating in large and diverse social networks and establishing satisfactory social relationships are protective factors against depression in the isolation process (Sher, 2020). Additionally, physical activity reduces the negative effects of stress (Fernandez-Rio et al., 2020). It has been shown that going outdoors more often, exercising, getting social support from family and friends, sleeping regularly, and praying more often during the pandemic increase psychological resilience and help protect mental health (Killgore et al., 2020).

1.1. Psychological Resilience

Individual characteristics such as psychological resilience come to the fore in the literature when dealing with stressful disasters, quarantine, and social isolation. Resilience is defined as the potential that enables individuals to cope effectively with stressful situations (Fletcher & Sarkar, 2013). It is thought that this potential is determined by the interaction of various biological, psychological, cultural, and social factors (Southwick et al., 2014). Psychological resilience reduces mental problems caused by highly stressful events such as disasters (Blackmon et al., 2017, as cited in Parades et al., 2021). In a study conducted with 1770 participants during the first peak of the epidemic in China, it was found that there was a negative correlation between the psychological resilience levels of the participants and their depression, anxiety, and somatization scores (Ran et al., 2020). Consistent with this finding, in another study conducted in the USA with a sample of 6008 people, it was determined that in the first months of the epidemic, individuals with low and normal resilience levels experienced more mental distress than those with high resilience levels (Riehm et al., 2021).

1.2. Personality Traits

Personality traits are one of the individual factors influencing psychological well-being during the social isolation process. Although personality has been defined using various theoretical frameworks, the most widely used personality classification to date is the Five-Factor Model (Sleep et al., 2020). Research from the psychometric tradition has established a five-factor personality structure based on factor analysis, including the dimensions of Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience (McCrae & Costa, 1987). According to this model, extroverts are social, active, sociable, sympathetic, optimistic, energetic, reward-sensitive, and thrill-seeking. People who score high in agreeableness come to the fore with the characteristics of trust, honesty, altruism, obedience, compassion, and humility. People with high scores in responsibility or conscientiousness are defined by their regularity, plannedness, stability, and determination. Individuals who score high in the neuroticism sub-dimension are generally defined as anxious, insecure, have difficulty coping with stress, and have difficulty controlling their negative emotions such as anger, sadness, and anxiety (Burger, 2006; McCrae & Costa, 1989). The Five-Factor Model, openness to experience, expresses intellectual capacity. Accordingly, people who score high in this sub-dimension have characteristics such as being open-minded, broad-minded versus narrow-minded, intellectual, enlightened, curious, and inquisitive (Costa &, McCrae 1988).

The evidence that the Five-Factor sub-dimensions are associated with psychological well-being is largely consistent in the pre-pandemic period. It has been determined that getting high scores on extraversion and low on neuroticism is associated with psychological well-being and successfully controlling intense emotions (Larsen & Eid, 2008). Although their correlations are lower, it has been reported that the dimensions of agreeableness, responsibility, and openness to experience are also associated with psychological well-being (Steel et al., 2008).

When the literature on the relationships between resilience and personality factors was examined, the mediating effect of which was examined in this study, Kocjan et al. (2020) discovered that resilience was protective in the ability of individuals to maintain psychological functionality in stressful situations such as social isolators in a study conducted with 2722 participants aged between 18 and 82. In addition, it was found that resilience and personality traits mediate the relationship between individuals' psychological functioning. In their study with 254 adults, Sahni et al. (2021) found that participants who scored high in the sub-dimensions of responsibility, openness to experience, and neuroticism had more variability in their resilience levels.

In a meta-analysis examining the data of 15,609 participants from 30 studies on the relationship between resilience and personality traits, it was found that all sub-dimensions had medium effect sizes with resilience; that the neuroticism sub-dimension is negatively associated with resilience, while the sub-dimensions of extraversion, agreeableness, responsibility, and openness to experience are positively associated with resilience (Oshio et al., 2018).

In a study of 502 participants from the United States, the relationship between personality traits and anxiety and depression levels related to the pandemic was investigated. It was discovered that extraversion, conscientiousness, and agreeableness sub-dimensions were protective; neuroticism sub-dimensions were risk factors for anxiety and depression; and openness to experience sub-dimension was associated with anxiety (Nikcevic et al., 2021). In a study conducted in Canada with 1096 participants, mental health was positively related to the extraversion sub-dimension and negatively related to the neuroticism sub-dimension (Shokrkon & Nicoladis, 2021). It is emphasized that individuals who score high in the neuroticism sub-dimension tend to perceive their current conditions as more threatening and have high stress levels. Individuals with high scores in the extraversion sub-dimension have increased stress levels because they lack social stimulus due to isolation (Liu et al., 2021). In a study conducted with 250 female and 250 male university students aged 18-24 in India investigating the relationship between psychological well-being and personality dimensions of the participants during the pandemic process, high scores in the sub-dimensions of extraversion, neuroticism, and openness to experience were found to be associated with psychological well-being negatively. In contrast, agreeableness and responsibility sub-dimensions were positively related to psychological well-being (Gupta & Parimal, 2020). It has been reported that the effects of the Five-Factor personality traits on psychological well-being weakened under pandemic conditions, and a significant weakening occurred, especially in the

positive effect of extraversion on psychological well-being (Anglim & Horwood, 2021). In a recent study conducted with 765 participants in China, it was found that participants with high scores in extraversion, agreeableness, responsibility, and openness to experience and low scores in neuroticism were the most successful group in protecting their mental health under pandemic conditions. In contrast, participants with low levels of extraversion, agreeableness, responsibility, openness to experience, and high neuroticism have a higher risk of experiencing depression, anxiety, and post-traumatic stress disorder (Li et al., 2021). A study conducted with 142 university students in China showed that high scores in the neuroticism sub-dimension were positively associated with anxiety and depression levels. In contrast, the sub-dimensions of extraversion, agreeableness, responsibility, and openness to experience were negatively associated with anxiety and depression levels (Zhang et al., 2021). Modersitzki et al.'s (2020) study with 1320 participants in Germany put forth that participants with high scores on extraversion and neuroticism tended to find the measures taken against the pandemic more restrictive and make more negative evaluations. On the other hand, it is reported that participants who score high in the openness to experience sub-dimension have less negative evaluations of current conditions. In another study conducted with a young and middle-aged (16-49 years) German sample, neuroticism was associated with a more negative perception of constraints, while openness to experience was associated with a more positive perception of the situation. In addition, only those who do not have a romantic partner perceive the situation more negatively (Schmiedeberg & Thönnissen, 2021).

An online study conducted on a small sample of 51 people in Germany found that extroverts were highly affected by quarantine measures in terms of mental health, and periods of relaxation provided partial relief; extraversion, which is known to be a protective factor for mental health in 'normal times', is ineffective in this period. In addition, it has been reported that individuals in the neuroticism sub-dimension, which are known to create vulnerability in terms of mental health, have difficulty coping with stress during the pandemic period. Individuals with high scores in the responsibility sub-dimension are more successful in coping with restrictions due to their tendency to enjoy obeying the rules, even in uncertain situations (Weib et al.,2020). In a study in which data from a total of 1290 participants from three countries, Germany (N=213), Israel (N=917) and India (N=160), were analyzed, it was found that high scores in the neuroticism sub-dimension related positively with depression and high scores in the responsibility sub-dimension were negatively associated with depression (Nudelman et al., 2021).

The literature on the negative effects of pandemic-related restrictions on psychological well-being is largely consistent, and resilience appears to be a protective factor associated with psychological health. On the other hand, it is seen that the research findings on the predictive effect of personality traits are quite different from each other. As far as we know, the mediating effect of personality traits on the psychological well-being of social isolation is examined for the first time in this study.

The psychological effects of the pandemic differ from person to person. Showing differentiations of social isolation according to some variables may contribute to understanding the possible risky and protective factors. For this purpose, revealing the possible mediating effects of psychological resilience and personality traits as two individual characteristics may contribute to the determination of priority treatment groups by mental health professionals. In this context, the current study investigates the mediating effect of psychological resilience and personality traits on the psychological well-being of individuals (extraversion, responsibility, agreeableness, neuroticism, openness to experience) resulting from the social isolation processes implemented during the pandemic.

2. Methodology

2.1.Research Model

In this study, a multi-factor predictive correlational design was used to test direct and indirect relationships, one of the quantitative research methods. In predictive correlation studies, the relationships between variables are examined, and one of the variables is tried to be predicted based on the other. Among these variables, the variable whose value is known to be predicted is called the predictor variable (predictor), and the variable whose value will be determined is called the criterion variable (Büyüköztürk et al., 2012; Fraenkel et al., 2012). The mediating role of psychological resilience and personality traits in the relationship between social isolation and psychological well-being during the COVID-19 pandemic process has been examined. The following hypotheses have been tested in this context.

- H_1: Psychological resilience plays a mediator role in the relationship between social isolation and psychological well-being.
- H_2: Personality traits (extraversion, conscientiousness, agreeableness, neuroticism, openness to experience) play a mediating role in the relationship between social isolation and psychological well-being.

2.2. Research Sample

The study included 238 people, 66 men (27.7 %) and 172 women (72.3 %), as determined by the convenience sampling model. Convenience sampling is a nonprobability or nonrandom sampling. Convenience sampling is popular because it is not costly, not as time-consuming as other sampling strategies, and simplistic. Convenience sampling is useful for generating a potential hypothesis or study objective (Stratton, 2021). The ages of the participants were between 18 and 65, with a mean of 32.72 and a standard deviation of 11.07. According to their educational status, 16 (6.7%) participants were primary school-high school graduates, 141 (59.2%) undergraduates, and 81 (34.2%) graduates.

2.3. Data Collection Tools and Procedure

The research data were collected using the *Personal Information Form, Nottingham Health Profile Scale, Short Form of the Psychological Resilience Scale, Warwick-Edinburgh Mental Well-Being Scale,* and *The Short Form of the Five-Factor Personality Scale.* Information on the psychometric properties of the measurement tools used in the research is presented below.

Personal Information Form. In the personal information form prepared by the researcher, there are questions to collect the participants' introductory information, such as age, gender, and educational status.

Nottingham Health Profile Scale. The scale was developed by Hunt et al. (1985) to measure people's perception of health and was adapted into Turkish by Küçükdeveci et al. (2000). Like the original version, the Turkish version consists of a total of 38 items in six sub-dimensions: sleep, physical activity, energy level, pain, emotional reactions, and social isolation. In the current study, the social isolation sub-dimension of this scale was used. The relevant sub-dimension consists of 5 items, and the Cronbach Alpha internal consistency coefficient is .87.

Short Form of the Psychological Resilience Scale (BPRS). It was developed by Smith et al. (2008) to measure the resilience levels of individuals. The Turkish validity and reliability study of the scale was conducted by Doğan (2015). BPRS consists of 6 items, with a 5-Likert-type response as "Not at all appropriate" (1), "Inappropriate" (2), "Slightly Appropriate" (3), "Appropriate" (4), and "Totally Appropriate" (5). Scale items 2, 4, and 6 are reverse coded. High scores obtained after these items are coded reversely indicate a high level of psychological resilience. The Cronbach Alpha internal consistency coefficient for the Turkish scale is .83.

Warwick-Edinburgh Mental Well-Being Scale. It was developed by Tennant et al. (2007) to present a broad definition of well-being, including hedonic and eudaimonic dimensions, and draw attention to a comprehensive understanding of mental well-being levels. The validity and reliability study of the Warwick-Edinburgh Mental Well-Being Scale Turkish Short Form (WEMWB-SF) was conducted by Demirtaş and Baytemir (2019) on a sample of university students. WEMWB-SF is a 5-point Likert-type, 7-item scale consisting of positive statements, and participants were asked to answer by considering their experiences in the last two weeks during implementation. In scoring, a minimum of 5 and a maximum of 35 points can be obtained, including 1 (never), 2 (rarely), 3 (sometimes), 4 (often), and 5 (always). High scores indicate mental well-being. The Cronbach Alpha reliability coefficient for WEMWB-SF is .86.

The Short Form of the Five-Factor Personality Scale. The Short Form of the Five-Factor Personality Scale developed by Tatar (2016) was used to measure the participants' personality traits. The scale consisted of five factors: extraversion, agreeableness/amenability, conscientiousness/responsibility, emotional inconsistency, and openness to experience. It consists of 85 items with five-point Likert-type response options ranging from 'totally agree (1)' to 'not at all appropriate (5)'. Reliability coefficients of the sub-dimensions of the scale were calculated as .74-.78, .77-.80, .65-.71, .85-.86, and .74-.78 respectively.

2.4. Data Analysis

A regression analysis based on the bootstrap method was performed to determine the mediating role of psychological resilience and personality dimensions in the effect of social isolation on psychological well-being (Hayes, 2018). 5000 resampling options were preferred with the bootstrap technique during the analyzes using the Process Macro program developed by Hayes (2018). In the mediation effect analysis performed with the bootstrap technique, the values in the 95% confidence interval (CI) obtained as a result of the analysis should not include the zero (0) value for the research hypothesis to be accepted (MacKinnon et al., 2004, as cited in Gürbüz, 2019). Before the analysis, the required assumptions such as normality, multicollinearity, independence of residuals, extreme values, etc., were checked, and analyzes were carried out, assuming that no violations were found.

2.5. Ethical

Ethical permission of the study was provided by Düzce University Scientific Research and Publication Ethics Committee with the approval number 2021/201 and date 29.07.2021. The research data were obtained online via Google Forms completely voluntarily.

3. Findings

In this part of the study, findings regarding the mediating effect of psychological resilience and personality traits in the relationship between social isolation and psychological well-being are included. First, the correlations between continuous variables were presented, and then the mediation effects were tested.

Pearson Moments correlation analysis was performed to determine the relationships between social isolation, resilience, personality dimensions, and psychological well-being, and the results are presented in Table 1 below.

Table 1. *Correlation Analysis Results between School Climate and School Effectiveness Social Isolation, Resilience, Personality Dimensions and Psychological Well-being*

	1	2	3	4	5	6	7	8
1. Social Isolation	1							
2. Psychological Resilience	-.332**	1						
3. Extraversion	.279**	-.256**	1					
4. Agreeableness	.309**	-.010	.124	1				
5. Conscientiousness	.265**	-.316**	.222**	.180**	1			
6. Neuroticism	-.532**	.570**	-.281**	-.209**	-.385**	1		
7. Openness to experience	.075	-.168**	.313**	.268**	.146*	-.215**	1	
8. Psychological Well-being	-.553**	.582**	-.361**	-.242**	-.455**	.655**	-.158*	1

**p<.01, *p<.05

As seen in Table 1, significant negative relationships were found between social isolation and mental well-being (r=-.553; p=.000) and psychological resilience (r=-.332; p=.000) during the COVID-19 pandemic. There is a positive and significant relationship between psychological resilience and psychological well-being (r=.582; p=.000). When the relationships between psychological well-being and personality dimensions were examined, it can be seen that the relationships between extraversion (r=-.361; p=.000), agreeableness (r=-.242; p=.000), conscientiousness (r=-.455; p=.000), and openness to experience (r=-.455; p=.015) is negative and significant. In contrast, there is a positive and significant relationship with neuroticism (r=.655; p=.000).

Findings on the Mediating Role of Resilience

Within the scope of the study's first hypothesis, the findings regarding the mediating role of psychological resilience in the relationship between social isolation and psychological well-being are presented in Figure 1 below (Note: Unstandardized coefficients have been reported.).

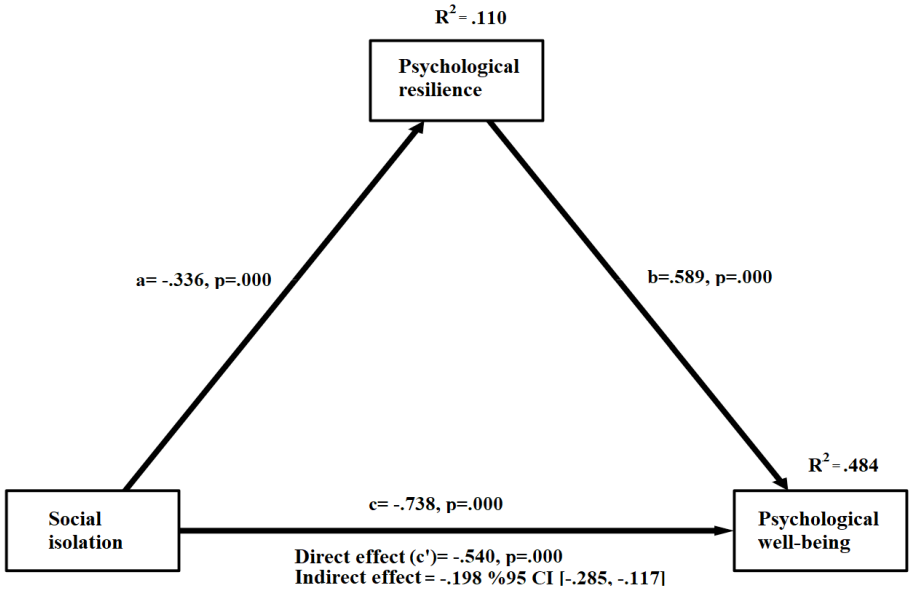

Figure 1. *The Mediating Role of Psychological Resilience in the Relationship Between Social Isolation and Psychological Well-Being (N=238)*

In Figure 1, the indirect effect of psychological resilience on the effect of social isolation on psychological well-being was examined according to the confidence intervals obtained with the Bootstrap technique. It was found that the effect of social isolation on mental well-being was significant and psychological resilience mediated the relationship between social isolation and psychological well-being (*b*= -.198, 95% BCA CI [-.2851, -.1167]). The fully standardized effect size of the mediator effect is (K^2)=-.15. When interpreting effect sizes, it is interpreted as a low effect if it is close to K^2= .01; medium if it is close to K^2= .09; and high if it is close to K^2= .25 (Preacher & Kelley, 2011, as cited in Gürbüz, 2019, p.64). The value calculated in this study corresponds to the medium effect size, and the study's first hypothesis was confirmed.

Findings on the Mediating Role of Conscientiousness

Within the scope of the study's second hypothesis, the mediating role of personality traits in the relationship between social isolation and psychological well-being was examined. Since personality consists of five sub-dimensions, separate mediation analyzes were conducted for each dimension. In this context, the findings regarding the mediating role of the conscientiousness dimension of personality are presented in Figure 2 below (Note: Unstandardized coefficients have been reported).

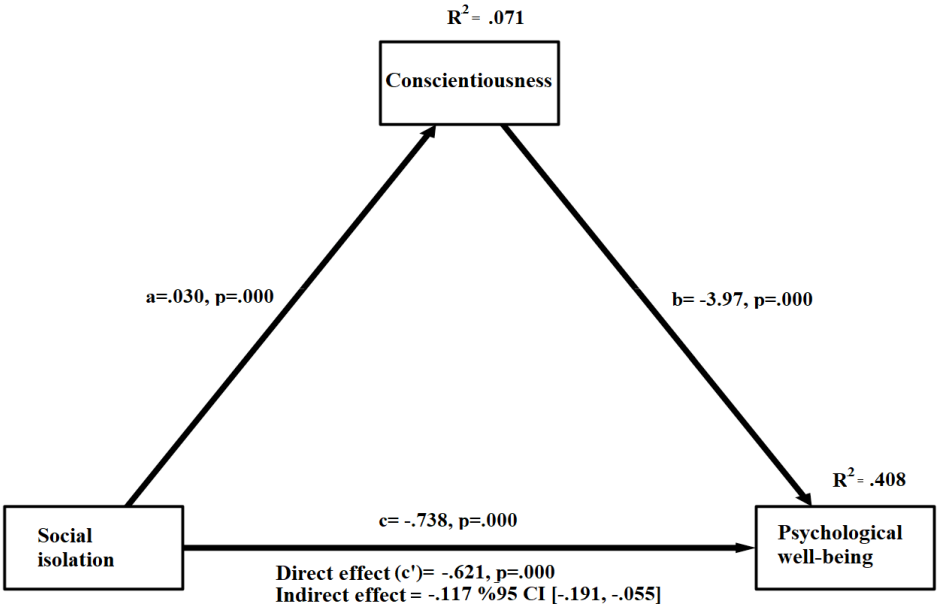

Figure 2. *The Mediating Role of Conscientiousness, which is a Personality Factor, in the Relationship Between Social Isolation and Psychological Well-Being*

According to the findings presented in Figure 2, the conscientiousness factor indirectly affects the relationship between social isolation and psychological well-being. In other words, the effect of social isolation on psychological well-being is significant, and the conscientiousness factor of personality mediates the relationship between social isolation and psychological well-being (*b*= -.117, 95% BCA CI [-.191, -.055]). The fully standardized effect size of the mediator effect is (K^2)=-.09, and this corresponds to the medium effect size.

Findings on the Mediating Role of Neuroticism

The findings regarding the mediating role of the neuroticism dimension of personality in the relationship between social isolation and mental well-being are presented in Figure 3 below (Note: Unstandardized coefficients have been reported).

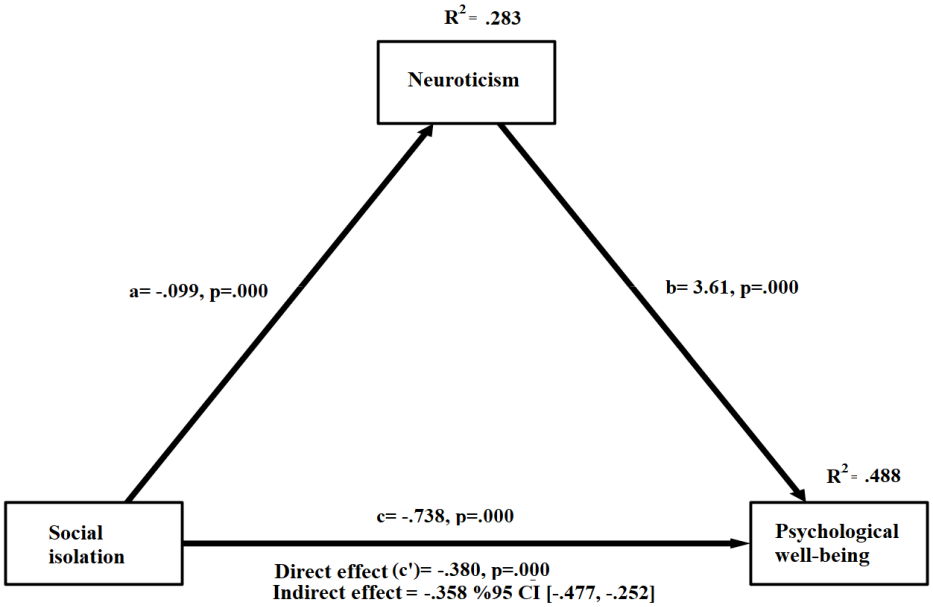

Figure 3. *The Mediating Role of Neuroticism, which is a Personality Factor, in the Relationship Between Social Isolation and Psychological Well-Being*

As seen in Figure 3, it was found that the effect of social isolation on mental well-being was significant, and neuroticism mediated the relationship between social isolation and well-being (*b*= -.358, 95% BCA CI [-.477, -.252]). The fully standardized effect size of the mediation effect (K^2) is -.27, which corresponds to a high effect size.

