

Psychological Resilience and Coping Strategies of High School Students Based on Certain Variables¹

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ABSTRACT

The purpose of this study is to analyze psychological resilience levels and of coping strategies of high school students in terms of certain variables, and the relationship between coping strategies and psychological resilience. The study group of the research consisted of 229 Anatolian High School students in Turkey. The data of the research was collected using the Child and Teenager Psychological Resilience Scale, and the Teenagers' Coping Skills Scale. The data was analyzed using *t*-test, One-Way ANOVA, and Kruskal Wallis H test. According to the findings, the students have good psychological resilience, although they did not show the same results in active coping strategies. The psychological resilience of the students did not show any significant difference based on their gender, income or education levels of their parents, or the marital status of their parents; also, the students' coping strategies did not show any significant difference based on their gender, class level, preschool education, income, or education levels of their father. It was found that when the class level increased, psychological resilience decreased; with regard to the 12th grade students' ages, this result was considered notable. Students who had limited preschool education appear disadvantaged compared to those who had no preschool education or those who received it continuously (with no breaks). Students whose mothers attended primary school or were high school graduates used active coping strategies more than those whose mothers held an undergraduate degree. Students whose parents were divorced, on the other hand, tended to use avoidance strategies. A medium-level, positive relationship was found between psychological resilience and active coping, and a medium-level, negative relationship was found between psychological resilience and negative coping. In this sense, students of the 12th grade should be educated about active coping in order to strengthen their psychological resilience.

Key Words: Resilience, Psychological resilience, Stress, Coping, Risk factors

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INTRODUCTION

Coping strategies become crucial in situations where stress cannot be avoided. Psychological resilience is the skill of overcoming negativities that can cause stress (Oktan, 2012, p. 168; Terzi, 2008, p. 297). Psychological resilience, which is a subject regarding positive psychology, is examined in the literature with concepts such as power of gathering one's self (Terzi, 2006, p. 77, 2008, p. 297), indomitableness and psychological endurance (Basım & Çetin, 2011, p. 4). Psychological resilience is defined as the adaptation to negativeness, and the application of coping strategies and recovery skills (Basım & Çetin, 2011, p. 4; Oktan, 2012, p. 1692; Terzi, 2008, p. 297). Coping, on the other hand, is the attitude displayed towards handling the problems of stress and the strategies employed in order to recover and feel better. Bedel, Işık, and Hamarta (2014) defined these strategies as active problem solving, avoiding problems or as negative attitudes displayed towards the problem.

Psychological resilience is the ability to stay strong against the existence of negativities. Adaptation skills of an individual in negative situations are the effects of risk factors and protective factors (Kararımak, 2006, p. 130). Students who are at risk are those confronted with problematic parents, serious illness, violence, war, terror, trauma, parental divorce, natural disasters, poverty, and migration or moving, and they may exhibit recovery skills against such situations. In that sense, multiple risk factors should be taken in to account while examining psychological resilience (Kararımak, 2006, p. 132). Risk factors may be examined in three groups: individualistic risks, risks rooted in the family, and social risks (Terzi, 2006, p. 78). Individualistic risks include lack of self-confidence, lack of effective coping strategies, lack of self-control, aggressive characteristics, alienation to society, and nonoccurrence. Risks that are rooted in the family include poverty, illness that runs in the family, sexual assault, divorce, socioeconomic difficulty, domestic violence, low parental educational levels, being motherless or fatherless, and domestic relational problems. Social risks include natural disasters, terror, war, and migration.

Besides the general risk factors, factors particular to children and teenagers include premature birth, chronic illness and hospital stays, physical or psychological illnesses of parents, parental separation or divorce, early motherhood, lack of success at school or dropping out, drug addiction, misdemeanor or felony behaviors, unemployment, loss of parents, poverty, neglect, social and domestic violence, being abused, war, natural disasters, uninterested parents, bad parenting, and being homeless (Gürgan, 2006, p. 51; Yılmaz & Sipahioğlu, 2012, p. 629).