Findings on the Mediating Role of Extraversion

The findings regarding the mediating role of extraversion in the relationship between social isolation and psychological well-being are presented in Figure 4 below (Note: Unstandardized coefficients have been reported).

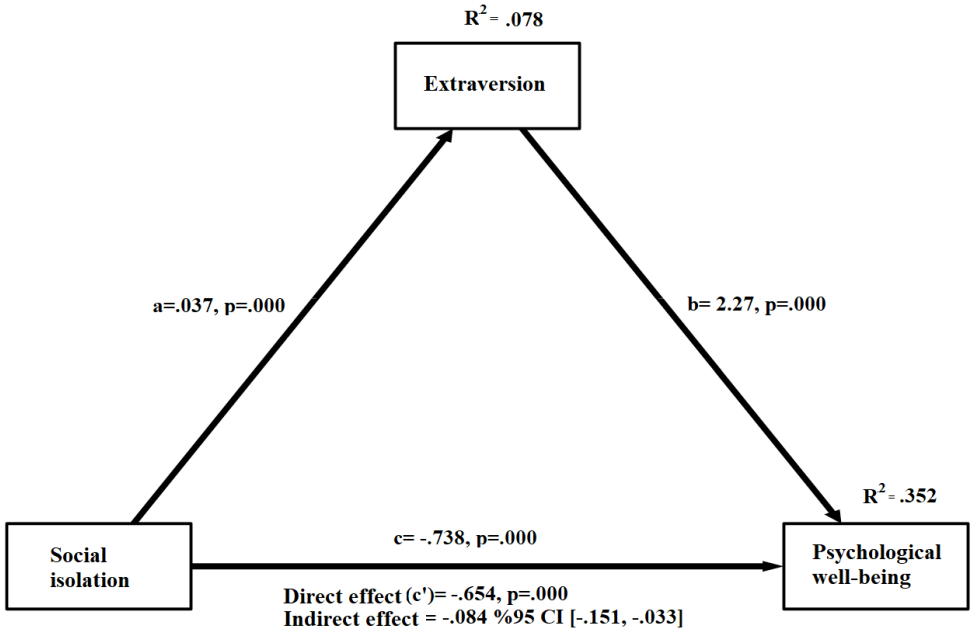

Figure 4. *The Mediating Role of Extraversion, which is a Personality Factor, in the Relationship Between Social Isolation and Psychological Well-Being*

As seen in Figure 4, the effect of social isolation on mental well-being is significant, and extraversion plays a mediating role in the relationship between social isolation and well-being (*b*= -.084, 95% BCA CI [-.151, -.033]). The fully standardized effect size (K^2) of the effect is -.06, which corresponds to a low effect size.

Findings on the Mediating Role of Openness to Experience

The findings regarding the mediating role of openness to experience in the relationship between social isolation and psychological well-being are presented in Figure 5 below (Note: Unstandardized coefficients have been reported).

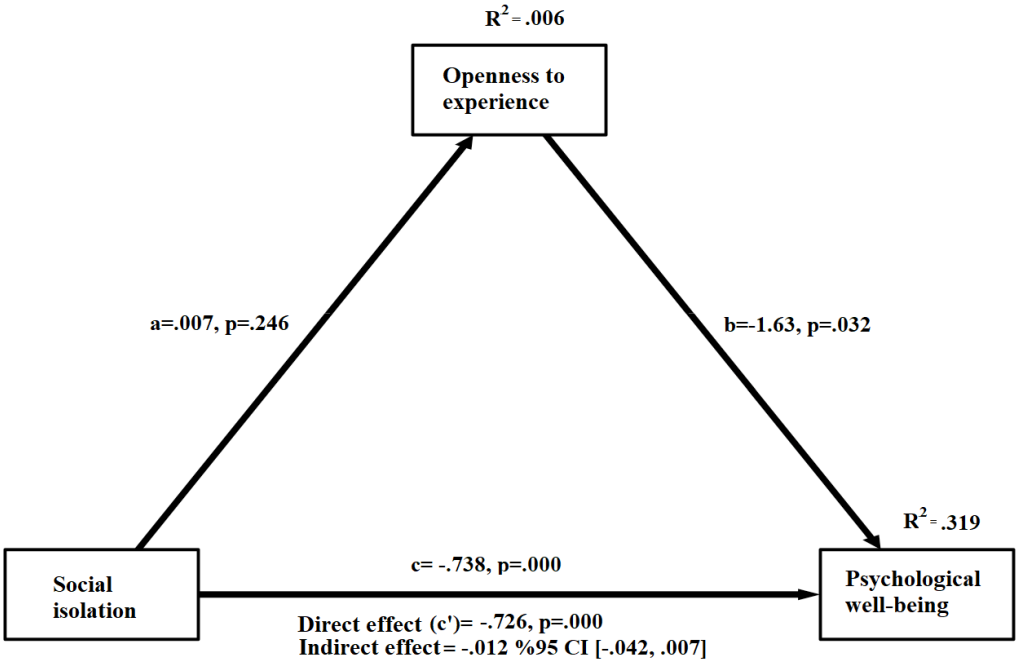

Figure 5. *The Mediating Role of Openness to Experience, which is a Personality Factor, in the Relationship Between Social Isolation and Psychological Well-being*

In Figure 5, whether the openness to experience factor has an indirect effect on the effect of social isolation on psychological well-being was calculated according to the confidence intervals obtained with the Bootstrap

technique. It was found that the mediating effect of openness to experience in the relationship between social isolation and mental well-being was not statistically significant (*b*= -. 012, 95% BCA CI [-.042,.007]).

Findings on the Mediating Role of Agreeableness

The findings regarding the mediating role of the agreeableness dimension of the personality in the relationship between social isolation and psychological well-being are presented in Figure 6 below (Note: Unstandardized coefficients have been reported).

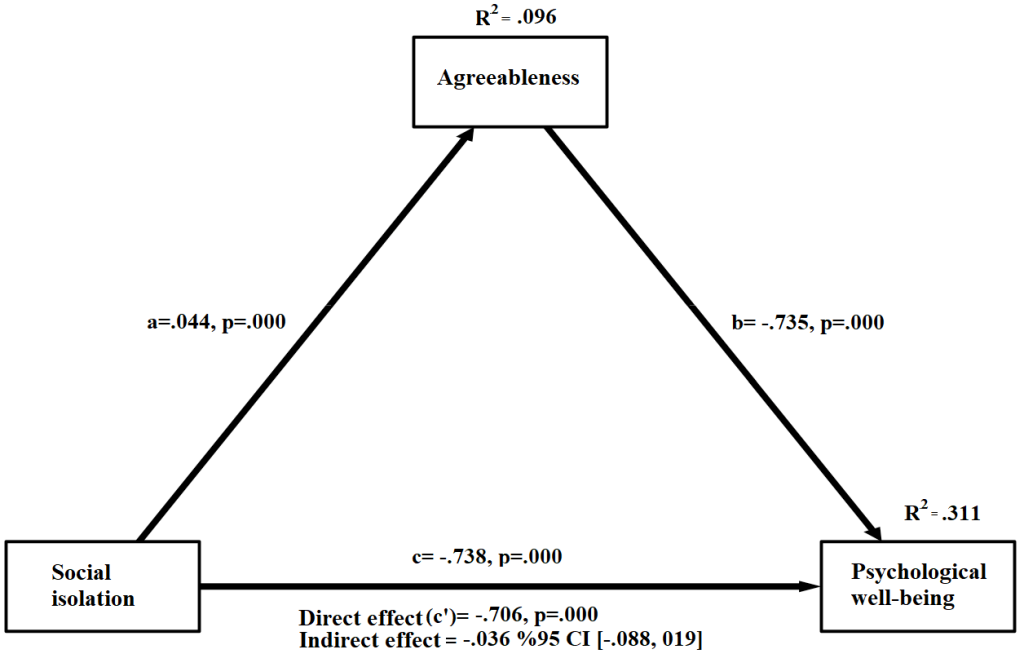

Figure 6. *The Mediating Role of Agreeableness, which is a Personality Factor, in the Relationship Between Social Isolation and Psychological Well-Being*

In Figure 6, whether the agreeableness factor has an indirect effect on the effect of social isolation on psychological well-being was calculated according to the confidence intervals obtained with the Bootstrap technique. It was found that the mediating effect of amenability in the relationship between social isolation and psychological health was not significant (*b*= -.032, 95% BCA CI [-.088, .019]).

According to these findings, within the scope of the second hypothesis, the mediating role of the personality dimensions in the relationship between social isolation and psychological health was tested. The mediating role of conscientiousness, neuroticism and extraversion was confirmed, while the mediating roles of agreeableness and openness to experience dimensions were not statistically significant.

4. Conclusion, Discussion, and Recommendations

To the best of our knowledge, the present study is the first study that reveals the mediating effect of resilience and personality traits on social isolation perception on individuals' psychological well-being during the pandemic. Two hypotheses were tested in the study. The findings confirmed the first hypothesis. Accordingly, individuals' perception of social isolation during the pandemic process impacted psychological well-being and psychological resilience mediated this relationship. A negative relationship was found between the perception of social isolation and resilience, according to which participants with high levels of resilience had a lower perception of social isolation. A negative relationship was found between the perception of social isolation and psychological well-being. Accordingly, as the perception of social isolation increases, the mental well-being scores of the participants decreases. The findings of this study are consistent with the findings of Havnen et al. (2020) that resilience plays a mediating role in stress-related anxiety and depression during social isolation. The high-resilience group has lower stress-related anxiety and depression levels than the low-resilience group. Studies examining the correlations between the relevant variables reveal that social isolation is negatively related to the mental health of individuals and that psychological resilience may be a protective factor in this process (Bilge & Bilge, 2020; Paredes et al., 2021; Salah et al., 2021). It is a widely accepted idea that psychological resilience, as a subjective feature, has a protective effect on mental health and is closely

related to psychological well-being (Connor & Zhang, 2006; Kuntz et al., 2016). This idea is in line with the approach of the World Health Organization, which defines mental health beyond the absence of a disease, as well-being and functioning in daily life (Keyes, 2002 as cited in Davydov et al., 2010; WHO, 2005).

Within the scope of the second hypothesis that personality traits play a mediating role in the relationship between the perception of social isolation and psychological well-being, the mediation effect was tested for each of the five sub-dimensions of personality: extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. According to the findings, while the mediating effect of extraversion, conscientiousness, and neuroticism was confirmed, the mediating role of openness to experience and agreeableness dimensions was not significant.

When the correlations between the perception of social isolation and personality traits were examined, it was seen that there was a positive relationship with extraversion, conscientiousness, and agreeableness, and a negative relationship with neuroticism. It was found that the relationship with the openness to experience sub-dimension was not significant. There is a positive relationship between mental well-being and neuroticism, and a negative relationship between mental well-being and extraversion, agreeableness, responsibility, and openness to experience.

Our findings are consistent with the studies which show that individuals with high levels of extraversion perceive social isolation as more restrictive during the quarantine period than individuals with low extraversion (Modersitzki et al.2020). Additionally, the lack of social stimulus due to isolation may cause more stress in extroverted individuals (Klapproth et al., 2020; Liu et al., 2021; Rotas & Cahapay, 2021), and as a result, psychological well-being decreases and mental health is negatively affected (Gupta & Parimal, 2020; Weib et al., 2020; Zacher & Rudolph, 2021). In a study conducted by Weib et al. (2020), the findings that the mental health status of individuals with high extraversion scores is directly related to their perceptions of social isolation and mental health status of these individuals improved during the periods when the measures were relaxed, support the positive relationship between the extroversion and social isolation perception scores shown in the current study. Extraverted individuals tend to participate in social activities, have social status, and interact with crowded human communities (Anderson et al., 2001; Sherman et al., 2015). For this reason, quarantine conditions may have been perceived as more isolating for extroverted individuals and therefore had a negative effect on their psychological well-being (Buecker et al., 2020; Ullah et al., 2021). Introverts, unlike extroverts, are more concerned with their inner world. Therefore, loneliness is preferable for them and is associated with psychological well-being (Hills & Argly, 2001). This fundamental difference may have enabled introverts to perceive social isolation as less isolating and maintain their psychological well-being. Anglim and Horwood's (2021) study with 1132 participants in Australia found that the positive and protective effects of the five-factor personality traits on mental well-being during the pandemic-related restrictions were weakened, and the most weakened sub-dimension was extraversion. This is an important finding supporting the results of this study.

Our findings show that individuals who score high in the sub-dimensions of agreeableness and responsibility have high social isolation perception scores and lower mental well-being scores. Different results have been reported in the literature related to the relevant sub-dimensions. Schmutte and Ryff (1997) stated that under normal conditions, psychological well-being is related to all sub-dimensions of the five factors, the sub-dimension of responsibility is highly related to the individual's having a purpose in life, and the sub-dimension of agreeableness is highly related to the individual's ability to establish positive interpersonal relationships. However, the social isolation created by the pandemic and the uncertainties about the future may have led to confusion about the purpose of their lives in individuals with high responsibility scores and a decrease in the satisfaction of individuals with high agreeableness scores from interpersonal relationships. It is thought that high scores in the sub-dimensions of agreeableness and responsibility are negatively related to loneliness (Buecker et al., 2020). Those in the agreeableness dimension are empathetic, enjoy establishing warm and close relationships with others, and tend to avoid conflict (Jensen-Campbell et al., 2002, as cited in Buecker et al., 2020). Social acceptance and popularity are important for these people (Nikitin & Freund,2015). Evidence indicates that high scores on the responsibility dimension tend to have regular and frequent contact and communication with family members (Asendorpf & Wilpers, 1998, as cited in Buecker et al., 2020). Perception of social isolation may have increased the feeling of loneliness and lowered their psychological well-being levels in individuals with high scores in the sub-dimensions of agreeableness and responsibility.

On the other hand, some studies in the literature report that the positive effects of agreeableness and responsibility sub-dimensions on mental well-being continue under pandemic conditions (Gupta & Parimal, 2020; Li et al., 2021; Zhang et al., 2021).

A limited number of studies in the literature report that the neuroticism sub-dimension carries a risk for mental health in pandemic conditions (Copkova, 2021; Gupta & Parimal, 2020; Li et al., 2021; Nikcevic et al., 2020; Shokrkon & Nicoladis, 2021; Zhang et al., 2021). On the other hand, the present study's findings show a negative relationship between the perception of social isolation and neuroticism and a positive relationship between neuroticism and mental well-being. Although the evidence is limited, it has been reported that there is a positive relationship between loneliness and neuroticism (Buecker et al., 2020). Neurotic individuals may be vulnerable to social stressors and excessively anxious about social acceptance (Denissen & Penke, 2008). For this reason, the loneliness brought about by social isolation may have reduced the frequency of neurotic individuals' encountering social stressors in daily life and positively affected their mental well-being.

Furthermore, it is known that neurotic individuals tend to perceive current conditions as more dangerous than they are (Schneider, 2004), catastrophize more easily, and underestimate their coping capacity (Breslau & Schultz, 2013). Social isolation may be considered a precautionary measure to prevent transmission, a situation that prevents a possible illness and disaster for neurotic individuals and helps them regulate stress and anxiety related to the disease.

The present study shows that the mediating effect of openness to experience sub-dimension in the relationship between social isolation and mental well-being is not significant. The correlations between social isolation and openness to experience are statistically insignificant, and the correlations between openness to experience and mental well-being are low but negative. A study reporting a negative relationship between openness to experience and mental well-being (Gupta & Parimal, 2020) is consistent with the current study. Gori et al. (2021) reported that openness to experience, which is closely related to mental well-being, does not function as well as in normal conditions in the pandemic process. A limited number of research findings in the literature report that individuals with high openness to experience scores evaluıate the pandemic restrictions less negatively and that there is a positive correlation between openness to experience and psychological well-being (Modersitzki et al., 2020; Zhang et al., 2021). The fact that individuals in the openness to experience dimension tend to evaluate events and situations as less stressful (Ebstrup et al., 2011) may explain why social isolation scores in the current study were statistically insignificant. The fact that openness to experience, as a factor closely related to resilience, enables more flexible coping with stressful situations (Kocjan et al., 2020). The increase in the tendency to use mature defense mechanisms such as reasoning, humor and intellectualization (Soldz et al., 1995) may have enabled these individuals to maintain their psychological well-being levels to a large extent.

The pandemic process forces people to make abrupt and drastic changes in their daily lives. While extroversion, agreeableness, responsibility, and openness to experience are adaptive for psychological well-being in a world where there is social contact and life continues in a predictable balance, they may not be sufficiently adaptive to the needs of this period, context, and time during periods of lockdown and isolation.

The current study is among the first to look into the role of resilience and personality traits in mediating the effect of social isolation perception on psychological health. The majority of the study's participants are female, with approximately 93 percent undergraduates or graduates. As a result, generalizing the results to different gender and educational groups has limitations. The study was carried out on a Turkish sample. For future researchers, conducting new studies with samples where the number of female and male participants is close to each other and where enough participants from different education levels are represented may contribute to the generalizability of the results obtained. In addition, the quarantine measures used in the COVID-19 process vary according to the country. It is recommended to conduct cross-cultural studies on how social isolation affects psychological well-being in this context.

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The Moderation Role of Need of Social Acceptance on the Relationships between Gender Roles and Sexual Quality*

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ABSTRACT

This study aimed to investigate the mediating role of the need for social acceptance in relation to the relationship between gender roles and sexual quality. The study was conducted with 576 participants aged 18 to 65 years who were married or in a relationship. Due to the pandemic, the scales were made available to participants through online platforms. The Personal Information Questionnaire was used to obtain participants' demographic data, the Gender Roles Scale (GRS) to measure their gender perceptions, the New Sexual Satisfaction Scale (NSS) to determine the quality of their sexuality, the Social Approval Need Scale (SANS) to determine their social approval needs. The data were analyzed using the SPSS 25.0 program. According to ANOVA and t-test results, demographic variables differed according to gender roles, sexuality quality, and social approval needs. A positive and negative correlation was found between gender roles and the sexuality quality variable with social approval. As a result of the intermediary variable analysis, it was found that the need for social approval plays an intermediary role in the relationship between gender roles and sexuality quality. The findings were discussed in the context of the results in the field.

Keywords:
Gender role, sex quality, social acceptance

1. Introduction

As with the birth of a baby, the teachings that are passed down from generation to generation are adopted by its immediate environment. This dramatic doctrine is about gender roles, but it is not the same for girls and boys. The doctrine tells girls to be decent and boys to be brave and chivalrous.While growing up, individuals are exposed to discourses emphasizing gender by their close, distant surrounding or even strangers. The remarkable side of these discourses is their enforcing females to a passive and weak position whereas encouraging males to a strong and active position. Males are also directed by gender roles as much as women. It is not the biological gender that ascribes the power to the males and limits the woman in discourses. Biological sex comprises reproductive organs and traits individuals have through genes (Udry, 1994). Organ diversity does not differentiate the role in society. What makes the difference is society's expectations about these sexes. Social gender roles refer to the series of adopted attitudes and behaviors deemed appropriate by the society according to the biological or perceived gender of the individuals (Levesque, 2011). The perception of gender varying from culture to culture shapes individuals' way of life, behavior, and attitudes. Beyond these behaviors and attitudes, it has been discussed in various studies due to it causing several social problems. According to the previous studies, females have been exposed to violence and rape due to their gender roles

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and even become the agent of femicide, which has become more visible recently (Yüksel, Demirgöz, 2014; Akın, 2007). Differences in discourse on the street cause inequality in business life and social problems. According to TUIK data, there is a 7.7% wage gap between the sexes regarding annual gross wages and wage differences (Turkish Statistical Institute (TUIK, Turkish Statistical Institute, 2018). The inequality visible enough to be calculated in areas outside the home has gone beyond the discourses and entered the homes as well. Individuals who go beyond the gender role outside the home behave more appropriately to this role to meet their gender roles at home. Just like a working female putting more effort into housework at home to be a "good wife" and "good mother." This example is conceptualized as sexual performance (West and Zimmerman, 1987; cited by Tichenor, 2005, p. 194). From this point of view, it is possible to say that gender roles affect the dynamics of relationships. At the same time, the studies carried out on social and economic fields have proved that females are disadvantaged and in danger due to their gender, it has also been revealed that males also have problems in relationship dynamics due to their gender. İşbilir (2020) has reported that males feel pressure to be the initiator in a romantic relationship and be an "alpha" man. In contrast, females are exposed to the label of easy woman when they experience sexuality in a romantic relationship. While males are expected to be sexually active and experienced in sexuality without a marriage contract, the society emphasizes that females in Turkey do not experience sexuality with the red belt tied around their waist while getting married which is considered as a gift for men. Sexuality should be another issue requiring equality between the sexes. Although sexuality does not have a vital function for individuals' continuing their existence, it is one of the remarkable variables determining the quality of life (Gülsün et al., 2009). In this sense, females' experiencing sexuality like males as their own choice and desire is vital in this sense.

Contrary to experiencing sexual development free of taboos, sexuality in Turkey has become a fact that is hidden, condemned, and spoken silently. Unfortunately, these silent conversations have led to misinformation and sexual myths (Torun F., Torun S. and Özaydın, 2011). In myths, males are active, and females are suppressed with discourses of honor, decency myths, it has been noticed that males are active, and females are suppressed with discourses of honor, decency, and good manners in gender roles. Because of the myths created, it is possible to think that sexual acts are physical acts experienced under pressure (Kayır, 2001). Due to these pressures and myths, borders between individuals are likely to appear. Boundaries hinder the need for sexual intimacy (Sexual Education Treatment and Research Center, CETAD, 2006c) One of the study's assumptions is that sexuality is negatively affected by gender roles. Because of the myths created, it can be said that sexual acts are physical acts performed under pressure (Kayır, 2001). Due to these pressures and myths, borders may occur between individuals. Boundaries hinder the need for sexual intimacy (Sexual Education Treatment and Research Center (CETAD, 2006c). One of the assumptions of this study was that sexuality was negatively affected by gender roles.

One of the theorists who discussed the importance of sexuality is Maslow. He discusses sexuality in the basic needs section of the hierarchy of needs. There are needs such as respect, belonging and acceptance at higher levels. According to Maslow's hierarchy of needs, meeting higher-level needs without meeting lower-level needs is meaningless (Maslow, 1943). Another question the study has discussed is "do individuals who follow gender norms sacrifice their basic needs to the needs at higher levels in order not to be considered as contrary?" In other words, "do we give up the quality of sexuality for the sake of social approval and behave in accordance with gender roles?" Social approval is primarily obtained from the home and then from the society. Individuals who conceptually live in accordance with society's values are approved by society and receive the social approval they regard. What the others say about you starts to be important at this point. Social approval expected from the others is obtained when certain conditions related to relationships are possible. Being married is possible if the female and the male continue marriage following their specific gender roles determined by the society. Kağıtçıbaşı has emphasized that the collectivist culture is widespread in Turkey and conforming to the society is efficient upon the behaviors of individuals (Kağıtçıbaşı, 2010). The main question of the research is "how does the expected need for social approval affect the relationship between gender roles and sexuality quality?"

Social gender roles also determine how individuals participate in society in different areas of life (Evrim, 1972). The presence of roles with clear boundaries for males and females creates some limits even while individuals recognize their own bodies throughout their sexual development. Boys can publicly talk about masturbation or circumcision, whereas girls hide and feel ashamed of things like masturbation or menstruation. This

excessive permission and secrecy beginning with sexual development continue even when individuals have romantic relationships. The usual roles that have been followed for years have been maintained to gain social approval but harm both individuals' own sexual development and relationships. Accordingly, the study was considered valuable in terms of individual health and public health.

- Is there any significant differences between gender roles, quality of sexuality and levels of need for social approval according to gender, where most of the life is spent, relationship status, education level.
- Is there any correlation between gender roles, the need for social approval and sexual quality?
- What is the mediator role of the need of social acceptance in the relationship between gender roles and sexuality quality?

1.1 Purpose of the Study

The aim of the study is to examine the mediating effect of the need for social recognition on the relationship between gender roles and sexual quality. Another objective of the study is to compare gender roles, sexual quality, and need for social recognition among participant groups using demographic information. Finally, the levels of differentiation of the scores obtained from the scales were examined.

1.2 Significance of The Study

Gender roles determine how individuals participate in different spheres of life (Evrim,1972). There are specific judgments and stereotypes about men and women. To exemplify, men should be strong, earn more money than women. These stereotypes that emerged from gender roles shape the man's relationship with society. Society reveals its expectations from men. Man tries to carry the psychosocial burden.When it fails to meet expectations,he may has depression or attempt to such as depression, suicide (Bayar,2018). Society's expectations for women often even surpasses the human rights acquired at birth. Like the right to life. "Do not embarrass our family, do not bow our heads, women should be honorable, women should not laugh." Gender roles restrict women's right to education, life, health, and work. (Akın, 2007).

In addition to these, gender roles can be observed in the sexual dimension of relationships. Women are grown in the sexual development area conservative way. Women should be embarrassed about their period. Before marriage, they should not experience sexual relationships. However, men live freely more in sexual area. (Duyan, 2004; İnanç, 2003; Nelson, 1997; Özkan, 1994; Özvarış et al., 1998). Encouraging one about sexual development and banning the other can develop myths. Spreading myths about sexuality are thought to harm the couple's relationship. This is because partners develop with different perspectives due to gender roles and express this in the relationship. Although the sexuality lived by the individual is considered something private, society also influences the attitude towards it. According to Foucault and Bauman, sexuality is socially constructed (Castells, 2013: 332; Bauman, 2005: 267-270). For Turkey as a collectivist culture (Kağıtçıbaşı, 2010), sexuality also is affected by gender roles. So, these gender roles that affect people's social,sexual and psychological development can cause them to be excluded by society and to be afraid of being negatively evaluated for them. The individual regulates his behavior according to these norms to not be marginalized. Person tries to satisfy social approval needs. While trying to be liked and appreciated, a person can put psychological health at risk.

The study tries to model the need for social approval, gender roles, and sexual quality. Since in a collectivist culture, these terms are related to each other. Also, study can contribute to other collectivist culture with this model. Also, the specialist o works with clients from collectivist cultures can benefit from this. They can find some connection. When the literature review on the subject was done, the sexuality variable worked with depression, marital adjustment, and stress. However, gender roles, sexuality quality, and the need for social approval were evaluated together. No Turkish source was found. Also, the study will contribute to the literature in this way.

2. Methodology

2.1. Research Design

The study investigating the mediator role of social acceptance on the relationship between gender roles and sexual quality is designed using a relational survey model one of the quantitative research methods. The

screening model is known as the model that examines the relationship between at least two variables (Karadağ,2010). The study carried out with quantitative research methods has dependent, independent, and variable mediating roles. Gender perception is a dependent variable, sexuality quality is an independent variable, and the need for social approval is the mediator variable. This study examines the mediating role of the need for social acceptance on the relationship between gender roles and sexual quality by using three scales. With the results of the scales, the model is created within three variables.

2.2. Setting and Participants

The study population included married or in-romantic relationship couples who both lived together and did not live together at 18 and above. Totally 600 individuals participated in the research. Mahalanobis distance and z scores were analyzed, and outliers were identified. 34 Participants were excluded from the study if outliers occurred because they might affect the normal distribution of the data. There were 414 female, 160 male and 2 non-binary participants who participated into the study. The study was carried out with 576 participants. According to demographic information, Table 1 shows the distribution of the participants. 414 (%71.9) of the participants are women, 160 (%27.8) of the participants are male, and 2 (%0.3) of the participants are non-binary. In addition to this, 131 (22.7%) of the participants were between the ages of 18-24, 229 (39.8%) were between the ages of 25-34 range, 121 (21%) were in the 35-44 age range, 61 (10.06%) were in the 45-54 age range, 26 (4.5%) were 58 are in the 55-64 age range, 1 (1.2%) is over 65 years old. When we categorized participants by educational level, 6 (1.0%) of participants were elementary school graduates, 110 (19.1%) were high school graduates, 336 (58.3%) were university graduates, and 123 (21.4%) completed postgraduate studies. When we analyzed the participants by their relationship status, 241 (41.8%) were married and 65 (11.3%) were in a relationship and living together, 255 (44.3) of them were in a relationship and not living together. When we examine the place where they spent most of their lives, 9 (1.6%) of the participants lived in villages, 9 (1.6%) lived in cities, 66 (11.5%) lived in districts, 133 (23.1%) lived in provinces, and 359 (62.3%) of them lived in big cities. The aim of selecting gender, age, educational status, relationship status, and place that participants grow as a variable detecting statistical differences within the variables. In the literature, age, gender, relationship status as a variable are examined with sexuality (Robinson,2007), gender is studied with the need for social acceptance (Hebert,1997) gender role is analyzed with hometown (King,2011). So, in this study, these variables are examined according to the main variable.

Table1. *Demographic for Participants*

	Groups	*Number (N)*	*Percentage (%)*
Gender	Female	414	71.9
	Male	160	21.8
	Non-binary	2	0.3
Age	18-24	131	22.7
	25-34	229	39.8
	34-45	121	21.0
	46-54	61	10.06
	55-64	26	4.5
	65+	1	1.2
Educational Status	Primary	6	1.0
	High School	110	19.1
	University	336	58.3
	Master	123	21.4

Relationship Status	Married	241	41.8
	In a romantic relationship and live together	65	11.3
	In a romantic relationship but not living together	255	44.3
Place that participant grow	Village	9	1.6
	Town	9	1.6
	District	66	11.5
	Province	133	23.1
	Metropol	359	62.3

2.3. Data Collection Tools and Procedure

The Personal Information Form was used to reach demographic information such as age, marital status and education of the research participants, Social Gender Roles Scale was used to measure their gender role perceptions, New Sexual Satisfaction Scale was used to determine their sexuality quality and Social Approval Need Scale was used to measure social approval needs. Permissions for use of the scales were obtained from their authors.

Informed Consent Form for Participants

This referred to the form informing participants of the research and obtaining consent.

Demographic Information Form: The personal information form included questions related to the participants' demographic information such as gender, age and education level, as well as the place where they spent most of their life and their relationship status.

Social Gender Roles Scale: The scale developed by García-Cueto in 2015 was adapted into Turkish by Bakioğlu in 2019. The scale included 15 items. The minimum score possible to be obtained from the scale was 20, and the highest score was 100. The Cronbach's alpha internal consistency coefficient was 0.99 for the original scale and 0.88 for the translated scale. There were 13 reverse coded items in the scale. Items of 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15 were coded reversely. The five-point Likert-type scale was rated as "I totally disagree", "I disagree", "Neither agree nor disagree", "I agree" and "I agree". The score obtained from the scale indicated an increase in the egalitarian attitude towards gender roles.

New Sexual Satisfaction Scale: The new Sexual Satisfaction Scale developed by Stulhofer in 2011 was adapted into Turkish by Nilüfer Tuğut in 2016. There was no Turkish scale in the literature that simultaneously measured the sexual quality of males and females. The scale included 20 items. Validity coefficient of the 5-point Likert-type scale was .90. The five-point Likert-type scale was rated as "Not at all satisfied," "A little satisfied," "Moderately satisfied," "Very satisfied" and "Extremely satisfied". The highest score possible to be taken from the scale was 100, and the lowest was 20. It included two sub-dimensions as ego-centred and partner/sexual activity-centred. Ego-centered sub-dimension determined sexual satisfaction appeared due to personal feelings and experiences. The partner/sexual activity-centred sub-dimension measured the sexual satisfaction individuals felt from sexual behavior and reactions from their spouses/partners and the variety and/or frequency of sexual activities. Whereas items from 1 to 10 were in ego-centered sub-dimension, items of 11-20 were in the partner/sexual activity-centered sub-dimension. The sexual satisfaction/quality of the person was higher as the score obtained from the scale increased.

Social Approval Need Scale: Öğülmüş developed the Social Approval Need Scale in 2016. The scale items were selected from a pool created with different previously developed social approval scales. The scales from which the items were selected were the Interpersonal Sensitivity Scale developed by Boyce and Parker (1989) and translated into Turkish by Eroezkan (2003), the Martin-Larsen Approval Motivation Scale revised by Martin (1984), the Interpersonal Relationship Dimensions Scale developed by İmamoğlu and Aydın (2009), the Dysfunctional Attitudes Scale transferred by Şahin and Şahin (1991), and the Irrational Beliefs Scale transferred

by Yurtal Dinç (1999). The scale studies were carried out with 360 individuals from Amasya University, Faculty of Education. The internal reliability coefficient of the scale including 25 items was .90. Higher scores indicated higher need for approval. The data were analyzed with SPSS software. It included 3 sub-dimensions as sensitivity to the judgments of others, social withdrawal, and making a positive impression. The five-point Likert-type scale was rated as "I strongly disagree," "I disagree," "Neither agree nor disagree," "I agree" and "I totally agree."

2.4. Data Collection Method and Process

The study was carried out online due to pandemic conditions in the fall semester of 2020-2021. The scales were announced to the participants through social platforms. The scales were delivered to the participants through the Google Forms application, and the data were collected with a random sampling method. The participants first took the informed consent form related to the purpose of the research to learn about their rights as participants, and then they filled in the scales.

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: Pamukkale University Ethics Committee

Date of Ethics Evaluation Decision: 09.09.2020 Ethics Assessment Document Issue Number: 68282350/2018/G07

3. Findings

3.1. Descriptive Statistics and Correlations

Table 2. *Correlation Values between Gender Roles, Sexual Quality, and Need of Social Acceptance*

	1	2	3
1.Gender Roles	1	.131**	-.246**
2.Sexual Quality	.131**	1	
3.Need of Social Acceptance	-123**	-.246**	1
Mean	28.86	76.72	77.88
Standard Deviation	10.507	13.245	7.830
Skewness	-,722	-,240	-,499
Kurtosis	-,416	-,401	-,143

Not. *p<.05, **p<.01, N= 576

According to the correlation analysis between the variables, positive and negative relationships were noticed. Whereas there was a significant positive relationship between the variable of gender roles and the variable of sexual satisfaction (r=.131), a negative relationship was determined with social approval need (r=-.246). In other words, it was possible to infer that the closer the individuals' gender role was to the egalitarian attitude, the more sexual satisfaction they had. In contrast, less satisfaction they had in traditional attitude. Moreover, it was also observed that individuals tended to continue their traditional gender roles when their need for social approval increased. The individuals with increase in the need for social approval in the egalitarian attitude had less need for social approval. A negative relationship was determined between the need for social approval and sexual satisfaction (r=-.246**). It was possible to mention that sexual satisfaction decreased as the individuals' need for social approval increased, and sexual satisfaction increased as social approval decreased. It was considered that individuals' age, residential area, gender, education, and relationship status could vary in terms of gender roles, sexual satisfaction, and social approval needs.

3.2 Differences Statistics

Table 3. *Social Gender Roles and Sexual Quality T-Test Results According to Gender*

Test	Gender	n	M	SS	t	P
Social Gender Roles	Female	414	64.12	8.436	235.688	.000
	Male	160	57.28	10.940		
Sexual Quality	Female	414	76.62	13.722	.572	.058
	Male	160	77.58	11.759		

While analyzing gender roles and gender differences, the homogeneity assumption in Levene's value was not met (Levene Statistic (32.033), p< .05). When Table 4.2 was analyzed, it was noticed that the total score obtained by females from the gender roles scale (X=64.12, SD=8.436) was higher rather than the score obtained by males (X=57.28, SD=10.940). Whereas females were closer to the egalitarian attitude, males were closer to the traditional attitudes.

Homogeneity assumption was provided in the value of Levene's test in terms of sexuality quality (Levene Statistic (3.606), p> .05) and need for social approval (Levene Statistic (.529), p> .05). When the difference created by the gender variable in two variables was analyzed that the score of the males (X=77.58, SD=11.759) was higher than females (X=76.62, SD=13.722) in sexual satisfaction scale even though the averages were close to each other.

For the other demographic variables, there are no statistical differences between main variables.

3.3. Findings about Mediating Role of Need of Social Acceptance on the Relationship between Gender Roles and Sexual Quality

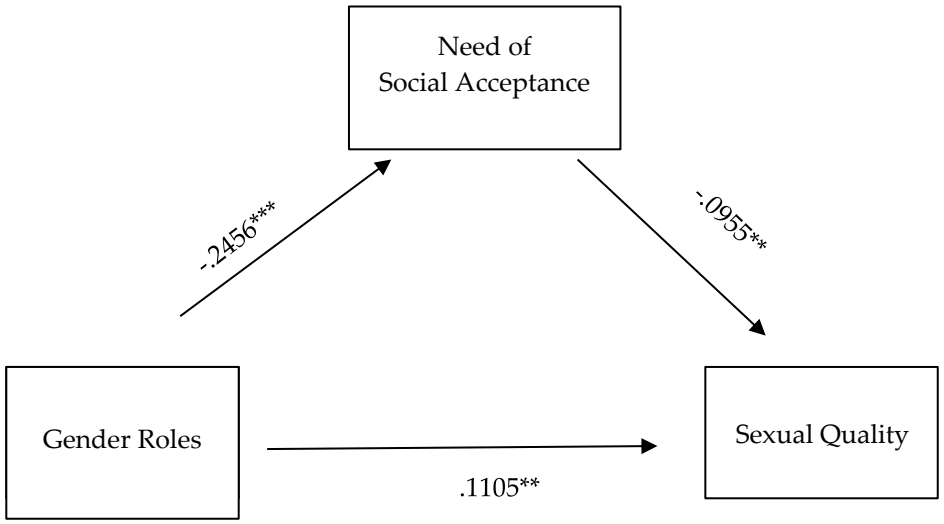

Figure 1. *Mediation Effect of Need of Social Acceptance*

The effect of gender roles upon the need for social approval and sexuality quality and the effect of need for social approval upon the quality of sexuality were analyzed for the mediating variable analysis. According to the results of the analysis, gender roles predicted the need for social approval at a statistically significant level (a:ß=-.2456, p=.000). When the need for social approval was considered, it was found that it significantly predicted the quality of sexuality (b:ß=-.0955, p=.0253). It was revealed that gender roles significantly predicted the quality of sexuality (c:ß=.1105, p=.0098). When the confidence intervals were interpreted, the model was noticed to be significant and reliable. When the mediating effect of the need for social approval was analyzed, it was found that the variable of need for social approval played a full mediating role in the whole model (CI= [.0017, .0646]).

4. Discussion

The study examined the mediation effect of the need of social acceptance on the relationship between gender roles and sexual quality with 576 participants in the 2020-2021 academic year. The first objective of the study was to find relationships between gender role perceptions and sexual quality. The results of the study show that gender role scores and sexual quality are statistically significantly positively correlated. In other words, sexuality assessment also affects sexual quality. In reviewing the literature, many studies were found that support this finding of the study'. In the study carried out with 413 adults aged 18 and 55, it was found that sexual satisfaction of the egalitarian individuals was higher, and those with egalitarian attitudes displayed less sexual dysfunction (Karagöz, 2021). It was found in a study investigating the sexual satisfaction of married females that sexual satisfaction of females who maintained traditional roles was low (Yılmaz, 2014). In another study carried out with 161 females, the sexual life quality score was determined to decrease as the marital gender role score increased (Kaçan, 2018). The relationship of social gender roles with sex quality in the literature was discussed with different samples, and findings of these studies supported the finding referred from the study sample. Previous research revealed that social gender roles affected individuals' sexual life, sexual satisfaction, attitudes, and behaviors. The variable considered to be closely correlated with social gender roles was the need for social approval. On the other hand, in the other study that carried out with 120 women, revealed that sexual assertiveness predicts sexual quality than gender roles (Azmoude,2016)

Another aim of the study is analyzing the relationship between gender roles and need for social acceptance. A significant negative correlation was found when the relationship between the variables of need for social approval and social gender roles was analyzed. As the score taken from the social gender roles scale increased, the score taken from the need for social approval scale decreased. In other words, as the participants displayed an egalitarian attitude in their social gender roles, their social approval-seeking behaviors decreased. Because this study was conducted with participants who grew up in Turkey, it is suggested that there is a strong relationship between behavior aimed at social recognition and gender roles. In the other case, if the individual insists on the unexpected gender roles, the person is already deprived of society's approval and creates a small society of people like oneself. It can be predicted that the need for permits will decrease because they can be approved there too. In the literature, study conducted with 309 sexually active heterosexual participants, gender role conformity predicts lower sexual satisfaction (Sanchez, 2005).

Also, ın the other study, the need for social approval and attachment styles (Baytemir, 2017) were studied with fear of negative prejudices (Süzer, 2019). The need for social approval and social gender roles were discussed with dating violence considering the relevant studies. According to Turan and Baki (2018), individuals with traditional gender roles had higher exposure and commitment to violence. Social gender roles were found to predict dating violence. In another study, the need for social approval predicted the collectivist self-construal (Karaşar and Öğülmüş, 2016). Whereas it was considered that individuals with collectivistic self-construal tended to live according to the norms of the society with high probability of having traditional gender roles, individuals' acting according to their self-construal increased their need for social approval. The study finding revealed that there was a correlation between social gender roles and the need for social approval.

In addition to these, the other relationship between the variables is relationship between sexual quality and need of social acceptance. Did the social approval obtained from society affect sexuality as the basic need of individuals? A significant negative correlation was found when the relationship between the need for social approval and the sex quality was analyzed. It was revealed that as the participants' need for social approval increased, they took lower scores from the sexual satisfaction scale. It was considered that the satisfaction of individuals from sexuality decreased as the desire to live according to the society, the desire for social harmony and the need for social approval increased. In the study, sexual satisfaction scores of males were found to be higher than the scores of females (Erdinç, 2018).

Regarding perception about gender differences sexual behavior that finding is so logical and related to social approval. People try to get social approval from where they grow up or society. These socio-cultural effects could trigger sexual dysfunction which negatively affected the sex quality of individuals (İncesu, 2005). According to a previous study, women experiencing sexuality freely in Turkey caused them to be tagged (İşbilir, 2020). Experiencing sexuality in Turkey and society's prejudices on this varied according to gender. It has been inevitable that labels as not being an "easy woman", being a "man with sex experience" and getting

social approval from the society affected the sexual behavior of individuals. In a study investigating the problems women experienced in sexuality, it was found in the study that women displayed more sexual dysfunction when compared to men due to women's suppressing sexuality (Buss, 1994).

One of the reasons why women suppressed their sexuality was related to the cultural structure of the society individuals lived in. Regarding the sexual dysfunctions experienced by men, Travis and White (2000) stated that in patriarchal societies, sexual dysfunction of men was related to the society's regarding men's performance (2000). Conservative thinking and attitude could trigger sexual dysfunctions (Masters and Johnson, 1970). Behaviors of individuals differed according to gender. In the study on tending to release sexuality, Chiou (2006) reported that men released themselves more in terms of sexuality on the internet rather than women, and women used a more conservative strategy. Like this finding, it was stated in the book King Kong Theory that women growing up in the Middle East had sexual rape fantasies. While explaining the reason, it was added that the woman could only be excused by the society when sex happened without consent (Despentes,2017). Like the other study in literature, this study carried out more women when it is compared to the number of men because women's sexual behavior restricted from society, when the need of social acceptance, sexual quality decreases.

Even if women can be seen under pressure according to one of the findings of the study, when compared to males, the participant females had higher scores on the social gender role scale and displayed more egalitarian attitudes in their lives rather than males. As a result of the strengthening of women's movement in Turkey and women's participation in educational and business life, females have started to maintain their demands for gender equality with a more egalitarian viewpoint. When the literature was reviewed, many research findings were noticed to reveal that females were more egalitarian in terms of gender roles when compared to males (Yılmaz and Öz, 2018; Aydın and Bekar, 2016).

The final goal and main question of the study is to examine whether there is a balancing effect of the need for social acceptance on the relationship between gender roles and sexual quality. No research was found in the literature that examined the need for social acceptance as a mediating variable in the relationship between social gender roles and sexual quality.The literature examined the variables of social motives, peer acceptance, and rape myth. According to the research findings and discussion in the literature, the relationship between sexuality and social gender roles and the mediating role of the variable need for social approval became clear. In collectivist culture, the need for social acceptance should be considered when analyzing gender roles and sexual quality. Based on the literature review and discussion, the need for social acceptance as a variable can contribute or change the direction between sexual quality and gender roles. Practitioners can thus think about the need for social acceptance when working with gender roles and sexual quality.z

5. Limitation and Future Direction

The research was carried out with 576 participants. The number of male and female participants participating in the research did not show a balanced distribution. More male participants should be reached to generalize the research findings. The participant groups differed according to age, educational status, relationship status, and where they spent their lives. The sample could be expanded. The language of the Social Gender Roles Scale aiming to measure social gender roles according to the feedback from the participants was found sexist by the participants. The research was limited to gender roles, the need for social approval, and the quality of sexuality measured with the scales used.

When the studies carried out in Turkey were reviewed, it was noticed that the need for social approval was studied with a sample including the university students. In contrast, the variable of sexual satisfaction was studied with the variables of married individuals, sexual myths, and sexual dysfunction. Social gender roles, sex quality, and the need for social approval have not been studied as models. When the analyzes of the research and the literature were reviewed, it was recommended to carry out further studies in different samples related to this research topic since there were strong relationships between these three variables. Further studies can be carried out with the variables of sex quality, family type, sexual education, and attachment styles.

Attention is possible to be drawn to the issues of gender roles and sexuality quality in marriage training offered in municipalities. Seminars on gender roles within the scope of in-service training can be given to family

counselors. Sex education and social gender roles should be included in the Ministry of National Education curriculum. Sex education and gender roles seminars suitable for adulthood can be given in psychological counseling centers of universities. Psychological counseling centers at universities can organize forums with students to discuss the effects of social gender roles and sexuality's effects on romantic relationships.