Protective factors ease the adaptation process to negative situations. They reduce the effect of negative factors and accelerate adaptation (Kararımak, 2006, p. 133). According to Rutter (1987), protective factors enhance the resistance of individuals. Characteristics such as healthy development, support of a family and a supportive environment, skills like music and art, or having positive expectations help individuals to take precautions and to solve problems (Terzi, 2006, pp. 78-79). Decision making, endurance, self-control, problem solving, flexibility and independence may also be added to the list of protective factor characteristics (*Cited in:* Terzi, 2006, pp. 78-79).

According to Masten and Coatsworth (1998), protective factors –individualistic, factors rooted in the family, and social– may be aligned as (Kararımak, 2006, p. 133) follows. Individualistic Factors can include self-confidence, self-respect, self-sufficiency, high intellectual capacity, having social skills, being tenderminded, and being liked by others. Factors Rooted in the

Family include having close ties with parents, being socioeconomically advantaged, having close and supporting ties in a large family, and good parenting qualities. Social Factors include having positive and close ties with adults outside of the family, being part of a social environment, and being well educated.

According to Brooks (2001), schools have a developing effect on self-regard, hope and psychological resilience (*Cited in: Oktan, 2012, p.1692*). Steinberg (2011) stated that adolescence is the “transition period from childhood to adulthood” and the changes that occur within this period may cause some adaptation problems. According to Santrock (2012), teenagers may be faced with stressful situations such as abuse, neglect, and divorce (*Cited in: Arslan, 2015a, p. 3*). Masten (2001) said that if individuals can stay healthy despite all of these features, then that is termed as psychological resilience. Positive results may also be exhibited, despite all the negative situations (Arslan, 2015a, p. 3). After explaining psychological resilience in terms of its definition and features, coping strategies, which is the most related concept, can be understood from the literature, and is discussed as follows.

According to Erikson, adolescence, which is the era of biopsychosocial development of children and teenagers, is the process of structuring the identity of the adolescent (*Cited in: Eryılmaz, 2009, p. 21*). Stress is the derivative of physically and psychologically exceeding one’s limits, and is exhibited adjacent to negativities (Cüceloğlu, 1996; Hamarta, Arslan, Saygın, & Özyeşil, 2009, p. 26; Terzi, 2008, p. 387). Skinner stated that people improve by struggling with difficult situations. For Compas, Connor-Smith, Saltzman, Thomsen, and Wadsworth (2001), stress and coping models in adolescence rely on adult models.

Coping with stress is an attempt to get rid of negativities and to reduce their effect. Freud (1980) examined stress in three levels: 1) Natural Disaster Stress (affects societies and big areas); 2) Intense Stress (caused by crises or immediate situations); and 3) Stress Affecting Individuals on a Daily Basis. In addition, reactions against stress are seen as alarm, resistance, and exhaustion (*Cited in: Eryılmaz, 2009, p. 22*). Lack of being able to cope with stress may result in mental and physical exhaustion (Hamarta et al., 2009). There are five approaches to coping, which are self-confidence, desperation, submitting, optimism and social support (Şahin & Durak, 1995, p. 411). According to Lazarus and Folkma (1984), there are two dimensions of coping, which are being emotion-focused and problem-focused (*Cited in: Hamarta et al., 2009, p. 27; Terzi, 2008, p. 387*). Amirkhan (1990) determined coping strategies as being problem solving, social support, and avoidance (Aysan, 2003, p. 28). Adaptation problems in children and teenagers negatively affects their social, cognitive and psychological development. Lack of coping strategies may bring about serious problems such as poor academic success, adaptation problems, depression, eating disorders, and violence (Eryılmaz, 2009, pp. 23, 27).

In many research studies, it has been determined that positive self-respect affects psychological resilience (Arslan, 2015b, p. 77; Erarslan, 2014, pp. 54-56; Günduş & Koçak, 2015, p. 800; Kararmak & Siviş-Çetinkaya, 2011; Koç-Yıldırım, Yıldırım, Otrar, & Şirin, 2015, p. 292; Önder & Gülay, 2008, p. 195). In addition, it is also seen in relation to self-sufficiency, happiness, emotional intelligence, emotional sufficiency, general wellbeing, satisfaction with life, and social support (Arslan, 2015b, p. 77; Arslan & Balkış, 2016; Erarslan, 2014, pp. 54-56; Güngörmüş, Okanlı, & Kocabeyoğlu, 2015, p. 9; Gürkan, 2014, p. 18; Kaya & Demir, 2017, pp. 18-19; Özer & Deniz, 2014, p. 1246; Şahin-Baltacı & Karataş, 2015, p. 112; Terzi, 2008, p. 205).