6. Conclusion

This study is one of the first studies that examine the mediator effect of the need for social acceptance on the relationship between gender roles and sexual quality. According to findings, there are correlations within gender role, sexual quality, and social approval. There is positive correlation between gender roles and sexual quality. When gender roles closer to egalitarian attitude in that participant group, their sexual quality also increases. On the other hand, research conducted on gender roles and sexual behaviors, states that when they compare gender roles group, they could not find any differences about sexual behavior or problem (Kurpisz et al., 2016). This difference between the studies can be related to population and method.

Another negative correlation between the need for social approval and gender roles is that one who has a traditional gender role may have more need for social approval. Based on these statistical findings, we can speculate that people who rely on traditional gender roles, live according to what society says. A person may fear exclusion, so feelings of need for social acceptance can increase day by day.

The last correlation is between the need for social approval and sexual quality. The correlation is negative, which means when the need for social acceptance increases, sexual quality decrease in this participant group. With these findings, ıt is obvious that the bedroom is not as private as it is thought in society. Sexual quality may be shaped by relationship between person and society. Some of the research supports finding the current study. Relying on other's approval can harm one's sexual autonomy and sexual satisfaction (Sanchez,2005). According to other study findings, a high need for social acceptance affects self-esteem in the sexual area negatively (Schill,1973).

Also, there are some gender differences about gender roles and sexual quality. Whereas women get high points from gender roles scale when compared with men, in sexual quality, men get higher points than women. These differences can be related to gender roles. It is related to how society shapes men and women. According to the study, women try to deal with this inequality by behaving more equally. Many studies support this result (Oengen & Aytaç, 2013; Yılmaz & Oez, 2018, Aydın et al., 2016). Regarding sexual satisfaction, men grow up with a permissive perspective in the sexual sphere. However, women are so restricted about the sexual area in the collectivist culture. So, men are growing up knowing their pleasure but still there are women who are not masturbated. Because of this, women could not have information and thoughts about their sexuality. There are different findings in the literature. Whereas one study states that women feel more satisfaction on sex than men (Şimşek et al.,2018), other studies state that men get more sexual satisfaction than women (Vural&Temel,2010). Our findings show similarity to that study.

Last finding is about the main aim of the study. According to findings there is full mediating role of need for social acceptance on the relationship between gender roles and sexual quality. So, when the need for social acceptance is added to this model, the relationship degree between gender roles and sexual quality changes statistically. Overall need for social acceptance shapes the gender roles and sexual quality relationship in that group. Even if this may not be generalized to the people. This model should be studied more in different groups like different sexual orientations, different occupational groups, different economic backgrounds since researchers may find a different result. Also, this research can give starting points to marriage and couple therapists. They can test some hypotheses in their sessions with different clients. Professionally, this model can help clients understand the meaning behind the bedroom with specialist help. For society, every person has the right to live equal socially and sexually regardless of their gender.

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The Effect of Teachers' Cognitive Flexibility on Attitudes towards Compulsory Distance Education during the COVID-19 Pandemic

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ABSTRACT

The period when education services were tried to be provided remotely due to the COVID-19 epidemic enabled teachers to be intertwined with technology-supported teaching platforms. The acquisition of the technology required to use the platform, adaptation of the existing teaching strategies, methods, and techniques to the platform, and the need to stay in touch with all stakeholders related to education in this process have led to new experiences for teachers and many challenging situations. During this process, it was predicted that teachers frequently use their cognitive flexibility, which enables them to think about different solutions and make functional changes for different or problematic situations. The research is a survey study. Data were collected from teachers with the Cognitive Flexibility Inventory and the Attitude Scale towards Compulsory Distance Education. Their validity and reliability were retested within this research's scope. The results of this study, in which the data were analyzed with descriptive statistics, show that the cognitive flexibility of the teachers participating in the research was high during the epidemic period. They had attitudes that could not be evaluated positively or negatively regarding compulsory distance education. Although there is a relationship between teachers' cognitive flexibility levels and their attitudes towards compulsory distance education, it is low. The cognitive flexibility of teachers can predict a very small part of their attitudes towards compulsory distance education. The findings obtained from the research are discussed with other research results.

Keywords:
Cognitive flexibility, compulsory distance education, attitude towards compulsory distance education, teacher

1. Introduction

The COVID-19 epidemic has changed the way public services are delivered worldwide, and the global epidemic has caused perhaps the most challenging period for education services (Bawa, 2020; Daniel, 2020). , Human presence in areas with intense social interaction was restricted to control the spread of the epidemic in many countries. In this direction, face-to-face education was suspended in many countries, with UNESCO's call for distance education to be switched to this restriction in schools (UNESCO, 2020a; UNESCO, 2020b). Distance education is defined by the United States Distance Education Association as "access to education using technology-based technologies as satellite, audio-visual, graphical, computerized and multimedia, etc." (USDLA, 2004 cited by Koçoğlu & Tekdal, 2020). In summary, distance education is multimedia-based education which includes activities such as interactive learning-teaching, guidance, classroom management, time and place-independent e-learning, digital transfer, and distance exams (Guohong et al., 2012). Although it is accepted that distance education provides an advantage compared to face-to-face education as it enables the use and sharing of multiple resources simultaneously to support the teaching and learning process, as well

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as the space and time flexibility it provides (Arat & Bakan, 2014; de Oliveira et al., 2018; Guthrie & McCracken, 2010; Olszewski-Kubilius & Corwith, 2011), although its usability during natural disasters such as epidemics has been experienced before (Almond, 2006; Basilaia & Kvavadze, 2020; Cauchemez et al., 2014), the success of the application depends on the provision of some prerequisites. Lashley et al. (2020) describe these prerequisites as structuring a new teaching and learning space as 'ecology'. Regarding the ecology that needs to be established, UNESCO (2020c) stated that the service's technical, economic, pedagogical, and learning-teaching dimensions should be carefully planned. The application should be functionalized to provide distance education services properly. In this direction, the technological subsystem used for distance education during the COVID-19 epidemic period should be evaluated in the context of country conditions. Reliability of local power sources, availability of internet connection (especially for students with disabilities and low-income families), continuity, security, and user privacy should be considered for the technology subsystem to be selected. Depending on the digital skill levels of teachers and students, it should be decided whether high-tech or low-tech solutions will be used. Psycho-social difficulties should be resolved before teaching; measures should be taken to connect schools, parents, teachers, and students; regular human interaction should be provided; possible psycho-social difficulties should be eliminated; experience sharing should be facilitated; coping strategies when learning difficulties are encountered should be included. The distance education program should be carefully planned. The program should discuss with stakeholders whether it should focus on teaching new knowledge or increasing and reinforcing students' existing knowledge. Appropriate teaching-learning methodologies should be selected according to the home-based quarantine situation. Formative questions, exams, or exercises should be designed so that students' learning processes can be closely monitored, and feedback should be used to control the process. And finally, based on students' self-regulation skills, the distance education process should be structured flexibly (UNESCO, 2020c). It is unclear how much countries can take these recommendations into account during the COVID-19 epidemic. By the second half of 2021, inequality in access to education discussed worldwide is now associated with “digital inequality” (Nguyen, Hargittai, & Marler, 2021; van Deursen, 2020; Zheng & Walsham, 2021). It has been determined that the education services provided from a distance have adverse effects on all education levels, from primary education to higher education, especially in disadvantaged countries. The education of approximately 123 million students was disrupted during the COVID-19 epidemic period. Indicators even point out that 23.8 million children and youth are at risk of not returning to school even after the epidemic (UNESCO, 2020d-e; UNESCO, 2021).

1.1. Distance Education Services in Turkey

As in many countries, all face-to-face education services in Turkey have been suspended for all education levels as of March 2020 (Ministry of National Education [MoNE], 2020; Higher Education Council [HEC], 2020). In the intervening period, although hybrid or blended teaching practices were tried to be made in primary education, secondary education, and higher education level for some programs throughout the country, the continuity of each application in itself could not be ensured. Thus, education services at all levels, from primary education to higher education in Turkey, were generally provided remotely until the fall semester of the 2021-2022 academic year. The epidemic period education services offered since March 2020 differ from the known distance education services. The institutions affiliated with HEC concentrate only on the teaching part of distance education. In this context, “emergency distance education”, which produces a “temporary solution” (Leonardi, 2020), in which the essential value is “sustainment” (Sułkowski, 2020), “face-to-face is provided online” (Bawa, 2020) to ensure sustainability until the crisis is over (Akyürek, 2020; Barbour et al., 2020; Bozkurt & Sharma, 2020; Hodges et al., 2020). In the institutions affiliated with the MoNE, the Education Informatics Network (EBA), activated to support education services since 2012, has been used intensively. As a digital education platform, EBA is a system where course materials are presented online, supported by television broadcasts, and all teachers and students across the country can access the course content. For EBA, MoNE provided 6-8GB of free internet access to support students and families. In addition, EBA programs adapted to television during the COVID-19 global epidemic period were broadcast by seven television companies, apart from the official television channel of the country. EBA TV Programs are shorter than the actual course length. However, the lessons are supported by thousands of videos and animations. More than 100 teachers voluntarily recorded their lessons on television in the process. Thus, it tried to provide students access to primary, secondary, and high school education programs (The World Bank, 2020). Finally, in the first period when it was first affected by the COVID-19 global epidemic, and the MoNE offered all its

teaching services entirely remotely, EBA was among the top ten education platforms most visited globally between March 23 and April 30, 2020 (MoNE, 2020b).

Distance education is characterized by teaching and learning provided by the media. In principle, students and teachers do not meet face to face. Their interaction is achieved through asynchronous communication between the teacher and the learner through one or more media such as audio and video recordings, telephone conversations, television, and computer communication (Delling, 1987). Communication can be at least two ways; one-way communication is established between the supporting organization and the students. Pre-produced learning materials are delivered from the organization to the students. With two-way communication, teachers and learners interact with each other synchronously or asynchronously on the platforms provided by the media (Keegan, 1990, p. 44). While the MoNE (supporting organization) shares previously produced learning materials with teachers and students through the live classroom application of EBA (media/digital platform used for educational services), it tried to provide simultaneous communication between teachers and students. The system was also supported in the programs presented via television. In the same period, the Ministry launched a psycho-social support system consisting of a hotline and guides to repair the negative psychological effects of the COVID-19 epidemic on students and parents. In cooperation with UNESCO, in-service training programs were provided to 125,000 teachers through distance education across the country to adapt to the process more quickly (Özer, 2020). Thus, while the distance education services provided in the epidemic period throughout Turkey are carried out in the form of "emergency distance education" at the higher education level, it can be evaluated that a compulsory distance education application, closer to the infrastructure of distance education at the education levels affiliated to the MoNE, is carried out through EBA.

Although the compulsory distance education supported by EBA has created various opportunities for its practitioners and users (İnal, Sakarya & Zahal, 2021; Türker & Dündar, 2020), some negativities have also been experienced despite EBA support. Aytaç's (2021) study, which investigates the problems faced by teachers during the COVID-19 global epidemic, reveals that psychological issues of teachers and students, lack of motivation, and parents' inability to create suitable learning spaces for their children shows that they are negatively affected by insufficient knowledge to use the distance education technologies. Similarly, according to the research completed with general education first-grade teachers, it was determined that the teachers were able to adapt the teaching methods they know to distance education, ensure student motivation and attendance, control the oppressive and negative behaviors of parents on their children during the lesson, and solve the technical problems faced by students related to the distance learning technology. These results show teachers have difficulties producing solutions (Uysal, 2021). Therefore, it can be considered that compulsory distance education at the education levels affiliated to the Ministry in Turkey creates positive and challenging experiences for teachers and learners.

1.2. Cognitive Flexibility and Attitude

Cognitive flexibility is an individual cognitive skill that includes thinking about solutions for different or problematic situations and making functional changes. Skill consists of the tendency to perceive challenging situations as controllable. Those with cognitive flexibility perceive alternatives to events or human behaviors and can produce a series of solutions to solve difficult situations (Dennis & Vander Wal, 2010). In summary, it can be said that cognitive flexibility is the ability to successfully adapt someone's behaviors and thoughts to new, changing, unexpected, and challenging situations. Cognitive flexibility enables the person to gather information from their environment to adapt their behavior to the changes required by the case and helps them respond to the situation flexibly and effectively. It makes it possible to set goals, make a plan, realize the plan, and regulate the individual's behaviour depending on the results of their actions. Those with cognitive flexibility can better tolerate mistakes and changes, empathize, and easily find a way to compromise (Gabrys et al., 2018).

Cognitive flexibility has been the subject of many studies in which educators participated. Some of these studies point out the positive effect of cognitive flexibility on the teaching profession empathic attitude and solving interpersonal problems (for example, Esen-Aygün, 2018; Kaçay, Güngör & Soyer, 2021). Again, findings show that cognitive flexibility is related to the "Technological Pedagogical Content Knowledge" (Kereluik et al., 2011 and Koehler & Mishra, 2005 cited by Öztürk, Karamete & Çetin, 2020) of teachers, whose

content, pedagogy, and technology knowledge are formed together (Öztürk, Karamete & Çetin, 2020). Jelińska and Paradowski (2021), in their study with distance education teachers during the COVID-19 epidemic, found that teachers who feel comfortable when faced with unexpected situations can change their lesson plans and class contents according to the situation and those who can simplify the grading system, are more comfortable with the difficulties brought by distance education. It shows that they can handle it easily. It can be evaluated that those who cope with these difficulties use more efficiently their cognitive flexibility in a sense.

Attitude is about the way a person handles a problem or situation. Attitude has cognitive, emotional, and behavioral aspects. While the cognitive dimension of the attitude is formed by "interest, belief, thought and knowledge" about the situation or object (Giner-Sorolla, 1999, p. 443), the emotional dimension provides positive or negative thinking about that situation or object. The behavioral dimension of the attitude governs the behaviors related to the condition or object (Zanna & Rempel, 1988, p. 316, cited from Rosenberg & Hovland, 1960). It is known that those who accept that behaviors should be adjusted according to situational factors are more cognitively flexible than those who accept that there is only one appropriate or correct behavioral response (Martin & Rubin, 1995). It can be evaluated that any event, changing situation, or attitude towards a different practice is affected by the person's cognitive flexibility. Although teachers have developed positive attitudes towards distance education during the COVID-19 epidemic, some research findings show that they experience various problems due to their insufficient knowledge of using technology (for example, Hebebci, Bertiz, & Alan, 2020; Karakaya et al., 2020).

The COVID-19 epidemic has made it mandatory to provide distance education in Turkey, as in many parts of the world. It required teachers to adapt to new educational practices such as virtual classrooms, online teaching, and distance assessment. Students have had to deal with motivation problems related to distance learning, security and inequalities in the digital field. This study aims to determine the effect of teachers' cognitive flexibility on their attitudes towards compulsory distance education. It is predicted that teachers' attitudes are affected by their cognitive flexibility levels while adapting to this new field. This research seeks answers to the following questions:

What is the level of cognitive flexibility?

- Is there a difference between cognitive flexibility and attitudes towards compulsory distance education according to gender, branch, professional seniority, and the level of technology use?
- Is there a relationship between cognitive flexibility levels and attitudes towards distance education?
- What is the effect of cognitive flexibility levels on their attitudes towards distance education?

2. Methodology

2.1. Research Model

The research is a descriptive study examining the effect of teachers' cognitive flexibility on their attitudes towards compulsory distance education. "Descriptive research is the method used to portray the existing situation exactly as it is." (Balcı, 2004, p. 228; Karasar, 2002, pp: 89-90). In this research, in addition to the correlation design in which relational statistics (correlation, structural equalization, regression…) are used to "measure or describe the relationship" between two or more variables or some score groups, the causal comparison was used in which two or more groups were compared in terms of an emerging cause (or independent variable) (Cresswell, 2013, p.12; Fraenkel, Wallen, & Hyun, 2012). Thus, the correlation pattern between cognitive flexibility and compulsory distance education and the effect of cognitive flexibility on compulsory distance education were analyzed. In causal comparison, the differences between cognitive flexibility and compulsory distance education scores in the context of the independent variables selected in the research (gender, branch, seniority…) were examined. The data in the study were collected by the survey that provides a quantitative description of "the tendencies, attitudes or opinions in the universe through studies carried out on a sample selected from a population" (Creswell, 2013, p. 155).

2.2. Research Sample

The research population consists of teachers working in K12 schools in the Giresun province of Turkey (N=5.798). Only 320 teachers could participate voluntarily in the data collected via Google Form. This number

constitutes 5.5% of the research population. In this context, the descriptive of teachers participating in the research in Giresun are presented in Table 4 below.

Table 1. *Descriptives of Participants*

	Gender	Branch	Seniority	Level of Technology Use
Female	176			
Male	144			
Preschool teacher		18*		
Classroom teacher		69*		
Branch teacher		233		
1-5 Years			66	
6-10 Years			137	
11-15 Years			71	
16-20 Years			26**	
21 Years and above			20**	
Basic				18
Moderate				243
Advance				59
Total	320	320	320	320

* In the analysis, the preschool and the classroom teachers were combined and renamed the primary teacher.
** Those with 16-20 years and 21 years of seniority were combined and included in the analysis as 16 years and above.

2.2. Data Collection Tools and Procedure

In this study, two data collection tools were used together. These tools can be introduced as:

Compulsory Distance Education Attitude Scale (DEAS): It was developed by Tzivinikou, Charitaki, and Kagkara (2020) to determine teachers' attitudes during the transition to compulsory distance education, especially during the COVID-19 epidemic. Goodness of fit indices (TLI = .96 > .95, RMSEA = .04 < 0.08, CFI = .94 ≥ .90, $\chi 2(34) = 57.93$, p = .000, and SRMR = .03 < .08) analyzed by the scale developers. Cronbach's alpha coefficient of the determined scale was calculated as $\alpha = .76$. DEAS has two sub-dimensions: “Efficacy and Difficulties”. There are six items in the "Efficacy" sub-dimension and four in the "Difficulties" sub-dimension. Items 4 and 5 under this dimension are reverse items. The "Efficacy" dimension includes teachers' attitudes towards the functionality of distance education. The "Difficulties” sub-dimension, on the other hand, provides the determination of the attitudes towards the use of the database system used during compulsory distance education.

DEAS was adapted into Turkish by the researchers within the scope of this research. In this context, the researchers first translated the scale into Turkish; after a foreign language instructor checked the translation, three teachers (a special education teacher, a classroom teacher, and a mathematics teacher) working in the field were consulted for clarity of the items. First, the English version of the scale, and three weeks later, the Turkish version of the scale was applied to a group (n=23) working in the field, mostly foreign language teachers, via Google Form. Among the scores obtained, the Pearson Product-Moment Correlation Coefficient was .99 (p = 00) for the “Efficacy” sub-dimension of the scale and .98 (p = 00) for the “Difficulties” sub-dimension. Based on the correlation coefficients obtained for the sub-dimensions and expert opinions, it was concluded that the scale's parallelism was achieved in terms of translation.

The scale was applied to 110 teachers from various branches working in primary and secondary education in Turkey to test whether the scale preserves the factor structure in its original form. The obtained data were transferred to SPSS 22 and AMOS package programs. The fit index scores obtained from the Confirmatory Factor Analysis (CFA) performed on this group are summarized in Table 1 below. The values confirming the structure are outlined in Figure 1 below.

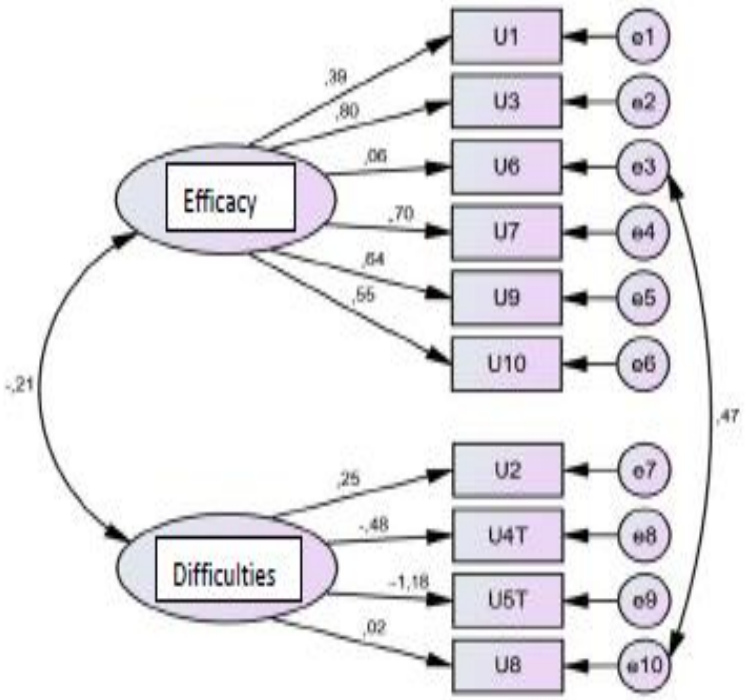

Figure 1. *CFA Model of DEAS*

The obtained fit indices (Table 2) are stated as acceptable values in the literature (Table 2).

Table 2. *The Goodness of Fit Index in Literature*

Goodness of Fit Index	Limits of Acceptance	Limits of Excellence	References
RMSEA	0.050≤RMSEA≤0.080	0.000≤RMSEA≤0.050	Çokluk, Şekercioğlu, & Büyüköztürk, 2010; Hooper, Coughlan, & Mullen, 2008; Hu & Bentler, 1999
RMR	0.050≤RMR≤0.080	0.000≤RMR≤0.050	Çokluk, Şekercioğlu, & Büyüköztürk, 2010; Hooper, Coughlan, & Mullen, 2008; Hu & Bentler, 1999; Kline, 2005; Vieira, 2011
GFI		0.900 and above	Hooper, Coughlan, & Mullen, 2008; Kline, 2005
AGFI		0.900 and above	Hooper, Coughlan, & Mullen, 2008; Kline, 2005
NFI		0.950 and above	Hooper, Coughlan, & Mullen, 2008; Kline, 2005
IFI	0.900≤IFI≤0.940	0.950 and above	Hu & Bentler, 1999; Jöreskog & Sörbom, 1993
CFI	0.900≤CFI≤0.940	0.950 and above	Hooper, Coughlan, & Mullen, 2008; Hu & Bentler, 1999; Karagöz, 2017
X^2/df	2.000<X^2/df≤5.000	0.000≤X^2/df≤2.000	Kline, 2005; Özdamar, 2015; Tabachnick & Fidell, 2013

According to the fit indices of the DEAS (Table 2) results, it was decided that the DEAS measures the attitudes of teachers in Turkey towards compulsory distance education with 10 items and two sub-dimensions validly and reliably (Figure 1, Table 2).

Table 3. *The Fit Indices of DEAS*

χ^2	sd	χ^2/sd	RMSEA	AGFI	SRMR	RMR	NNFI	CFI	NFI	IFI
50,804	33	1,540	0,070	0,87	0,055	0,120	0,96	0,92	0,81	0,92

The reliability of the scale's sub-dimensions within the scope of this study was 0.72 for "Efficacy"; 0.51 for “Difficulties”. These values are accepted as “moderate reliability” (Özdamar, 2015, p. 555).

Cognitive Flexibility Inventory (CFI): The inventory was developed by Dennis and Vander Wal (2010), and it was adapted into Turkish by Sapmaz and Doğan (2013). The inventory has a five-point Likert-type structure. The validity and reliability study of the inventory was completed on university students. CFI consists of 20 items and can be used as the total cognitive flexibility score and the totals of two sub-dimensions, the "Alternatives" sub-dimension score and the "Control" sub-dimension score. Items 2*, 4*, 7*, 9*, 11*, and 17* of the inventory are reverse items and need to be recoded for analysis. There are 13 items in the "Alternatives"

sub-dimension and 7 in the "Control" sub-dimension. The "Alternatives" dimension of the inventory includes the perception of the individual that "alternative solutions can be found in managing difficult situations". The "Control" sub-dimension measures the perception that "difficult situations can be controlled". In the adaptation study of the inventory, the Cronbach's alpha reliability coefficient was calculated as .90 for the entire scale, .90 for the "Alternatives" sub-dimension, and .84 for the "Control" sub-dimension. The test-retest reliability coefficient was .75 for the entire inventory, .78 for the "Alternatives" sub-dimension, and .73 for the "Control" sub-dimension (Sapmaz & Doğan, 2013).

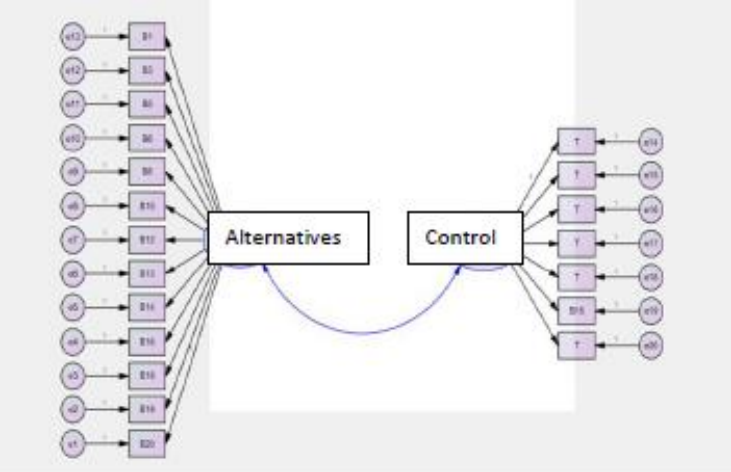

Figure 2. *CFA Model of CFI*

The CFA was examined over the data set collected from 220 teachers from various branches working in the elementary and secondary education levels to determine whether the CFA preserves its original factor structure with the teachers whose data was collected within the scope of this research. The CFI results are presented in Table 2 below, and the values confirming the structure are shown in Figure 2 above.

The obtained fit index values (Table 2) are acceptable in the literature (Table 1). However, it has been determined that the inventory does not work with the total score (Figure 2).

Table 4. *The Fit Indices of CFI*

χ^2	sd	χ^2/sd	RMSEA	AGFI	SRMR	RMR	NNFI	CFI	NFI	IFI
342,23	169	2,025	0,068	0,84	0,055	0,05	0,85	0,92	0,85	0,92

The internal reliability of the CFA was .88 for the "Control" sub-dimension and .91 for the "Alternatives" sub-dimension, based on the data set collected from the teachers. Reliability coefficient values between .70 and .90 for scales are accepted as "high reliability" (Özdamar, 2015, p. 555).

2.3. Data Analysis

Data collected from 320 teachers via DEAS, CFI, and Google Form were transferred to the SPSS 22 program. In the study, the cognitive flexibility level of the teachers was determined according to the mean. For the analysis of differences between teachers' attitudes towards cognitive flexibility and compulsory distance education according to their gender, branch, professional seniority, and level of technology use causal comparison tests were used. The Scheffe test was used to analyze the differences between groups. The Scheffe test was preferred as it controls the margin of error if the number of groups to be compared is large and does not assume that the number of observations in the groups is equal (Scheffe, 1953; Scheffe, 1959 cited by Kayri, 2009). Also, the correlation analysis for the relationship between cognitive flexibility levels and attitudes towards compulsory distance education; regression analysis to determine the effect of cognitive flexibility levels on attitudes towards compulsory distance education were used. The normal distribution precondition was checked in the data set collected from 320 teachers for the related analyzes. In this context, "the arithmetic mean, median and mode values of the total scores of the data are equal" (Sezgin, 2009, p. 83), skewness and kurtosis coefficients are in the range of ±1 (Cokluk et al., 2010, p. 16) checked for normal distribution in the data set collected. The data set was also analyzed with the Kolmogorov-Smirnov Test (Table 5).

In the data set, the arithmetic mean, median, and mode values of the research sub-dimensions were not the same, but the values were close to each other. The skewness and kurtosis values are in the range of ±1. According to the Kolmogorov-Smirnov test results, the scale sub-dimensions did not show a normal distribution (Table 5).

Table 5. *Normality Test Results*

	CFI		DEAS	
	Alternatives	Control	Efficacy	Difficulties
N	320	320	320	320
Arithmetic Mean	56,6156	26,1500	18,1281	13,2719
Median	57,0000	27,0000	17,0000	13,0000
Mod	65,00	29,00	16,00	12,00
Standard Error	6,46227	5,95669	5,04455	2,65187
Skewness	-,539	-,678	,385	,376
Std. Error Skewness	,136	,136	,136	,136
Kurtosis	-,316	-,039	-,242	-,163
Std. Error Kurtosis	,272	,272	,272	,272
Assymp. Sig. (2-tailed)	0,00	0,00	0,00	0,00

Şencan (2005) states that "the calculated p-value does not always give correct results because the Kolmogorov-Smirnov test is greatly affected by a small number of discrete/outlier values" (p.196). With the results of other analyzes, it was decided that the data set obtained in this study can be accepted as normally distributed in the context of the sub-dimensions of the research scales.

2.4. Ethical

This research was carried out following the ethics committee decision of the Republic of Turkey Giresun University Social Sciences, Science and Engineering Research Ethics Committee dated 21/07/2021 and numbered 12/16 and the permissions obtained from the developers/adapters of the scale/inventory used in the research.

3. Findings

The findings of the research questions are summarized under the relevant headings.

The mean regarding the cognitive flexibility level of the teachers participating in the research is summarized in Table 6 below. Balcı's (2004, p. 220) score ranges were adapted for evaluation and interpretation of weighted average scores (Table 6-7).

Table 6. *Cognitive Flexibility Levels of Teachers*

CIF	N	Highest-Lowest Values	$\bar{X}$	S
Alternatives	320	13-65	56,6	6,4
Control		7-35	26,4	5,9

Table 6 results can be evaluated as *relatively high* for the "Alternatives" dimension, which includes teachers' perceptions of "alternative solutions can be found in managing difficult situations" of cognitive flexibility ($\bar{X}$ Alternatives = 56,6) and *relatively high* for the "Control" sub-dimension, which includes difficult situations that can be controlled ($\bar{X}$ Control = 26,4).

The mean of teachers' attitudes towards compulsory distance education is summarized in Table 7 below.

Table 7. *Teachers' Attitudes Towards Compulsory Distance Education*

DEAS	N	Highest-Lowest Values	$\bar{X}$	S
Efficacy	320	6-30	18,1	5.0
Difficulties		4-20	13,3	2,7

Table 7 results indicate that teachers have attitudes that can be considered *neutral* in the context of "Efficacy" ($\bar{X}$ Efficacy = 18,1) and "Difficulties" ($\bar{X}$ Difficulties = 13.3) of compulsory distance education. Thus, it shows that the teachers participating in the research have attitudes that cannot be evaluated positively or negatively

regarding the "functionality of distance education" and "the use of the database system used during compulsory distance education".

The t-test results (Table 8) and ANOVA results (Table 9) are presented below.

Table 8. *T-test Results for Difference Analysis of the Sub-Dimensions of CFI and DEAS by Gender and Branch Variables*

	Sub-dimensions	Gender	N	$\bar{X}$	S	sd	t	p
CFI	Alternatives	Female	176	55,6	,51	318	-3,244	0,001*
		Male	144	57,9	,49			
	Control			25,3	,47		-2,805	0,005*
				27,2	,47			
DEAS	Efficacy			4,7	,35		3,740	0,000*
				5,3	,44			
	Difficulties			2,5	,19		-2,148	0,033*
				2,8	,23			
	Sub-dimensions	Branch	N	$\bar{X}$	S		t	p
CFI	Alternatives	Primary Teacher	87	57,4	,68	318	1,376	,171
		Branch Teacher	233	56,3	,42			
	Control			25,0	,65		-2,046	,043*
				26,6	,38			
DEAS	Efficacy			18,7	,61		1,143	,254
				17,9	,31			
	Difficulties			13,1	,27		-,724	,470
				13,3	,18			

When Table 8 is examined, both the sub-dimensions of the CFI and the DEAS according to the "gender" of the teachers participating in the research were found to be different ($t_{(318;\ Alternatives)} = -3.244$; $t_{(318;\ Control)} = -2.805$, $p<.05$), ($t_{(318;\ Efficacy)} = 3.740$; $t_{(318;\ Difficulties)} = -2,148$, $p<.05$) . Attitudes of male teachers towards sub-dimensions are *relatively more positive* than female teachers.

According to the branch independent variable, while there is no difference between the attitudes in the DEAS sub-dimensions ($t_{(318;\ Efficacy)} = 1.143$; $t_{(318;\ Difficulties)} = -,724$, $p>.05$); There is only a difference in the "Control" sub-dimension of the CFI ($t_{(318;\ Alternatives)} = 1.376$, $p>.05$; $t_{(318;\ Control)} = -2,246$, $p<.05$). The mean scores of the "Control" sub-dimension of the CFI of the branch teachers are higher than the preschool and class teachers. This finding shows that branch teachers in the research have more positive perceptions of "controllability of difficult situations" than primary teachers.

When Table 9 below is examined, no difference has been determined between the groups for the "seniority" independent variable in the CFI sub-dimensions according to the seniority and technology use independent variables. There is a difference between the groups only for the "Alternatives" sub-dimension of the CFI ($F_{(2-317Alternatives)} = 13.33$, $p<.05$). The results of the Scheffe Test, which was conducted to determine the difference between the groups, show that the attitudes of the teachers with the advanced level of technology use regarding the "Alternatives" dimension of CFI are different from teachers whose technology use levels are at basic and moderate levels. The arithmetic mean of the scores given to the items belonging to the "Alternatives" sub-dimension by the teachers with the advanced level of technology use is higher than the teachers reporting that they have a basic and moderate level of technology use ($\overline{XAdvance} = 60,0 > \overline{XModerate} = 56,1 > \overline{XBasic} = 52,7$). This result shows that teachers with advanced technology use have more positive perceptions that "alternative solutions can be found in managing difficult situations".

Table 9. *ANOVA Results of CFI and DEAS Sub-Dimensions According to the Seniority and Level of Technology Use Variables*

Seniority	Sub-dimensions	N	$\bar{X}$	S	Sd	F	p	Difference
1-5 Years		66						
6-10 Years		137						
11-15 Years		71						
16Y&above		46			3			
CFI	Alternatives				316	,956	,41	
	Control					,926	,43	None
DEAS	Efficacy					,513	,67	
	Difficulties					1,040	,38	
Level of Technology Use	Sub-dimensions	N	$\bar{X}$	S	Sd	F	p	Difference
Basic		18						
Moderate		243						
Advance		59						
CFI	Alternatives	Basic	52,7	,39	2	13,33	,00*	Basic-Advance
		Moderate	56,1	,69	317			Moderate-Advance
		Advance	60,0	2,01				
	Control					2,53	,08	
DEAS	Efficacy					2,33	,09	None
	Difficulties					1,62	,20	

When the correlation test results for the analysis of the relationship between cognitive flexibility levels and attitudes towards compulsory distance education are examined, the CFI sub-dimensions are "moderately" related. The DEAS sub-dimensions are not associated with each other. The “Alternatives” sub-dimension of the CFI has a “low” relationship with both DEAS sub-dimensions. The "Control" sub-dimension, on the other hand, has a "low" relationship with only the "Difficulties" sub-dimension (Table 10).

Table 10. *The Relationship Between CFI and DEAS Sub-dimensions*

	Sub-dimensions		Alternatives	Control	Efficacy	Difficulties
CFI	Alternatives	r	1	,450**	,150**	,111*
		p		,000	,007	,048
		N	320	320	320	320
	Control	r	,450**	1	,100	,189**
		p	,000		,075	,001
		N	320	320	320	320
DEAS	Efficacy	r	,150**	,100	1	,085
		p	,007	,075		,128
		N	320	320	320	320
	Difficulties	r	,111*	,189**	,085	1
		p	,048	,001	,128	
		N	320	320	320	320

*p<0.05 level (2-tailed); p<0.01(2-tailed)

Under this title, the effect of the "Alternatives and Control" sub-dimensions of CFI on "Efficacy and Difficulties", the DEAS sub-dimensions, were determined by regression analysis.

Table 11. *Multiple Regression Analysis Results on the Prediction of the "Efficacy" Sub-Dimension of DEAS*

Variables	B	Std. Error$_B$	ß	t	p	Zero-order r	Partial r
Constant	11,387	2,472	-	4,606	,000	-	-
Alternatives	,103	,048	,132	2,132	,034	,150	,119
Control	,034	,053	,040	,644	,520	,100	,036
R=,155; R^2=,024; $F_{(2,317)}$=3,884; p=,000							

Although the "Alternatives and Control" sub-dimensions of the CFI are associated with the "Efficacy" sub-dimension of DEAS (R = .155, R^2 = .024, p<.01), it explains only a very small part (2.4%) of the total variance of "Efficacy" (Table 11).

DEAS (Efficacy) = 11,387 + ,103 Alternatives + ,034 Control

Table 12. *Multiple Regression Analysis Results on the Prediction of the "Difficulties" Sub-Dimension of DEAS*

Variables	B	Std. Error$_B$	ß	t	p	Zero-order r	Partial r
Constant	10,491	1,291	-	8,125	,000	-	-
Alternatives	,013	,025	,032	,525	,600	,111	,029
Control	,078	,027	,174	2,821	,005	,189	,156
R=,191	R^2=,036						
$F_{(2,317)}$= 5,996	p=,000						

Although the "Alternatives and Control" sub-dimensions of the CFI are related to the "Difficulties" sub-dimension of the DEAS (R = ,191, R^2 = ,036, p<.01), the total variance of the "Difficulties" sub-dimension only explained very little of it (3.6%) (Table 12).

DEAS (Difficulties) = 10,491 + ,013 Alternatives + ,078 Control

4. Conclusion and Discussion

Mandatory remote delivery of all education-related activities during the COVID-19 global epidemic has required teachers who provide and manage services to adapt quickly to technology-supported education applications. This process, conceptualized as *compulsory distance education* within the scope of this research, as implemented in schools affiliated to the MoNE, required coping with many difficulties like the stress created by the existence of the global epidemic that threatens human life, adapting all of the education-teaching activities which are routinely applied face-to-face in the classroom to technology-supported education platforms, and face-to-face communication between administrators, teachers, students, and parents through media (Koçoğlu & Tekdal, 2020; Klapproth et al., 2020; MacIntyre, Gregersen & Mercer, 2020). McShane and Von Glinow (2016) state that attitudes are "conscious logical reasoning" (p. 67). Considering that teachers went through a complex process during the changing education practices, it was predicted that their cognitive flexibility, very effective in "adapting to unexpected situations" (Moore & Malinowski, 2009), was effective on their attitudes towards compulsory distance education. This study investigated the effect of teachers' cognitive flexibility levels on their attitudes towards compulsory distance education during the epidemic.

The research findings show that the cognitive flexibility levels measured by the Cognitive Flexibility Inventory of the teachers are high during the epidemic. Some research findings, completed with teachers working in the field, indicate that teachers' cognitive flexibility levels were high even before the epidemic (for example, Polatoğlu, 2018; Üzümcü & Müezzin, 2018). Although no other research was completed with teachers measuring their cognitive flexibility during the epidemic, some research with novice teachers in the same period shows that their cognitive flexibility levels during the epidemic were high (for example, Yazgan, 2021).

Research findings conducted in the sample of Turkey during the epidemic to determine teachers' attitudes towards distance education show that teachers working in the field have negative attitudes towards distance education (for example, Moçoşoğlu & Kaya, 2020; Yahşi & Kırkıç, 2020). According to the findings of this study, it has been determined that teachers' attitudes towards compulsory distance education are neutral. The cognitive flexibility level and attitudes towards the sub-dimensions of compulsory distance education of male teachers participating in the research are relatively high and more positive than female teachers. Some of the field studies show that gender affects cognitive flexibility and that women adapt to managing risky or challenging situations longer than men (Mather & Lighthall, 2012; Westbrook et al., 2018). While the teachers' branches do not make a difference on the DEAS sub-dimensions, in the CIF "Control" sub-dimension, it was determined that the scores of the branch teachers were higher than the scores of the group consisting of preschool and classroom teachers. This finding shows that branch teachers find the difficulties created by compulsory distance education more controllable than preschool and classroom teachers working with younger age groups. This result may be because students in younger age groups need the guidance of their teachers more in the learning process. Foti's (2020) study, in which she identified the difficulties that preschool

teachers experienced during the epidemic, indicated that teachers could find very few suitable materials that could be used in distance education developed for preschool students. Some students/families do not know how to use technologies suitable for databases used in distance education, and they do not have the tools to use these databases. Saygı (2021), with the data collected from primary school teachers, show that class teachers are negatively affected by students' absenteeism, not being able to provide adequate colleague communication and support, and technological inadequacies regarding distance education services provided during the epidemic. They indicate that they have difficulties in evaluating learning outcomes. The research findings of Yahşi and Kırkıç (2020), especially of Turkish language education teachers, Kara's (2021) research findings of art teachers, and Bingöl's (2020) research findings of physical education and sports academicians' show negative attitudes towards compulsory distance education. These findings indicate that the technologies used in compulsory distance education have created some constraints for language, art, physical education, and sports teaching.

It was determined that the teachers who stated that their technology knowledge was "advanced" showed a significant difference in the "Alternatives" sub-dimension of the CFI scores than those at a "basic and moderate" level. In other words, teachers who can use technology at an "advanced" level have seen many alternatives that can be used in compulsory distance education. Although this finding has been studied at the higher education level, it is supported by the research findings of Tabata and Johnsrud (2008). According to the relevant research findings, those with technological knowledge and experience have more positive attitudes towards distance education.

Research findings has shown that "Alternatives" sub-dimension of CFI has only a "low" relationship with both sub-dimensions of DEAS; the "Control" sub-dimension of CFI has only a "low" relationship with the "Difficulties" sub-dimension of DEAS. To put it more clearly, teachers' perceptions that "alternative solutions can be found in managing difficult situations" are related to their attitudes towards "functionality of distance education" and "usability of the database system used throughout distance education". Again, their attitudes towards "the usability of the database system used during distance education" are related to their perceptions that "difficult situations can be controlled". Nevertheless, cognitive flexibility has been found to have a very limited effect on attitudes towards compulsory distance education. This finding can be interpreted as the teachers participating in the research could use the cognitive flexibility provided by their cognitive flexibility in a limited amount during compulsory distance education. Yaşar (2019) determined that the cognitive flexibility of the parties in crisis and stressful periods and their participation in the decision processes regarding the things to be implemented are also compelling. The research findings of Karbeyaz and Kurt (2020) point out that there are some problems with the content of EBA used in schools affiliated with the MoNE during the epidemic. Although the attitudes of the participants in the related research towards the use of EBA were positive, they reported that their students were negatively affected by the fact that "EBA provides one-way communication, is not interesting, does not comply with the level of readiness and does not have the technological infrastructure required by every student".

5. Recommendations

In the light of these findings, it has been evaluated that especially in times of crisis, teachers' self-management of their students' learning processes and their own determination of the technological infrastructure they will use in teaching will have more positive effects on their attitudes towards distance education and on what is planned to be obtained from the distance education process in such periods.

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Advice for Academician Mothers with Only Child: "I Wish He Had A Brother"

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ABSTRACT

The purpose of this research is to reveal what kind of reactions academic mothers get from having a only child and their thoughts on having a child again. In this study, descriptive phenomenology design, one of the qualitative research designs, was used. The study group of research was composed of 9 academician mothers (32-51 age range; age range at marriage: 22-35; duration of the marriage; between 7-23 years) with an only child (5-25 age range), using the criterion sampling method, which is one of the purposive sampling methods. Inclusion criteria for the research; They are academicians who have a child of at least 5 years old and have only child. A semi-structured interview was used to collect the data. Content analysis was used to analyze the data collected. As a result of the analysis, the theme of "I wish he had a brother" was reached. As a result, it has been seen that academic mothers with one child are supported by their spouses to have one child; however, most of them want to have a second child. tap here to enter text.

Keywords:
Only child, academician mother, family demography, sibling, qualitative research

1. Introduction

It is seen that business life has an important role in the decision to have a child, especially among working women, since they are primarily responsible for the child's care. Today, the ratio of working women in the total workforce is 46% in the USA, 46.3% in Germany, 48% in France, 46.8% in the UK and 32.8% in Turkey (Turkish Statistical Institute (TUIK), 2020). According the United Nations Population Fund (UNFPA, 2018), the number of births of women in the world has decreased by half in the last fifty years and that the average number of children per woman in the world as of 2018 is 2.5, this number was doubled in the mid-1960s. is noteworthy. The increase in the number of children means that women participate less in the workforce (Aslan & Atabey, 2007; Dayıoğlu & Kırdar, 2010; Kızılgöl, 2012; Yıldırım & Doğrul, 2008). In other words, it can be said that as women's participation in the workforce increases, they prefer to have fewer children.

Turkish society has had an extended family structure because they were engaged in agriculture and animal husbandry in the past, they lived in rural areas, and their close family ties were strong. In the last 20 years, the family structure has changed greatly because women have entered the business life in our society, the migration from the village to the city has accelerated, the health problems have increased, and the economic imbalance has increased. The increase in the educational status of women and their entry into the working life have made the nuclear family structure widespread (Palabıyık, 2018). However, there has been a transition from the extended family to the nuclear family system consisting of mother, father and children.

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Changes and difficulties in economic and social life push individuals to limit the number of children. Women's participation in business life and support for the home economy necessitated sharing responsibilities at home. The most important of these responsibilities is child care. For these reasons, parents can impose limits on themselves to have children. It is seen that families prefer only one child for many reasons. At the beginning of these reasons is the concern to give their only children a better and quality education and leave them a more economic future. Late marriage and health problems due to time-consuming studies lead people to have only one child [Ministry of National Education (MoNE, 2013)].