According to Topçu (2017), increasing emotional balance, extroversion, and levels of responsibility can positively affect psychological resilience. In other research with teenagers, it has been determined that emotional abuse by parents and their problematic behaviors can have negative effects on teenagers' psychological resilience (Arslan & Balkış, 2016, p. 8). There have been other studies that have embraced psychological resilience according to gender (Çelikkaleli & Kaya, 2016, p. 204; Gündaş & Koçak, 2015, p. 800; Koç-Yıldırım et al., 2015, p. 292; Oktan, 2008; Şahin-Baltacı & Karataş, 2015, p. 112), socioeconomic conditions, geographic domains, monthly income, educational level (Diker-Coşkun, Garipağaoğlu, & Tosun, 2014, p. 673; Güngörmüş et al., 2015, p. 9), and class relations (Güngörmüş et al., 2015; Öz, İnci, & Bahadır-Yılmaz, 2012, p. 233; Şahin & Buzlu, 2017, p. 132).

Examining domestic research in Turkey with regards to coping strategies in adolescence, they have mostly been conducted with undergraduate students. According to these studies; individual differences, social skills, social support, and personal skills play an important role in coping (Hamarta et al., 2009, p. 34). Negative coping, on the other hand, results in behavioral problems (Erözkan, 2004, p. 15). In the literature, when there is a positive sense of one's self, self-acceptance, shyness, happiness, positive emotions, and self-control in teenagers increase; with problem-focused coping and finding social support increasing accordingly (Epli-Koç, 2006; Gücüyeter, 2003; Hamarta et al., 2009, p. 34; Kaya & Demir, 2017, p. 18; Oğul & Gençöz, 2003; Terzi, 2008, p. 303). When levels of using interior and exterior positive factors decrease, individuals tend to use avoidance and negative-coping strategies (Alkan, 2004, p. 84; Gücüyeter, 2003). According to Basut and Erden (2005, p. 48), teenagers that do not commit crime tend to be positive in coping. In a study on the importance of gender in coping, it was determined that adult females exhibit more stress than adult males (Avşaroğlu & Üre, 2007, p. 91).

Research has shown that individuals with high levels of psychological resilience exhibit less problematic behaviors (Arslan & Balkış, 2016). Well-used coping strategies can positively affect an individual's psychological adaptation, and thereby reduce the risk factors that stress creates (Aysan, 2003, p. 128). Research concerning psychological resilience and coping with regards to young people has mostly been conducted with undergraduate students. Arslan and Balkış (2016, p. 8) studied psychological resilience with regards to emotional abuse, problematic behaviors, and self-sufficiency. The relation between psychological resilience and coping has been researched in undergraduate's by Çiftçi (2002), Diker-Coşkun et al. (2014, p. 673), Kaya and Demir (2017, pp. 18-19), Malkoç and Yalçın (2015), and Terzi (2008, p. 302).

There was no research found concerning high school students' psychological resilience and coping strategies. Teenagers in high schools face intense pressure in personal, social, academic, and occupational development (Çapulcuoğlu & Gündüz, 2013, p. 204). The current research examines students who face stressful situations apart of what would be considered their 'usual' stress. The research aims to examine the psychological resilience student's show when faced with intense problems, their coping strategies in these situations and the relation between two variables. The research is considered to be unique, and its conclusion and suggestions are expected to have important contributions to the literature, and for educators, schools, and families. Problem questions of the research are, "Is there a significant difference in psychological resilience and coping strategies of at-risk students depending on their personal characteristics and on their family's characteristics?" and "Is there a significant difference between their psychological resilience and coping levels?"