While women's participation in working life is increasing, they usually have children again because they believe that their children should have siblings. However, it cannot be said that every child has a sibling. The rate of families with one child in America is 16.8%; While the rate of those with two or more children is 23.6% and the rate of families with no children is 59.3% (Census, 2019); It turned out that the rate of only children in Germany is 26% (deutschland.de, 2020) and the number of families without children is 31% (GfK GeoMarketing, 2012). According to 2016 population data in France, the rate of only children in the 0-17 age group is 44.6%; it is seen that the rate of those who have one or more siblings is 56.2% (INSEE, 2020). According to the Turkey Family Structure Survey (2016), 34% of individuals have two children; 23% have three children; 12% have four children; 6% consists of families with five children and 15% with one child. In other words, families with two children in the first place in our country; Families with three children are in the second rank and families with one child are in the third rank. Although not in the first rank, these results show that the families that prefer to have one child are at a level that cannot be underestimated.

The concept of one child was first used by Adler (1928) in the literature. Adler (1931) has a negative view of only children in general. Only children are egocentric (Adler, 1964; Jiao et al., 1986), social skills are lacking (Claudy, 1984; Adler, 1964; Aydın, 2019; Ogelman & Sarıkaya, 2014; Downey & Condron, 2004); more mental health problems than expected (Belmont & Marolla, 1973; Howe & Madgett, 1975; Makihara, Nagayave Nakajima, 1985); spoiled, lonely, attention-seeking, stubborn, restless, selfish (Jiao et al., 1986; Sorensen, 2008; Roberts & Blanton, 2001; Pitkeathley & Emerson, 2013); they have few friends (Graham-Bermann & Gest, 1991; Miller & Maruyama, 1976). Although some studies have found that only children are social, intelligent, have high leadership skills and self-esteem (Falbo, 2012; Falbo & Polit, 1986; Veenhoven & Verkuyten, 1989), the society's negative view of only children is similar to the above research findings. can be said to have an angle. People believe that only children have more negative traits than children with siblings (Polit & Falbo, 1987); It confirms that only children are perceived as spoiled, lonely, selfish, and restless by society (Roberts & Blanton, 2001). This negative perception can be interpreted as "He who has no siblings will be strange" (Eker, 2002, p. 150), "The crib is not empty in a happy family" (Yoldaşev & Gümüş, 1995, p.140), "One child is in trouble" (Geldiyev & Karayunusoğlu, 2017, p.315) is also reflected in the Turkish proverbs.

The most important reason why today's parents with one child prefer to have one child is the fact that women are more involved in working life (Croda, Kyriazidou & Polycarpou, 2011; Contreras & Plaza, 2010; Dayıoğlu & Kırdar, 2010; Rosenzweig, 1976; Weinlein, 2000). It can be said that academics, one of the professions in which women spend a lot of time in business life, is quite determinative on women's having children. 31.5% of female academics in Japan; 40% of female academics in the United States; 40% of female academics in Germany; 46% of female academics in Finland; 47% of female academics in Hong Kong (Aiston & Jung, 2015); 37% of female academics in Turkey (Çakır & Arslan, 2018) have children; This shows that the number of female academics who do not have children is much higher, whether they are married or not.While 56% of women (YÖK, 2020), who make up 45.2% of academics in Turkey, do not have children, 28% have one child and 15% have two children (Özkanlı & Korkmaz, 2000). In another study, the rate of women who had no children among academicians was 63%; the rate of those with only one child is 24.4%; the rate of those with two children is 10.4%; The rate of those with three or more children was calculated as 1.5% (Çakır & Arslan, 2018). These research findings show that more than half of female academics, both in our country and in the world, have never had a child. However, among female academicians who have children, it is seen that those who have only one child come first. Since approximately one-third of academic mothers have only one child, it can be thought that academic mothers represent an important population for research on parents of only children.

The fact that women with only one child or no child are more likely to be successful in academia (Baker, 2008) causes many academic mothers to prefer only one child (Dikmen & Maden, 2012). Therefore, it is seen that there is a need to reveal whether having an only child is a choice or a necessity for an academic mother, and

what is effective in the one-child decision and how it affects this decision. In addition, how academic mothers perceive having an only child; It is thought that revealing how others perceive them and how they are affected by this perception will make the experience of having an only child more understandable.

Women working in the academic field firstly wanted to direct their academic life, they left having children after their doctorate, and they could only have one child; It is seen that they either leave their pre-school children at home or take a break from their academic activities for a certain period (Demir, 2018). Women with only one child or no child are more likely to be successful in academia (Baker, 2008) causes many academic mothers to prefer only one child (Dikmen & Maden, 2012). In the light of these research findings, it can be said that the only child is both a choice and a necessity for academic mothers. For this reason, it is thought that it is important to reveal the perceptions of academic mothers who have only one child and what kind of reactions they get from their environment. This research is an original study in terms of revealing both the views of academician mothers with one child about having one child and the reactions of the society to mothers due to having one child. It is believed that this research will contribute to filling the gap in the literature, since there is no research in the literature examining the views of single-children mothers on having one child.

Thehe aim of this study is to examine the views of academic mothers with one child about having one child. In line with this general purpose, answers to the following questions were sought:

1- What are the opinions of academician mothers on the factors that affect they have an only child?

2- What are the views of academician mothers on the convenience and difficulties of having an only child?

3- What is the point of view of academician mothers' spouses and their circles (family, friends, etc.) about having an only child?

4- What are the views of academician mothers about having a child again?

2. Methodology

2.1. Research Model

In this study, descriptive phenomenology design, one of the qualitative research designs, was used. In qualitative research, data is collected through specific questions in order to understand and make sense of how individuals look at events as a result of their experiences from their lives. The feature that distinguishes qualitative research from other studies is that it deals with the opinions of sensitive individuals, difficult to work with, and trying to cope with many problems (Creswell, 2017). According to Patton (2014), the advantage of qualitative research is that it allows an in-depth analysis of a generally considered topic. In phenomenological research, all interviewees must have experienced the phenomenon under consideration or have established close relationships with people who have had experience with this phenomenon (Rolfe, 2006). Phenomenology is one of the preferred philosophical methods for collecting in-depth data, as it attaches great importance to experiences. It deals with how the events and experiences of the people are experienced and how they are given meaning (Mayring, 2011; Smith & Osborn, 2015). According to the phenomenological point of view; there is no single truth, reality is subjective and what we know may change over time, depending on the situation, the environment and the conditions we live in (Smith, 2003). Phenomenological study is a definition that covers all the experiences of more than one person in their life about a phenomenon or concept (Creswell, 2015).The phenomenon of this research is being an academic mother with only one child.

2.2. Research Sample

The study group of this research was formed by the criterion sampling method, which is one of the purposive sampling methods, from 9 academic mothers with an only child aged 5 years and older who worked in different faculties of Karabuk University in the academic year 2019-2020.In criterion sampling, all situations that meet a predetermined set of criteria can be studied. The criterion can be created by the researchers or determined by a prepared list of criteria (Yıldırım & Şimşek, 2000). The criterion in this study is that it is an academic woman who has only one child aged 5 years and older. The socio-demographic data of the study group are shown below (Table 1).

Table 1. *Study Group Information*

Age	Child's age	Age at marriage	Duration of marriage	Educational status
42	5	27	15	Doctorate
32	5	25	7	Doctorate
37	12	24	13	Master's degree
51	20	29	23	Yüksek lisans
32	5	25	8	Doctorate
47	7	35	12	Doctorate
38	8	28	10	Master's degree
33	5	25	8	Doctorate
48	25	22	Divorced	Master's degree

2.3. Data Collection Tools and Procedure

In this study, semi-structured interview, one of the qualitative research techniques, was used to collect data. There are certain questions to be asked in semi-structured interviews (Glesne, 2012). In a semi-structured interview, the researcher can change the structure of the questions, ask additional questions or remove questions that do not match the content (Yıldırım & Şimşek, 2000). A semi-structured interview form consisting of five open-ended questions was used to collect data in this study. The questions in the interview were prepared by the researcher and the thesis advisor following the purpose of the research. Two faculty members from the Guidance and Psychological Counseling Department conduct qualitative research to evaluate whether the questions in the interview form reflect the purpose of the research and whether they are understandable; The opinion of a faculty member from the Child Development Department was taken. Changing a question after lecturers' comments; It was decided to add one question.

The importance of piloting is also emphasized to ensure that a useful interview form is designed (Büyüköztürk et al., 2019). After receiving expert opinion for the interview questions, a pilot interview was conducted with an academician mother of one child to test whether the questions were functional. After the pilot interview, “What kind of reactions do you get from your environment as a parent with one child?” in the interview form. It turns out that the question is missing. It was determined that the academic mother's opinion of her husband's decision to have an only child was not a problem, and the semi-structured interview questionnaire was supplemented with the question, "How does your spouse react to you having an only chilOther questions were found to be appropriate and understandable for the purpose of the research. After the arrangements made, the interview form was given its final form.

Alfred Adler (1931), first put forward the idea that children have a structure that categorizes them according to their position in the family and their birth order, and that each has its own characteristics. The concept of one child was first used by Adler (1928) in the literature. Adler (1931), who put forward the concept of birth order as a mechanism for understanding child behavior, argues that the position of the childchild's position in the family greatly affects his general development and attitudes towards life. Adler (1931) has a negative view of only children in general. The child, who is afraid of losing the mother and wants to keep his attention, is pampered by his mother. Based on this point of view, research questions were prepared.

To the participants;

- “What factors contributed to you having an only child?”
- “What are the conveniences and difficulties of having an only child?”
- “What kind of reactions do you get from your spouse and your environment when you have an only child?”
- “What do you think about having children again?” questions were asked.

Detailed information about the study was given to the participants, and it was stated that voluntary participation was essential and the participants signed the information and consent form. The researcher himself conducted the interviews. These interviews were conducted face to face.Interviews with the participants were recorded on a voice recorder. It was informed that the recorded interviews would be transcribed by the researcher, the identity of the participants would not be revealed, these texts would be reviewed by the experts whose opinions were obtained as part of the research, and would not be used

outside.The interviews took place between a minimum of 15 minutes and a maximum of 25 minutes, adhering to the questions in the semi-structured interview form and giving the participants sufficient opportunity to think.

2.4. The Role of the Researcher

In qualitative research, analyzes are evaluated subjectively by their nature. Therefore, the researcher himself serves as a data collection tool. It is also important to be a person who spends time with the research subject, learns what is going on in the field, establishes one-to-one relationships with participants, and codes, categorizes, decontextualizes, and performs all applications related to recontextualization of the data (Tekindal & Uğuz, 2020).In phenomenological research, the researcher should be honest and aware of his own worldview and consider that there may be different opinions. In this way, the essence of the phenomenon examined by the researcher is accurately reflected (Kocabıyık, 2016). In this study, the fact that some of the employees of the institution where the researcher works have found that they have only one child has led to the emergence of the basic phenomenonIn addition to the old myth that only children are spoiled, asocial and selfish, the fact that the thesis advisor is an academic mother with only child played an important role. Therefore, it prepared the ground for researching the thoughts and feelings of both mothers with one child in the institution where they work and the thesis advisor's thoughts and feelings about only children.

2.5. Data Analysis

Phenomenological research consists of certain stages. These; determining the research problem, writing the problem and the purpose statement, designing the research, establishing the conceptual framework, identifying the participants, data creation process, data analysis and presentation. Phenomenological research stages are as follows: Horizontalizing, or listing all relevant expressions, Reduction of experiences to the invariant constituents, Thematic clustering to create core themes, Comparison of multiple data sources to validate the invariant constituents, Constructing of individual textural descriptions of participants, Construction of individual structural descriptions, Construction of composite structural descriptions, Synthesizing the texture and structure into an expression (Yüksel & Yıldırım, 2015).

Encoding, audio or video etc., etc. is the process of making sense of the data collected in different ways (Creswell, 2017); It is a concise word or short expression that is used symbolically to describe a language-based or visual data (Saldaña, 2019). In the first stage of the analysis, a total of 47 pages of data obtained from the interviewees were coded by the researcher. The researcher did the coding. First, each participant's answers to all questions were coded; Afterwards, the codes describing the answers given by all participants to each question were reviewed and the coding was completed. Then, similar codes were combined and a more general expression representing these codes, categories and sub-categories was formed. To check the compatibility of the codes with the categories, the link between the code and the category was established by using the backward coding method. Back coding is a method of reverse coding the data in order of theme-category-code to verify the compatibility between the codes, categories and themes created from the analyzed data (Creswell, 2013).

Category is when codes with common features come together to form similar schemes (Saldaña, 2019). A subcategory can be defined as the category type used when there is more than one code and the power of all codes to represent the same category is reduced. In case of more than one code, subcategories were created in addition to the categories in the parts where all these codes had difficulty in representing a single category. Subcategories were determined as a result of the combination of similar codes. In the categorization stage, subcategories defining the codes and categories covering subcategories were obtained. At this stage, some codes are merged; It was decided to add new sub-categories. As a result of the content analysis, it was decided that the data obtained from four questions asked in the interview could be combined.

For this reason, the data obtained based on the experiences of academic mothers with one child are presented under four main headings. In the categorization stage, subcategories defining the codes and categories covering subcategories were obtained. Data were collected in 9 categories and 10 subcategories.

2.5.1. Validity and reliability

Meriam (2013) states strategies to ensure internal validity, external validity and reliability in qualitative research. Internal validity reveals whether the findings reflect the truth, in other words, their credibility. With participant confirmation, validity can be evaluated in qualitative research (Creswell & Miller, 2000; Silverman, 2018). Participant confirmation is done to test the accuracy of the themes or stories by taking the analysis tables or descriptions created by the researcher to the participants. On the other hand, expert opinion is taken to determine the accuracy of the analyzed data and the rigor of the study (Creswell, 2017). This study sought participant confirmation and expert opinion for validity control. Seven of the participants confirmed the encodings obtained from the data. Since only two of the participants did not give any feedback, it was tried to contact them by phone, but no response was received. Within the scope of the expert opinion, two experts evaluated the text analyzed by the researchers, and it was decided that the codes and categories reflect the data in general, however some changes should be made.

In qualitative research, whether the results are consistent with the collected data reveals reliability (Meriam, 2013). One of the ways to test reliability in qualitative research is intercoder reliability (Silverman, 2018). The process is based on researchers making coding independently and then comparing these codings (Creswell, 2019). In this context, the researchers coded the data independently of each other and agreed on similar codes on the analyzed text, discussed and came to a decision on different codes.

Differences of opinion about coding have been tried to be resolved by considering the theoretical framework of the research. To measure the consistency between coders, the formula of reliability=consensus/total number of opinions+number of disagreements was used. At this stage, a reliability of 80% should be sought for precoding-recoding reliability, which is higher than the case for intercoder associations (Miles & Huberman, 2019). The inter-coder reliability value of this study was calculated as .85.

2.6. Ethical

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The Ethics Committee approved the study of the University of Inonu (No. 2020/3-5).

3. Findings

"Which factors were effective in your having an only child?" were asked, and the answers they gave to this question were grouped into two categories: obligations and preferences. The category of obligations is divided into three subcategories: work life, fertility problems and care; The preferences category is divided into two subcategories as personal preference and environmental influence.

"What are the conveniences and difficulties of having an only child?" was asked, and the answers they gave to this question were grouped into two categories as conveniences and difficulties. "What kind of reactions do you get from your spouse and your environment when you have an only child?" Spouses' responses to this question were divided into two subcategories, spouses' responses to the subcategory of reasons for wanting a child and each other's responses to two subcategories, recommendations for the second child and the only child.Ask the participants, *"What do you think about having children again?"* question was posed. The statements of the participants who stated that they wanted to have a child again in this question were divided into two sub-categories as reasons and concerns. The statements of the participants, who stated that they did not want to have a child again, regarding the factors affecting their continuation with an only child were grouped under three sub-categories: work life, physical/physical conditions and personal preference. The theme of "I wish he had a brother" was reached from the data obtained. In Figure 1, categories and sub-categories of this theme are given.

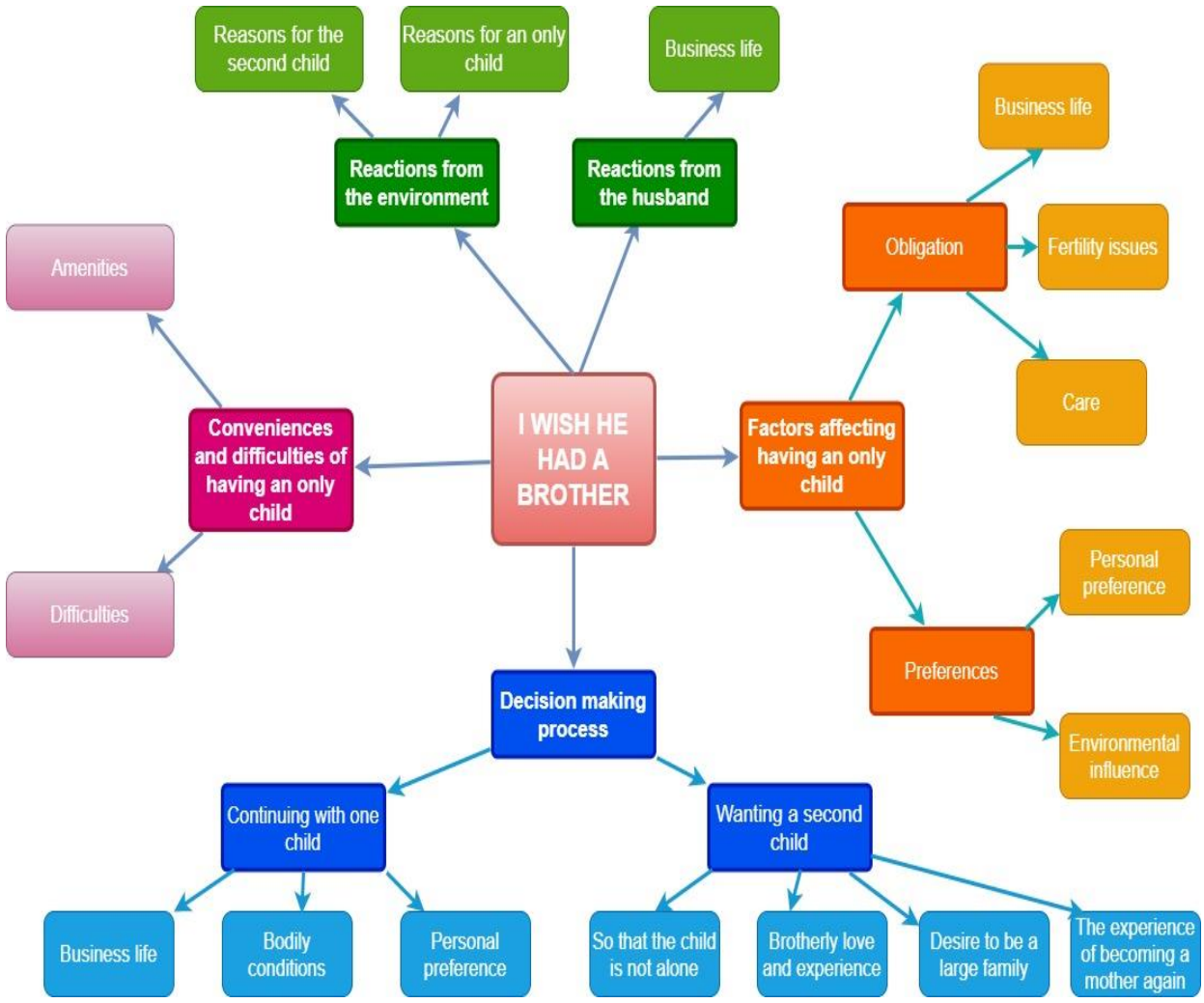

Figure 1. *Theme, categories and subcategories*

As seen in Figure 1, the factors affecting the participants' having only one child are divided into obligations and preferences. While most of the participants stated that they had to have an only child due to work life, fertility problems and difficulty of care; others stated that they preferred the only child by being influenced by the environment or personally.

Below are some quotations reflecting the sub-categories of work life, fertility problems, care in the category of necessity, and the sub-categories of personal preference and being affected by the environment.

> *"I can say that the hard work of my husband led me to have an only child for now, because of the difficulties of my own profession. It is very difficult on our own, it is difficult for us to meet all the needs, we can only manage for now."* (Business life)

> *"…I got married late, then I didn't have a child for a long time, I had treatments or something A… when I was born, I was in my 40s, and after that, it was A. But he was already seven years old, so the situation is against my will, you know. I don't know if I would like it, I'm not so sure about that either."* (Fertility issues)

> *"I can't say that we have made such a decision in particular, but it may be the second one, but for now, the difficulties have been effective, raising it alone in a different way without family support. I can say that my husband's hard work has led me to have an only child for the time being. It is very difficult on our own, it is difficult for us to meet all the needs, we can only manage for now."* (Maintenance)

Most of the participants stated that having an only child has both easy and difficult aspects. Academician mothers stated that they could take care of their children sufficiently because they could devote a large part of their time to their children because they were only; They stated that an only child requires less responsibility and makes it easier to live a comfortable life. In general, when compared to the difficulties of having an only

child, it is noteworthy that the conveniences outweigh the difficulties. However, it was observed that most of the participants were sad because their children grew up alone and without siblings; being alone and wanting more attention were expressed as the prominent difficulties of having an only child.

> *"For example, my friends, who have two or three children, go to her job and then run to the other because they are of different ages. Those who have more than one child have more responsibilities, we do not live it."* (Decreased responsibility)

> *"First of all, it provides more opportunities in terms of finances, and it is easier to make your programs… If you can spend a little more time in social life, maybe you will be divided according to two or three…"* (Living life comfortably)

> *"Being alone is definitely a challenge because she doesn't like to play too much alone or spends too little time with her toys."* (being alone)

When the participants' reactions from their spouses and surroundings were examined, it was seen that their spouses supported having one child. It was observed that the recommendations of the participants to have a second child from their environment predominated. The participants stated that not being able to take the responsibility of a second child is the determining factor in their spouses' desire for an only child. In addition, it was stated that one child is enough, they want to give all their love to their only child and their desire to raise ideal children are other reasons for their spouses' desire for an only child.

> *"He thinks the same thing, he thinks that because of our living conditions, our working conditions, when we grew up we did not have elders with us, so we were raised alone, so of course we think about what it would be like if it was a second time, but we keep thinking about how we are going to grow. When you think about it, it's lonely." (Failure to Take Responsibility) "My wife is not someone who is worried about multiplying so much, she also thinks that it is necessary to raise better quality children rather than having too many children like me. Of course, whatever Allah wills happens, our thoughts will change later, and we will have another child..."* (seeing enough)

Below are some quotes that reflect the recommendations received from the environment to have a second child and continue with an only child.

> *"He should not always be alone, he should have a sibling, he should not grow up alone, this is the reaction of everyone, why didn't you think about the second time, come on, you are old or something... The child should not grow up alone, he will need a sibling in the future, he will always feel incomplete, maybe he is missing when his friends live with his siblings. He will feel it, that's how we react."* (He will be without a brother and alone).

The participants' thoughts on having a child again were divided into two: wanting a second child and continuing with one child. More than half of the participants thought about having children again; The rest stated that they decided to continue with one child. Participants who wanted a second child cited as reasons that the child should not be alone, should experience sibling love, should develop a sense of trust, i.e., should experience brotherhood, the ideal of a girl and a boy, the longing for a little baby, i.e., the desire to be a mother again and to be a crowded family. They also stated that they were worried that they would not be able to learn to share and be a strong family with an only child.

Participants who chose to have an only child indicated that work life, i.e., intensive work, was the most important reason for having an only child. The reason for business life; personal preference, inability to share the love for the child, the desire to raise an ideal and only child, and divorce grounds were followed. In addition, it was stated that physical conditions such as being older, pregnancy and difficulty in care were also effective in continuing with one child. Two of the participants, who stated that they decided to continue with an only child, stated that they did not consider a second child due to the necessity of divorce and increasing age.

> *"So it was not available on my terms, my son grew up in a car anyway, maybe that's why he likes cars, life was hard for us, my aunt is helping us now. But the second child would be very difficult to get such support. I didn't want to be selfish either, I didn't want to have another child without giving him good opportunities, I didn't want to raise another child in a car."* (Business life)

> *"I am also a part of the society, socially, the child does not always seem to be complete without siblings, the sibling awareness is the thought that that child has the right to have a sibling. I think the same way, so I don't think being an only child is unfair to the other child..."* (Sisterly love tasting)

After all these expressions; The "I wish he had a brother" theme emerged by combining the categories of conveniences and difficulties of having an only child, factors affecting having an only child, decision-making process, reactions from the environment, and reactions from the husband.

4. Conclusion and Discussion

In this study, the factors that affect the mother's having one child, the conveniences/difficulties of having one child, the reactions from the spouse and the environment about having one child, and their thoughts on having a child again were examined in this study. Factors affecting academician mothers' having an only child are divided into obligations and preferences. Due to their hard work, more than half of academic mothers had to have only one child; It has been revealed that work life, fertility problems and care make an only child obligatory. For the remaining participants, having an only child was a choice; personal preference and being affected by the environment were the reasons for preferring the only child. In this study, it was seen that hard work was the prominent factor of having an only child. A study determined that 56 percent of female academics have no children, 28 percent have one child, and 15 percent have two children (Özkanlı & Korkmaz, 2000). As can be understood from this research, more than half of the female academicians have no children; It is seen that more than a quarter of them have only one child. The work intensity of women working in the academic field affects their ability to start a family and have children (Armenti, 2004; Demir, 2018: Dikmen & Maden, 2012; Santos, 2015); Findings that they married late, had late children, and faced difficulties in terms of family and having a child (Armenti, 2004; MEB, 2013; Yıldız, 2018); This study supports the finding that intensive work is determinant in mothers having only one child.

Parents may prefer to be only-child due to the anxiety of not showing enough attention to their children, having difficulties in their care, and not meeting their children's needs (Rossberg, 2008). The fact that female academics have responsibilities as a mother at home and their workload shows that they have a double duty. Academic mothers, on the one hand, make progress in the academic field; On the other hand, they may have to limit the number of children to balance these tasks (Beddoes & Pawley, 2014; Comer & Stites-Doe, 2006; Ergöl et al., 2012; Gönen & Hablemitoğlu, 2004; Santos, 2015; Yıldız, 2018). With these research findings showing that having an only child can be a choice or a necessity, for some of the academic mothers in this study, the only child is a necessity; The findings that it is a preference for some overlap. Given that female academics would prefer to have two or three children if they had the opportunity (Kemkes-Grottenthaler, 2003), this study's striking finding that having one child is a necessity is indicative of women's desire to have more than one child.

In this study, compared to the difficulties associated with having an only child, the conveniences outweigh the difficulties. While the ability to care for the majority of academic mothers is an easy aspect of having an only child, growing up alone turns out to be the most frequently cited difficult aspect of having an only child. While less than half of mothers are satisfied with having only one child, it turns out that more than half of them are sad and unhappy about leaving their only child without a sibling. The fact that only children have a higher level of loneliness than their siblings (Wei, 2005) and generally feel lonely and restless (Roberts & Blaton, 2001; Sorensen, 2008; Thompson, 1974) This confirms the finding that growth is the most commonly cited challenge. In addition to the above studies, only children have lower social skills than children with siblings (Aydın, 2019). The fact that their anxiety level is higher and their academic performance is lower (Wei, 2005) explains the dissatisfaction of more than half of mothers because they leave their only child without siblings.

Parents who have two or more children perceive parenting as more stressful and difficult than parenting a single child (Erkan & Toran, 2010; O'Brien, 1996; Kaytez & Durualp, 2016; Pektaş & Özgür, 2005; Yıldırım & Tüfekci, 2020), more child-related difficulties or behavioral problems than non-working mothers (Jordan, Cobb & McCully, 1989; Sperry, 1993), a working mother with more than one child; shows that she has more difficulties as a parent than a non-working mother with one child.As a result, the increase in the number of children in a house means that the problems to be experienced and the effort / time / effort spent by the parents

for the children increase, while taking care of some children, they cannot take care of others sufficiently. For this reason, it can be understood that the convenience of having an only child comes to the fore in this study.

In this study, it was seen that the participants' reactions about having one child from their spouses and their environment were similar, but mostly differed. Most of the participants wanted their spouses to have only one child; It has been revealed that not being able to take the responsibility of a second child is the most determining factor in these wishes. Since the spouses of the participants could not take responsibility of the second child, it can be thought that the role of the mother in the decision to continue with the only child was a factor. These research findings show that academic women either put their careers on hold to have children or postpone their decisions to marry and have children, have difficulty in balancing between their roles in the family and the intensity of work-life, and that academics limit the number of children they have (Forster, 2001; Kemkes-Grottenthaler, 2003; Beddoes & Pawley, 2014; Santos, 2015; Demir, 2018; Yıldız, 2018). In other words, in this study, spouses of academic mothers may be avoiding wanting a second child because they see the difficulties of carrying out both academic and motherhood roles.

This study revealed that the participants received advice from their environment to have a second child and to continue with an only child. It is seen that the recommendations of having a second child come to the fore in the reactions received from the environment. In the recommendations for having a second child, the reasons that the child will be alone and without siblings and that a girl and a boy are ideal came to the fore. In the direction of only two participants to continue with one child, most of the participants received advice on having a second child. It can be said that there is overlap between the findings that only children are lonely and restless (Roberts & Blaton, 2001; Thompson, 1974; Sorensen, 2008) and the environmental recommendations to have a second child because the only child in this study will be alone/siblingless. In addition, the negative view of the society towards the only child (Polit & Falbo, 1987; Aydın, 2019; Ogelman & Sarıkaya, 2014; Jamshidi et al., 2013; Doh, 1999; Roberts & Blaton, 2001) has a role in giving advice on having a second child. may be.

Findings in the studies that only children are alone (Roberts & Blaton, 2001; Thompson, 1974; Sorensen, 2008) are in line with the desire of only-child mothers to have a child again so that their children will not be alone. Sharing between siblings also leads to a strong bond in the family environment, and the role of brother-sister-sister affects this strong bond (Dunn & Brisbane, 1985). The fact that the younger sibling develops positive social behavior by modeling his or her older sister or brother (Durgel, 2007) explains mothers' desire for their children to experience sibling love, but also confirms concerns that it is not possible to be a strong family with one childFor the participants who decided to continue with one child, it was revealed that work life, that is, intensive working conditions, was the most determining factor. The work intensity of women working in academia affects their ability to raise a family and have children (Demir, 2018); research shows that mothers of academics limit the number of children or delay the timing of childbearing (Santos, 2015; Yıldız, 2018). In addition, Rossberg (2008) states that parents may choose to have an only child by calculating the gains and losses that having a child will bring and to ensure a higher quality of education for their children because they are afraid of not showing enough interest in their children, having difficulty caring for them, and not meeting their children's needs. The findings of this study support that the reasons for working conditions are an effective factor in the decision of mothers to continue with an only child.

Women academics put the academy at the center of their lives and either marry or have children in the later stages oflater in their careers or refuse to marry (Yıldız, 2018). On the one hand, routine roles such as housework and child care, on the other hand, professional responsibilities such as lecturing, conducting scientific research, writing books, articles, and participating in activities such as congresses and conferences leave women with the problem of balancing work and family life (Comer & Stites). -Doe, 2006; Ergöl et al., 2012; Gönen & Hablemitoğlu, 2004; İrey, 2011; Masika et al., 2014; O'Laughlin & Bischoff, 2005). Most of the academician mothers had to have one child due to work life, fertility problems and care; expressing their dissatisfaction with leaving their only child without siblings shows that they experience the sadness of not having more than one child. These findings show that most of the mothers who have only one child share a regret that "I wish he had a brother". It was observed that the theme "I wish he had a sibling" came to the fore, regardless of the advice from the environment and the mothers' reasons for wanting a second child.Although there are many studies on single children, it is seen that studies on mothers of only children are limited (Demir, 2018; Dikmen & Maden, 2012; Özkanlı & Korkmaz, 2000; Yıldız, 2018). In addition, it is noteworthy that no

research has been found on academic mothers who have only one child. In general, it is seen that there are studies on the roles of academician mothers in marriage, family, motherhood and academics.

This research aims both to fill the gap in the literature and to develop the positive perspectives of academic mothers with only one child about their children. It is seen that only children have a negative perspective on the literature. In fact, G. Stanley Hall claimed in his research that being an only child is a "disease" in itself (Act. Fenton, 1928). This research reveals that only children actually have positive characteristics under changing conditions and it is not unacceptable to have an only child.

The research consists of nine academic mothers working in different Karabuk University faculties in the 2019-2020 academic year and have an only child. The research data is limited to the semi-structured interview questions prepared by the researcher and the answers given by the academician mothers.

5. Recommendations

In this study, it was found that society's recommendation for the second child on the grounds that the child is not selfish, that one child cannot be a complete family, that a girl and a boy are ideal, and that the only child will be alone and without siblings confirms society's negative view of the only child. This negative view shows that "It is strange without a brother" (Eker, 2002, p.150), "In a happy family, the cradle is not empty" (Yoldaşev & Guemueş, 1995, p.140), "A child is in trouble" (Geldiyev & Karayunusoğlu, 2017, p.315), it is seen that there is a contrast in Turkish proverbs. This context requires a detailed study of the culture's perspective on the only child. Therefore, it is necessary to conduct both qualitative and quantitative research on larger populations to reveal the perspective of Turkish society on the only child. In the future, it is suggested that researchers plan studies that reveal the perspective of Turkish society on the only child.

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Looking for Problem Scenarios with Robotic Coding: Primary School Example in Turkey*

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ABSTRACT

Students can develop their creative thinking processes and problem scenarios with robotic applications. Therefore, the research objective is that robotic applications can solve students' problem scenarios. This study was conducted in Samsun/Turkey in the Ministry of Education for 10 weeks and involved 8 elementary school students.. For this study, we made two things which are the necessary configurations developed by an expert researcher, another one is robotics coding training which other field expert researchers carried out. After studying problem scenarios and robotic coding training, students were provided with the problem scenarios to bring solutions with robotic coding. In this study, it was found that although most of the students proposed different solutions to the given scenario, there were also students who proposed similar solutions. At the end of the study, students had very different approaches to the scenarios and students designed some robots as we can see.

Keywords:
Robotic coding, Problem scenarios, Scenario-based learning, Creative thinking

1. Introduction

It is thought that scenario-based robotic coding training, which is considered among the 21st-century skills, will improve the coding skills of the students, especially by using their high-level thinking skills. The fact that the problems are scenario-based attracts students' attention as they are a situation that they may or may not encounter in daily life, and can bring their creative thoughts to the fore. Scenario-based learning constructs reflection on an existing scenario beyond just a problem situation or daily life. Internalizing the given situation and searching for a solution can be more comprehensive. For this reason, scenario-based teaching was preferred while teaching robotic coding, especially to see and reveal high-level thinking and application skills. According to O'Brien (2004); "*Good scenarios are multidimensional and capture a broad range of uncertain factors. Good scenarios challenge students implicit assumptions about what will not change in their current world and help move their audience beyond it. Engaging scenario titles and narratives are more likely to capture the reader's imagination and thus influence the way they understand how the future may develop*". In scenario-based learning, where the real world is brought to the classroom, students are allowed to think about a problem situation, use their knowledge and skills, realize their insufficiencies, and conduct research to address them. The student working on the given scenario activates high-level thinking processes such as analysis, synthesis, and evaluation (Arabacıoğlu, 2012). Scenario-based learning focuses on Bloom's taxonomy's analysis, synthesis, and application steps. The student should have learned the basics before starting scenario-based learning. For this

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reason, problems and questions within the scenario are prepared based on the information learned by the students (Veznedaroğlu, 2005).

In scenario-based learning, the student assumes more responsibility during the learning activities and organization of the process on product demonstration (Cerrah Özsevgeç and Kocadağ, 2013). SBL is beneficial and effective when instruction is relevant, problem-centered, draws from the learner's experiences, and is conducted in a learning environment that encourages processing and verbalization of thoughts and is supported with immediate feedback (Al Attar, 2019). Scenarios are stories about people's activities. Scenario-based learning is a type of narrative in which the targeted skills are presented implicitly within a certain plan, and which consists of the events or incidents that may occur or may be encountered in daily life (Temur and Turan, 2018). Scenarios are therefore the starting point for students to immerse in a real-world problem and a subsequent solution finding process. During this process students must apply their individual knowledge and cognitive and social abilities to collaboratively solve problems in a safe environment (Erol et al., 2016). Scenarios used as educational tools are fictional series that contain various problems that arouse students' curiosity, raise questions about the cause of those problems, give students clues as they move toward the scenario's goal, and increase and sustain students' urge to continue learning (Cantürk Günhan, 2006).

Problem-solving, forming hypotheses and technical innovation all require a certain form of scientific creativity (Lin, Hu, Adey, and Shen, 2003). Problem solving plays an important and effective role in the formation of creative thinking. Also critical thinking involves the acquisition of information and active learning, problem solving, joint decision making, and the utilization of information (Kim, 2009). According to Gülmez Güngörmez et al. (2016), students try to find solutions by implementing their cognitive processes while producing solutions to problems in scenario-based learning. The most important of these cognitive processes is reflective thinking.

Technologies contribute to engagement and meaningful learning in education sector (Blackburn, 2015). Robotic and coding applications teach students construction of knowledge, algorithmic thinking, creativity and problem solving, programming logic, and engineering design processes (Alimisis and Kynigos, 2009). Robotic coding is the project-based use of robots from simple to complex while programming (Bütüner, 2019). Robotic coding is the integration of a piece of hardware or a large number of hardware with software, which is an abstract concept (Avcı & Başaran, 2021). Block robotic coding is a software language that allows users to create programs by processing graphical elements in the programming language instead of text coding (Lopez and al, 2021).The inclusion of robotics in educational activities promotes popular constructivist understanding as it provides versatility, a wide range of learning experiences, and facilitates learning (Sinap, 2017). Robotics coding applications are becoming more widespread and gaining importance nowadays. Robotics can be used students to engage and develop computational thinking skills (Repenning, Webb & Ioannidou, 2010). It is stated that with such robotic applications, many cognitive and psycho-motor characteristics of students such as creativity, multidimensional thinking, critical and analytical thinking and problem solving can be developed (Benitti, 2012). Different methods are used in the teaching of robotics coding applications. It is thought that robotics coding trainings can be improved if enriched with scenario based learning. Scenario-based learning is a learning model based on interactive scenarios with the goals and behaviors to be realized, in which students take the role of the player and show the goals and behaviors that can solve the problems encountered (Veznedaroğlu, 2005). Robotics applications are an ideal application for engineers to develop their own ideas through trial and error, diversify them, and improve their problem-solving skills (Auerbach and al., 2019).In their study, Cheng and al. (2021) designed a writing system for students consisting of robots and IoT-based toys by creating a scenario-based interactive learning environment.Also, Fernandes and Martins (2018) designed a learning scenario, in which students had the opportunity to participate in a project with robots to explore and make connections between contents from the four disciplines of STEM. In this learning scenario the children worked together with robots. Using this pedagogical approach, students seem to gain a deeper understanding of these scientific concepts and its connections. Smilarly, in Benitti and Spolaor's (2017) study, robots support for STEM education has been successful in different scenarios. The scenario-based approach for designing educational robotics activities are aligned to the curriculum objectives or the development of the 21st century skills such as collaboration, problem-solving, creativity, critical thinking and computational thinking (Komis, Romero & Misirli, 2017).

Based on the literature review, it is seen that scenario-based learning improves advanced thinking skills of individuals such as creative thinking. It is thought that it is important to configure robotic applications, which is one of the technological applications, with scenarios. It is thought that providing scenario-based robotics coding applications will further improve the students' higher thinking and product creation skills. In this context, the study aims to determine the effect of robotics applications on the solution process of students' problem scenarios. The study's problem: How is the effect of robotics applications on students' problem scenarios solution process?

2. Methodology

2.1. Research Model

Single group pretest-posttest model that one of the quantitative research designs and a case study that one of the qualitative research designs were used in this study. The model of this research is mixed model. In the Single group pretest-posttest model, the independent variable is applied to a randomly selected group and its effect on the dependent variable is observed (Karasar, 2005). The case study can be explained as an in-depth description and examination of a particular system (Merriam, 2013).

2.2. Research Sample

The population of this study consists of private schools in the Ilkadım district of Samsun/Turkey. The study group consisted of 8 students studying in a private educational institution in Samsun. The training was carried out in the "Robotic coding club" activity and was designed as 1 lesson hour (40 minutes) per week. The selection of the students was chosen by random sampling method and the researchers trained the first 8 students who joined the club. The students carried out their studies in two groups (4 + 4). The study group, consisting of 9 and 10 years old, 3rd and 4th grade primary school students, consists of 5 girls and 3 boys.

2.3. Data Collection Tools and Procedure

Data was collected by the "Teacher Observation Form" consisting of 32 items and the "Student Self Evaluation Form" consisting of 5 items developed by two researchers who were experts in their fields who developed the item and question pool and received the necessary feedback. While the "Teacher Observation Form" consists of 32 questions on a 5-point Likert scale, the "Student Self-Evaluation Form" consists of 5 open-ended questions.Before starting the research, 8 students in the study group were given block coding training and the robotic coding set they would use was introduced. In addition, scenario-based sample problems were shown and the solutions were evaluated orally. A pilot application was made for the forms. In the data obtained from the student self-evaluation form, which is the qualitative data collection tool of the research, the percentage of agreement of the two encoders was examined.

According to Kabapınar (2003), a consistency of %80 and above between two coders, and a consistency of %70 and above between two coders according to Miles and Huberman (1994), shows that the data analyzes are reliable (cited in Türnüklü, 2000).

The analysis of the quantitative data was done with the SPSS program. The percentage of agreement obtained for this study was determined as %82.05, which demonstrated the reliability of the research data analysis. As a result of the reliability analysis of the teacher observation form, Cronbach's Alpha = ,961.

The data in the observation and self-assessment forms applied to the students were collected on a voluntary basis. These forms were applied to the students every week during the application. In the study conducted by two experts, one of the field experts developed the problem scenarios and made the necessary configurations, and the other field expert performing robotics coding trainings and made the necessary observations. In this study, necessary hardware support was provided to the students and after the robotics coding training, students were asked to produce solutions to problem scenarios with robotics applications. The implementation phase of the study lasted 10 weeks and the researchers then analyzed the data.

In this study, students were given coding training for 3 weeks before being introduced to the application and materials to be used. During the following 10 weeks, robotics coding and problem scenario studies were conducted and the necessary data were collected.The trainings were carried out in the "Robotics Coding Club" activity and are watched as 1 lesson hour (40 minutes) per week.

Sample Scenario

Scenario 1: News of a Newspaper: Landslide in İkizdere closed the road!

In the İkizdere district of Rize, a landslide occurred on the upper part of the highway and the lower part of the house in a neighborhood in the center of the district. At the entrance of İkizdere district center, the pieces of rock that were broken off from the upper side of the highway blocked the highway to transportation. Due to the landslide that occurred within 10 meters in front of the District Police Headquarters building, the Rize-Erzurum highway connection was served from the road in the district center for a while. The road was reopened to traffic after the stones were removed by the teams of the municipality.As seen in the newspaper report above, a landslide occurred as a result of a landslide in Rize in 2009 and the road was closed. It took a lot of effort to open the road, which took a lot of time. Thus, students could not go to school that day. An engineering team was called to solve this situation.

If you were a part of this team of engineers, what kind of robot would you design to open this road that was blocked with stones and earth?

Draw the design of the robot you intend to build below.

Scenario 2: Due to heavy snowfall in a village of Kars that lasted for five straight days, many village roads were blocked, and it became impossible to reach the city. This caused some problems. Coincidentally, Tuelay, a teacher who works in the village of Çamurlu in Kars, went into labor pains, but because of the closure of the roads, no vehicles could reach the village by land. If you were part of the rescue team;

How would you transport the Tülay teacher to a hospital most safely and healthily to deliver her baby?

How would you design a robot for this? Draw the robot you plan to design belew.

2.4. Data Analysis

The data obtained as a result of the research were analyzed by coding. Qualitative research data obtained from content analysis includes the following phases: coding of data, finding themes, organization, and interpretation of codes-themes (Yıldırım & Şimşek, 2008). In addition, the concordance percentage of the two researchers was examined. According to Kabapınar (2003), a concordance of 80% or more between the two codes and according to Miles and Huberman (1994), a concordance of 70% or more indicates that the analyses are reliable (cited by Türnüklü, 2000). In this study, a concordance of 87.5% was found.

2.5. Ethical

For this study, ethics committee approval was obtained from Ondokuz Mayıs University Social and Human Sciences Ethics Committee with the letter dated 23.09.2020 and numbered 2020/569.

3. Findings

3.1. Findings of the student self-evaluation form

3.1.1. Regarding the robots intended to be designed, student self-assessment form findings

In this section, the data related to the question "how would you design a robot according to this scenario" obtained from the research is presented as frequency and percentage distribution.

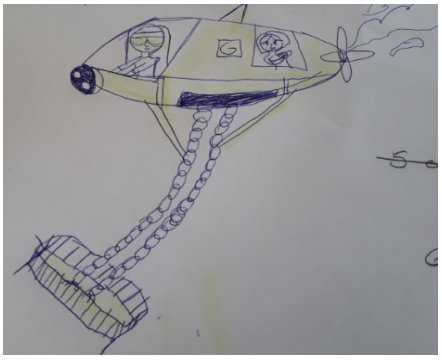
Table 1. *Data from the Study Group on the Question "how would you design a robot according to this scenario."*

Codes	Students	Frequency (f)	Percentage (%)
Balloon	S2,S4,S5	3	37.5
Helicopter	S2,S3,S4,S7	4	50
Flying house	S1,S2,S6,S7	4	50
Spaceship	S3	1	12.5
Ultra duck	S1	1	12.5
Flying hospital	S1, S5, S8	3	37.5

When Table 1 is examined, 37.5% of the students answered balloon, 50% answered helicopter, 50% answered flying house, 12.5% answered spaceship, 12.5% answered ultra duck, and 37.5% answered flying hospital.