METHOD

In this research, descriptive survey model has been employed. Through this model; events, objects, all livings, institutions, groups and certain other areas have tried to be explained and described (Kaptan, 1998). In reference to Karasar (2005), the “survey model aims to describe once occurred or existing situations as they are” (p. 77). Quantitative research method has been used for the study’s data collection, with two data collection instruments employed. One is a 12-item, Likert-type scale called the “Child and Teenager Psychological Resilience Scale” and the other is an 11-item scale called the “Teenagers’ Coping Skills Scale.”

Study Group

High school students considered at-risk and having experienced severe problems were included in the study group of this research. Risk analysis results were examined in order to determine which students would form the study group with the permission of the school principal. Risk analysis was conducted by three school counsellors after the start of the school semester. From the analysis, 229 students from grades 9, 10, 11 and 12 were determined to be in the at-risk group. Complete enumeration was used in this research. Table 1 shows the demographics of the students.

Table 1. *Participant students’ features (n=229)*

<i>Variables</i>	<i>Level</i>	<i>n</i>	<i>%</i>
Gender	Female	138	60
	Male	91	40
Grade	9th grade	72	31
	10th grade	59	26
	11th grade	44	19
	12th grade	54	24
Early Childhood Education	Attended	188	82
	Not attended	28	12
	Partly attended	13	6
Mother’s Education Level	Primary	33	14
	High school	72	32
	University	124	54
Father’s Education Level	Primary	27	12
	High school	51	22
	University	151	66
Parental Income level	2,500 TL or below	30	13
	2,501-5,000 TL	89	39
	5,001 TL or above	110	48
Parental Marital Status	Married	198	86
	Divorced	31	14

Table 1 shows demographics of the 229 students selected as the study group of this research. All of the students were studying at a successful Anatolian High School in Turkey. Of the participants, 60% are female, 31% were in the 9th grade, 82% had attended preschool, 54% of mothers and 66% of fathers were undergraduates/graduates, parental monthly income showed 48% having 5,001 TL or above, and 86% of the parents were married.

Data Collection Tools

Data was collected with the Child and Teenager Psychological Resilience Scale (Arslan, 2015a) and the Teenagers' Coping Skills Scale (Spirito, Stark, & Williams, 1988 *Cited in:* Bedel, Işık & Hamarta, 2014).

The *Child and Teenager Psychological Resilience Scale (CTPRS)* was developed by Arslan (2015a, pp. 7-10), and aims to quantify the psychological resilience levels of middle school teenagers. Exploratory and confirmatory factor analysis results of the scale showed that the scale has one dimension and its 12 items explain 51.28% of total variance. Criteria validity was examined, and a relationship between negative-positive feelings and self-efficiency was observed. For the CTPRS, a significant positive relationship was found between self-efficiency and positive feelings, and a negative relationship between self-efficiency and negative feelings. As to the scale's internal consistency level for reliability, the Cronbach Alpha value was found to be .91. These results show that the scale could be used for assessing children and teenagers' psychological resilience in Turkey.

The Teenagers' Coping Skills Scale (TCSS) aims to quantify the coping strategies of teenager's. The scale was developed by Spirito et al. in 1988, and was adapted to Turkish by Bedel et al. (2014). The scale's construct validity was controlled through confirmatory factor analysis. The 11-item Turkish form was adjusted to a three-factor structure. As to the TCSS's internal consistency, the Cronbach Alpha reliability coefficient was found to be .72 for active coping skills, .70 for avoidance coping skills, and .65 for negative coping skills. Test-retest reliability coefficient, which was assessed with a three-week gap, showed $r=.66$ for active coping skills, $r=.61$ for avoidance coping skills, and $r=.76$ for negative coping skills. These results show that the TCSS's Turkish form is considered reliable and valid for assessing high school students' coping strategies.

The significance level in statistical analysis is accepted as .05. The lowest and the highest scores achievable are given in Table 2.

Table 2. *Score interval of Likert scale questionnaire in research*

CTPRS			TCSS		
Given Weight	Option	Limit	Given Weight	Option	Limit
1	Not identifying	1.00 - 1.79	1	Never	1.00 - 1.74
2	me at all	1.80 - 2.59	2		1.75 - 2.49
3		2.60 - 3.39	3		2.50 - 3.24
4		3.40 - 4.19	4	Always	3.25 - 4.00
5	Completely identifies me	4.20 - 5.00			

Table 2 shows the lowest and the highest scores that could be given in accordance with the five-point and four-point Likert-type Scales. According to the CTPRS, *I completely disagree* represents the worst situation, and *I completely agree* represents the best. Answers for the TCSS depend on the dimensions. In active strategies, *always* is the most favorable choice, whereas it the most unfavorable in avoiding and negative strategies.

Data Collection

In order to implement the scales for collecting data, permission was taken from the school's administration. The decision of which scales to be used was made on the advice of academicians. The scales were administered to the participant students with the help of the

school's administration and school counsellors. Each student's willingness to participate was taken into account, with the scales only applied to students who volunteered to participate. Students were informed that participants' names would remain anonymous, and that the data would only be used for research purposes and the data not disclosed to third parties. There were no instances of missing data or deficient data such as incomplete forms being submitted.

Data Analysis

In analysis, arithmetic means and standard deviations were checked by using SPSS version 21.0 statistical analysis software. Frequency, arithmetic mean (\bar{X}) and standard deviation were calculated; and the data examined by using *t*-test and One-Way ANOVA to expose differences between/among two or more groups. Meanwhile, Kruskal Wallis H test was used in the preschool education dimension, since one group was numerically less. In groups which had nearly 30 members, stronger, parametric tests were employed. Data shows normal distribution when flatness and irregularity values were taken into account. Data that has flatness and irregularity values between +1.5 and -1.5 were accepted as normal (Tabachnick & Fidell, 2013). LSD and Tamhane's T2 tests were used to identify the groups which had difference in-between. Pearson Correlation Factor Analysis was used to determine if there was a meaningful relationship between psychological resilience and coping strategies.

FINDINGS

In this part, findings of the research are reported: Findings about the students' psychological resilience and coping levels are presented in Table 3.

Table 3. Range of students' psychological resilience and coping levels (n=229)

Dimensions	\bar{x}	S
Psychological Resilience	3.89	.63
Active Coping Skills	2.68	.59
Avoidance Coping Skills	2.45	.52
Negative Coping Skills	1.98	.58

As can be seen in Table 3, students' psychological resilience was found to be at the level of "it expresses me well." When analyzed in the sub-dimensions of coping skills, active coping skills were "usually," avoidance coping skills were "sometimes" and negative coping skills were "never." According to this, the students perceived psychological resilience positively, but their coping skills were not equal to being positive.

Table 4 shows the *t*-test results for students' psychological resilience and coping skills levels according to gender.

Table 4. Students' psychological resilience and coping skills levels according to gender (t-test)

	Gender	n	\bar{x}	S	sd	t	p
Psychological Resilience	Female	138	3.96	.60	227	1.90	.83
	Male	91	3.79	.65			
Active Coping	Female	138	2.72	.59	227	1.39	.42
	Male	91	2.61	.58			
Avoidance Coping	Female	138	2.46	.53	227	.38	.45
	Male	91	2.43	.50			
Negative Coping	Female	138	2.00	.58	227	.72	.27
	Male	91	1.95	.58			

When Table 4 is analyzed, students' psychological resilience and coping skills levels do not have any significant difference according to gender.

Table 5 shows students' psychological resilience and coping skills levels according to their grade ANOVA test results.