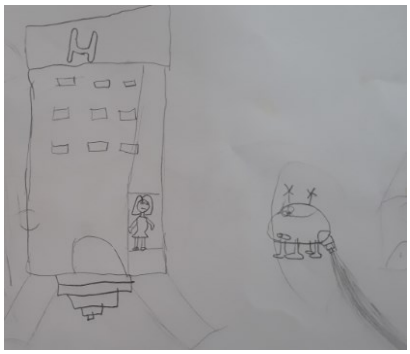
3.1.2. Regarding the drawing of the robots intended to be designed, student self-assessment form findings

In this section, the findings related to the question "please draw the robot you are planning to design based on scenario 2" are presented.



Drawing 1: 1st student's drawing

Here, the student made a robot helicopter, hung a basket down, and thought of reaching the hospital with the robot helicopter they had made

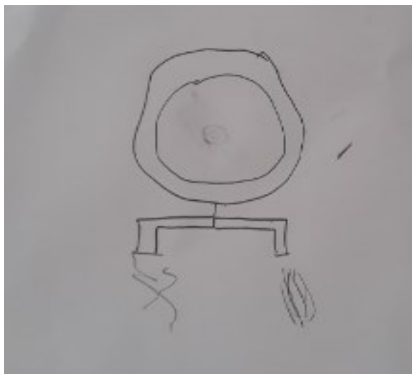


Drawing 2: 2nd student's drawing

The student thought of carrying the patient to the hospital by making a robot that resembles a flying bell. The robot has four legs and two propellers at the top.

Drawing 3: 3rd student's drawing

The student had the idea to bring the patient to the hospital by building a robot in the shape of a glass bell. He/she also designed a route for transportation to the hospital.

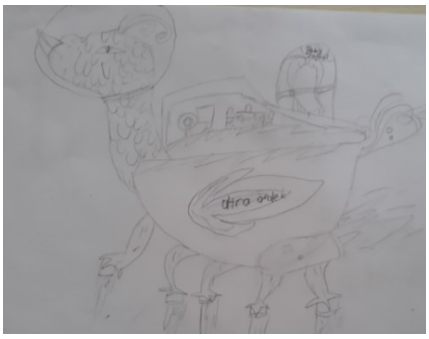


Drawing 4: 4th student's drawing

The student thought of carrying the patient by making a robot in the form of a ring with rockets on its feet. It is also seen that a rotation mechanism is considered in one of the legs.

Drawing 5: 5th student's drawing

The student had the idea to transport the patient to the hospital by building a robot resembling a ring and a helicopter. She/He also made details such as



Drawing 6: 6th student's drawing

The student thought of transporting the patient to the hospital by making "ultra duck" robot. It is seen that the robot has a baby room, a comfortable bed for the patient, and a motor on the robot's feet.

lighting, propeller and the sleeping place of the harvest in the robot he made.

Drawing 7: 7th student's drawing

The student thought of transporting the patient to the hospital by making a robot that looks like a flying house. This robot appears to have a foot mechanism and a transport unit.

Drawing 8: 8th student's drawing

The student came up with the idea of transporting the patient to the hospital by building a robot that resembles a space shuttle and a helicopter. When the robot is examined, it is found that there is a mechanism that carries the patient down with a rope-like mechanism and lowers him to the ground with an underbody.

When the drawings were examined, it was seen that each of the students made different drawings. When students examine the drawings, it is seen that they have creative thinking skills such as originality and flexibility.

3.1.3. Student Self-Assessment Form Findings Related to "Today ……. I Think I'm Fine"

In this section, the findings related to the open-ended statement "I think I am good at…… today." given to the students are presented as frequency and percentage.

Table 2. *Distribution of Answers Given to the Open-Ended Statement "I think I am good at…… today." on Week 1-10*

	Codes	Students	Frequency (f)	Percentage (%)
Week 1	Assembling parts	S3,S8	2	25
	Coding	S2,S4	2	25
	Drawing	S1,S7	2	25
	Teamwork	S5	1	12.5
Week 2	Assembling parts	S1,S2,S3,S7,S8	5	62.5
	Bringing parts together	S4,S6	2	25
	Teamwork	S5	1	12.5
Week 3	Assembling parts	S2,S6,S8	3	37.5
	Bringing parts together	S5	1	12.5
	Coding	S3	1	12.5
Week 4	Assembling parts	S1,S3,S5,S6,S8	5	62.5
	Teamwork	S2	1	12.5
Week 5	Assembling parts	S1,S6,S8	3	37.5
	Teamwork	S2,S5	2	25
	Coding	S3	1	12.5
Week 6	Assembling parts	S2,S4	2	25
	Teamwork	S5	1	12.5
	Coding	S1,S3,S6,S7	4	50
Week 7	Assembling parts	S6,S7,S8	3	37.5
	Coding	S1,S2,S3	3	37.5
Week 8	Assembling parts	S6,S7	2	25

	Teamwork	S5	1	12.5
	Coding	S1,S2,S4,S8	4	50
Week 9	Assembling parts	S1	1	12.5
	Bringing parts together	S2	1	12.5
	Teamwork	S5	1	12.5
Week 10	Assembling parts	S2,S3,S4,S5	4	50
	Bringing parts together	S6	1	12.5
	Coding	S5	1	12.5

When Table 2 is examined, it can be seen that in Week 1-10, the students especially stated that they were good at assembling parts, coding, teamwork. For example It can be seen that in Week 2, 62.5% of the students stated that they were good at assembling parts. It can be seen that in Week 4, 62.5% of the students stated that they were good at assembling parts. It can be seen that in Week 6, 50% of the students stated that they were good at coding. It can be seen that in Week 7, 37.5% of the students stated that they were good at assembling parts, and 37.5% of the students stated that they were good at coding. In Week 8, 25% of the students stated that they were good at assembling parts, 50% of the students stated that they were good at coding, and 12.5% of the students stated that they were good at teamwork. It can be seen that in Week 10, 50% of the students stated that they were good at assembling parts and 12.5% of the students stated that they were good at coding. When the table is examined; Some of the most repetitive codes and their rates were as follows: “assembling parts” code generally increased over weeks; there was an increase in the "coding code" code rate in the 1st and 7th weeks, at the same rate in the other weeks; ıt is seen that the “teamwork” code is generally expressed at the same rate.

3.1.4. Self-Assessment Form Findings Related to “Today ……I Think I'm Bad”

In this section, the findings related to the open-ended statement “I think I am bad at…… today.” given to the students are presented as frequency and percentage.

Table 3. *Distribution of Answers Given to the Open-Ended Statement “I think I am bad at…… today.” on Week 1-10*

	Codes	Students	Frequency (f)	Percentage (%)
Week 1	Assembling parts	S1,S2,S4,S5	4	50
	Coding	S3	1	12.5
Week 2	Assembling parts	S4,S5,S6	3	37.5
	Bringing parts together	S3	1	12.5
Week 3	Assembling parts	S3	1	12.5
	Team leadership	S2	1	12.5
Week 4	Assembling parts	S2	1	12.5
	Bringing parts together	S6	1	12.5
Week 5	Assembling parts	S2,S3	2	25
	Bringing parts together	S6	1	12.5
Week 6	Coding	S2,S5	2	25
	Bringing parts together	S4,S6	2	25
Week 7	Coding	S2	1	12.5
	Teamwork	S4,S6	2	25
Week 8	Coding	S6	1	12.5
	Assembling parts	S3	1	12.5
Week 9	Bringing parts together	S6	1	12.5
	Assembling parts	S2,S3	2	25
Week 10	Coding	S2	1	12.5
	Assembling parts	S6	1	12.5

When Table 3 is examined, it can be seen that in Week 1-10, 50% of the students especially stated that they were bad at assembling parts, coding, bringing parts together. For example: It can be seen that in Week 1-2-5-10; 50%- 37.5%- 25% -12.5% of the students stated that they were bad at assembling parts. It can be seen that in Week 1-6-10; 12.5%- 25%-12.5% of the students stated that they were bad at coding. Week 1-6-10; 12.5%-25%-12.5% of the students stated that they were bad at coding. Week 2-4-5-6-9; 12.5%-12.5%-12.5%-25%-12.5%

of the students stated that they were bad at bringing parts together. When the table is examined; Some of the most repetitive codes and their rates were as follows: "Assembling parts" code decreased in weeks; the ratio of the "coding code" code is the same; it is seen that the "bringing parts together" code does not exist in some weeks and is expressed at the same rate in other weeks. It was also noted that the students expressed only two codes for this question.

3.1.5. Student Self-Assessment Form Findings Related to "If I Were to Make The Robot Again We Made Today, I Would Make ……..…"

In this section, the findings related to the open-ended statement "If I had to rebuild the robot we are building today, I would do this:……." given to the students are presented as frequency and percentage.

Table 4. *Distribution of answers given to the open-ended statement "If I had to rebuild the robot we are building today; I would do this:……" on Week 1-10*

	Codes	Students	Frequency (f)	Percentage (%)
Week 1	Add new parts	S2,S4	2	25
Week 2	Add motor instead of wings	S5	1	12.5
	Have ornaments instead of wings	S4	1	12.5
Week 3	Make chains stronger	S2	1	12.5
Week 4	Add a propeller	S5	1	12.5
Week 7	Make it bigger	S2	1	12.5
Week 8	Make it faster and safer	S2	1	12.5
Week 9	Remove the wings	S4	1	12.5

Examination of Table 4 reveals that 25% of students indicated that they would add new parts; 12.5% of students indicated that they would add an engine instead of wings; 12.5% of students indicated that they would have ornaments instead of wings; 12.5% of students indicated that they would make chains stronger; 12.5% of students indicated they would add a propeller; 12.5% of students indicated they would make the robot larger; 12.5% of students indicated they would make the robot faster and safer; 12.5% of students indicated they would remove wingsWhen the table is examined, it is remarkable that different codes are expressed for a total of seven weeks.

3.1.6. Student Self-Evaluation Form Findings Related to "If I Had to Remake The Robot We Made Today, I Would Add: ……..……"

In this section, the findings related to the open-ended statement "If I had to rebuild the robot we are building today, I would add these:……." given to the students are presented as frequency and percentage.

Table 5. *Distribution of answers given to the open-ended statement "If I had to rebuild the robot we are building today; I would add these:……" on Week 1-10*

	Codes	Students	Frequency (f)	Percentage (%)
Week 1	Add a propeller	S2	1	12.5
	Put flowers and a chain on its head	S3	1	12.5
	Add a few propellers to the back	S4	1	12.5
	Add a ring in the middle	S7	1	12.5
	Add a color sensor	S8	1	12.5
Week 2	Add a sensor	S1	1	12.5
	Add LED and eye	S3	1	12.5
Week 3	Add a propeller	S3,S4,S5	3	37.5
	Add a sensor	S6,S8	2	25
Week 4	Add a propeller	S2,S3,S4	3	37.5
	Add wheels	S6	1	12.5
Week 5	Add a propeller	S5	1	12.5
	Add a motion sensor	S4	1	12.5
	Add a sensor	S6,S8	2	25
Week 6	Add a propeller	S4	1	12.5
	Add a color sensor	S6	1	12.5

When Table 5 is examined, it can be especially seen that in Weeks, 12.5%-37.5% of the students stated that they would add a propeller; 25% -12.5% of the students stated that they would add a sensor; 12.5% of the students stated that they would add a color sensor. The students stated that they would put flowers and a chain on its head; a few propellers to the back; a ring in the middle, LED and eye; wheels; a motion sensor. When the table is examined, it is noteworthy that especially "add propeller" and "add sensor" codes increased from time to time in all weeks.

3.1.7. Student Self-Evaluation Form Findings Related to "If I Had to Remake The Robot We Made Today, I Would Infer:……"

In this section, the findings related to the open-ended statement "If I had to rebuild the robot we are building today, I would remove these:……." given to the students are presented as frequency and percentage.

Table 6. *Distribution of answers given to the open-ended statement "If I had to rebuild the robot we are building today; I would remove these:……." on Week 1-10*

	Codes	Students	Frequency (f)	Percentage (%)
Week 1	Carrying apparatus attached to the chains	S2	1	12.5
	Wings	S4	1	12.5
Week 2	Color sensor	S3,S5,S6	3	37.5
	Wings	S4	1	12.5
	Propeller	S2	1	12.5
Week 3	Wheels	S5	1	12.5
Week 5	Color sensor	S4	1	12.5
	Wings	S5	1	12.5
	Wheels	S6	1	12.5

When Table 6 is examined, it can be especially seen that in Weeks, 37.5%- 12.5% of the students stated that they would remove the color sensor. The students stated that they would remove the carrying apparatus attached to the chains, the wings, the propeller, the wheels. When the table was examined, they stated that comments were made for only 4 weeks and would mostly remove the "wings" code.

3.2. Findings Related to the Teacher Observation Form

This section presents observational data related to the students' ability to assemble the appropriate lego pieces as frequency and percentage distribution.

Table 7. *Distribution of the Study Group wth Respect to Bringing the Appropriate Lego Pieces Together*

		Highly Inadequate	Inadequate	Adequate	Highly Adequate
Week 1	Frequency (f)	0	1	7	0
	Percentage (%)	0	12.5	87.5	0
Week 2	Frequency (f)	0	0	8	0
	Percentage (%)	0	0	100	0
Week 3	Frequency (f)	0	0	8	0
	Percentage (%)	0	0	100	0
Week 4	Frequency (f)	0	0	5	3
	Percentage (%)	0	0	62.5	37.5
Week 5	Frequency (f)	0	0	4	4
	Percentage (%)	0	0	50	50
Week 9	Frequency (f)	0	0	3	5
	Percentage (%)	0	0	37.5	62.5

When Table 7 is examined, it can be seen that 87.5% of the students were adequate and 12.5% were inadequate on Week 1, 100% were adequate on Week 2, 100% were adequate on Week 3, 62.5% were adequate and 37.5% were highly adequate on Week 4, 50% were adequate and 50% were highly adequate on Week 5, and 37.5% were adequate and 62.5% were highly adequate on Week 9.

Table 8. *Distribution of the Study Group With Respect To Assembling The Appropriate Lego Pieces*

		Highly Inadequate	Inadequate	Adequate	Highly Adequate
Week 1	Frequency (f)	0	0	8	0
	Percentage (%)	0	0	100	0
Week 2	Frequency (f)	0	0	8	0
	Percentage (%)	0	0	100	0
Week 3	Frequency (f)	0	0	8	0
	Percentage (%)	0	0	100	0
Week 4	Frequency (f)	0	0	5	3
	Percentage (%)	0	0	62.5	37.5
Week 5	Frequency (f)	0	0	4	4
	Percentage (%)	0	0	50	50
Week 9	Frequency (f)	0	0	3	5
	Percentage (%)	0	0	37.5	62.5

When Table 8 is examined, it can be seen that 100% of the students were adequate on Week 1, 100% were adequate on Week 2, 100% were adequate on Week 3, 62.5% were adequate and 37.5% were highly adequate on Week 4, 50% were adequate and 50% were highly adequate on Week 5, and 37.5% were adequate and 62.5% were highly adequate on Week 9.

Table 9. *Distribution of the Study Group With Respect ro Placing The Code Block At The Appropriate Place*

		Highly Inadequate	Inadequate	Adequate	Highly Adequate
Week 6	Frequency (f)	0	1	7	0
	Percentage (%)	0	12.5	87.5	0
Week 7	Frequency (f)	0	0	8	0
	Percentage (%)	0	0	100	0
Week 8	Frequency (f)	0	0	7	1
	Percentage (%)	0	0	87.5	12.5
Week 10	Frequency (f)	0	0	6	2
	Percentage (%)	0	0	75	25

When Table 9 is examined, it can be seen that 87.5% of the students were adequate and 12.5% were inadequate on Week 6, 100% were adequate on Week 7, 87.5% were adequate and 12.5% were highly adequate on Week 8, and 75% were adequate and 25% were highly adequate on Week 10.

Table 10. *Distribution of the study group with respect to creating a function*

		Highly Inadequate	Inadequate	Adequate	Highly Adequate
Week 6	Frequency (f)	0	2	6	0
	Percentage (%)	0	25	75	0
Week 7	Frequency (f)	0	0	4	4
	Percentage (%)	0	0	50	50
Week 8	Frequency (f)	0	0	2	6
	Percentage (%)	0	0	25	75
Week 10	Frequency (f)	0	0	1	7
	Percentage (%)	0	0	12.5	87.5

When Table 10 is examined, it can be seen that 75% of the students were adequate and 25% were inadequate on Week 6, 50% were adequate and 50% were highly adequate on Week 7, 75% were highly adequate and 25% were adequate on Week 8, and 87.5% were highly adequate and 12.5% were adequate on Week 10

4. Conclusion and Discussion

The scenarios that form the basis of problem-based learning and scenario-based learning create environments in which the individual can feel himself/herself as part of the situation and feels the need to solve a problematic situation. It is thought that creating such environments for students will significantly contribute to the development of students' high-level thinking skills.

It is thought that it is important to enrich robotic coding training with scenario-based learning to increase their quality and make them solution-oriented. In the study conducted by Bakaç (2014), it was found that scenario-

based teaching method was effective in increasing student achievement in mathematics course. In another study, Gülmez Güngörmez et al. (2016) found that students' reflective thinking skills developed through scenario-based learning, academic achievement increased, and there was a positive significant correlation between reflective thinking skills and academic achievement. According to a study by Atmatzidou and Demetriadis (2016), robotic learning activities used for educational purposes improved students' cognitive thinking skills. As a result students reach eventually the same level of CT skills development independent of their age and gender; CT skills, in most cases, need time to develop fully.

In the present study, we aimed to determine whether students can develop solutions to problem scenarios using robotic applications. Answers to the following questions were sought in the present study: What kind of solutions did the students propose to the given problem scenario, whether or not they can draw the robot they intend to design according to the given scenario, whether they could make these robots with the given materials, and how well they could do the coding. When the findings obtained in this study were examined, it was found that although most of the students proposed different solutions to the given scenario, there were also students who proposed similar solutions. When the students were asked to make a drawing of the proposed solution, it was seen that each student turned to only one drawing. This can be interpreted as students drawing the robot they found most reasonable, or the robot they could build most comfortably (Table1). When the answers given to the open-ended statement of "I think I am good at ..... today" were examined, it was seen that although the students stated different areas, they were good at, they gave similar or the same answers every week (Table2). This can be interpreted as students focusing on one point only or not think flexibly in creating other and original ideas. Furthermore, some students did not answer the same question. This situation can be interpreted as some students leaving the question blank as they did not think they were good in any area that day.

When the answers given to the open-ended statement of "I think I am bad at ..... today" were examined, it was seen that most students left this question blank, and those giving an answer gave similar answers (Table3). Most of the students left this question blank because they did not feel bad in any area that day. It can be interpreted that those who answered the question had similar problems. Examination of the responses to the open-ended question "If I had to rebuild the robot we are building today, I would do so: ....." revealed that while very few students answered the question, the responses varied widely and generally suggested different solutions.We found this to be unique and noteworthy (Table4). This can be interpreted as most students being happy with the robots they built, or students having a difficult time in coming up with different solutions. When the responses to the open-ended statement "If I had to rebuild the robot we are building today, I would add the following: ....." were examined, it was found that students gave different responses each week, which drew attention to fluency and originality, particularly in terms of creative thinking, but it was also found that the number of students responding was small (Table5).This situation can be interpreted as the students not wanting to make new additions to the robot they built or having difficulty in creating different ideas. When the answers given to the open-ended statement of "If I had to rebuild the robot we are building today, I would remove these: ....." were examined, it was found that the majority of students left this field blank. This can be interpreted as students being satisfied with the robot they built, or they may be having difficulty criticizing themselves in terms of creative thinking (Table6).

While the students were building their robots within the given scenario, the researchers observed student behaviors. They made observations on certain skill levels and whether there was a change in these skills throughout the 10 weeks. In this regard, in terms of the research group's ability to assemble the appropriate Lego pieces, it was found that the majority of students were at an adequate level, most students reached a very adequate level by the end of the study, and the inadequate students reached an adequate level.This situation can be interpreted as the students becoming accustomed to the materials and thinking and developing ideas for the scenario as the weeks progress and they use the materials much more easily over time (Table7-8). In the observations regarding the research group's ability to place the code block in the appropriate place, it was found that the majority of the students reached an adequate level at the end of the study despite having difficulties in the first weeks. This situation can be interpreted as students improving themselves over time (Table9).

It is thought that robotic coding applications have positive effects on the success of individuals. In the study of Özer Şanal and Erdem (2017), it was found that the problem solving processes of the students who

performed coding and robotic applications were much better. In Cappelleri and Vitoroulis (2013) study, a series of project-based robotics labs constituting a Robotic Decathlon for an introductory robotics course have been developed, presented, and implemented. The course assessment showed that the three one-week-long final project tasks turned out to be very successful in allowing the students to keep pace with them.

An interesting finding obtained in this study was that students had difficulty creating a function and that this problem persisted in most of the students at the end of the study. This can be interpreted as students either could not comprehend the logic of functions or could not apply it.

As a result of the research, it was seen that students could approach differently to the scenarios, create different solutions and design their robots. Creativity involves both scientificity and daily life (Farooq, 2008). Blanchard, Freiman and Lirrete-Pitre (2010) conducted several in-class observations and interviews. Two teams were asked to solve one robotics-based task and think explaining what they were doing and why. In this study, it was seen that critical thinking emerged. In the study of Tol (2018), it was found that scenario-based learning method changes students' perceptions of achievement, self-efficacy, and critical thinking tendencies. In the study of Yaman (2005), it was found that scenario-based learning had a positive effect on students' reading comprehension. According to the research conducted Bers, Flannery, Kazakoff, & Sullivan (2014); It demonstrates that kindergartners were both interested in and able to learn many aspects of robotics, programming, and computational thinking with the Tangible K curriculum design. Also according to Chou's (2018) study; It investigated elementary school students' learning performances and behaviors in a maker education program. Students in the maker group received weekly educational robotics lessons. In contrast, those in the nonmaker group only engaged in other after-school learning activities such as homework practice in traditional classrooms. The findings revealed that maker education training significantly improved students' engineering and computer programming content knowledge and improved their problem-solving skills. Also Varnado's (2005) study investigated the effects of a technological (robotic) problem solving activity, specifically 9-14 year old student participants showed significant increases in confidence, overall technological problem solving styles, problem clarification, developing a design, evaluating a design solution, and overall technological problem solving performance in only eight weeks.

As a result of the research, it has been observed that robotics applications positively affect scenario-based problem-solving. In this study, it was found that although most of the students proposed different solutions to the given scenario, there were also students who proposed similar solutions. At the end of the study, students had very different approaches to the scenarios and students designed some robots.

5. Recommendations

Limitation of the study: it could be applied to more students with more Lego pieces. Since our results were obtained through a study in a private school, it is recommended that similar studies be conducted in public schools. More studies should be conducted on problem scenarios with robot coding, and more studies can be conducted on both student profile and teachers.

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