Table 5. *Students' psychological resilience and coping skills levels according to grade (ANOVA)*

	Grade	n	\bar{x}	S	sd	F	p	Sig. Difference (LSD)
Psychological Resilience	1) Grade 9	72	4.04	.61	3-228	8.83	.00	1*-4, 2*-3, 2*-4, 3*-4
	2) Grade 10	59	4.07	.51				
	3) Grade 11	44	3.82	.53				
	4) Grade 12	54	3.56	.63				
Active Coping	1) Grade 9	72	2.72	.54	3-228	1.00	.39	-
	2) Grade 10	59	2.71	.55				
	3) Grade 11	44	2.72	.56				
	4) Grade 12	54	2.56	.70				
Avoidance Coping	1) Grade 9	72	2.34	.48	3-228	2.22	.08	-
	2) Grade 10	59	2.55	.49				
	3) Grade 11	44	2.51	.48				
	4) Grade 12	54	2.43	.48				
Negative Coping	1) Grade 9	72	1.87	.54	3-228	2.08	.10	-
	2) Grade 10	59	1.94	.48				
	3) Grade 11	44	2.03	.54				
	4) Grade 12	54	2.12	.73				

p<.05; *favorable

When Table 5 is analyzed, a significant difference [$F_{(3-228)} = 8.83, p < .00$] was seen in students' psychological resilience levels according to grade, but no significant difference was seen in their coping skill levels. According to the results of the LSD test, which was made in order to define the source of the difference, students in grades 9, 10, and 11 compared to grade 12, and students in grade 10 compared to grade 11 feel themselves to be psychologically stronger.

Table 6 shows students' psychological resilience and coping skills levels according to attendance to preschool education Kruskal Wallis H test results.

Table 6. *Students' psychological resilience and coping skills levels according to attendance to preschool education (Kruskal Wallis H)*

	Preschool Education	n	Row Mean	sd	χ^2	p	Sig. Difference
Psychological Resilience	1) Attended	188	118.31	2	8.34	.01	1*-3, 2*-3
	2) Not Attended	28	116.70				
	3) Attended for a short time	13	63.54				
Active Coping	1) Attended	188	112.77	2	3.50	.17	-
	2) Not Attended	28	135.04				
	3) Attended for a short time	13	91.07				
Avoidance Coping	1) Attended	188	113.53	2	1.13	.56	-
	2) Not Attended	28	127.14				
	3) Attended for a short time	13	110.08				
Negative Coping	1) Attended	188	113.40	2	0.69	.70	-
	2) Not Attended	28	120.75				
	3) Attended for a short time	13	125.81				

*p<.05; *favorable

When Table 6 is analyzed, a significant difference [$\chi^2 = 8.34$, $p < .05$] was seen in the students' psychological resilience levels according to their attendance to preschool education, but no significant difference was seen in their coping skill levels. According to Tamhane's T2 test results, which was applied in order to define the source of the difference, a significant difference was found between those students who attended and did not attend preschool education. Accordingly, students who attended preschool education for a short amount of time were seen as disadvantaged in their psychological resilience.

Table 7 shows students' psychological resilience and coping skills levels according to mothers' educational levels ANOVA test results.

Table 7. Students' psychological resilience and coping skills levels according to mothers' educational levels (ANOVA)

	Mothers' Edu. Level	n	\bar{x}	S	sd	F	p	Sig. Difference (LSD)
Psychological Resilience	1) Primary	33	3.96	.62	2-228	.53	.58	-
	2) High school	72	3.93	.57				
	3) University	124	3.85	.66				
Active Coping	1) Primary	33	2.84	.49	2-228	4.03	.01	1*-3, 2*-3
	2) High school	72	2.78	.54				
	3) University	124	2.58	.53				
Avoidance Coping	1) Primary	33	2.68	.52	2-228	3.87	.02	*1-3, 2*-3
	2) High school	72	2.39	.47				
	3) University	124	2.42	.53				
Negative Coping	1) Primary	33	2.04	.56	2-228	.34	.71	-
	2) High school	72	1.94	.72				
	3) University	124	1.99	.53				

* $p < .05$; *favorable

As can be seen in Table 7, there was no significant difference found between students' psychological resilience level and negative coping skills dimensions according to the mothers' educational level. However, there was a significant difference seen for active coping [$F_{(2-228)}=4.03$, $p < .05$] and avoidance coping [$F_{(2-228)}=3.87$, $p < .05$] skills. According to the results of the LSD test, which was applied in order to define the source of the difference, students whose mothers had graduated from primary or secondary schools were more positive than students whose mothers were university undergraduates. However, children of primary and secondary school graduates tended to use avoidance coping strategies more than children of undergraduates and those who received higher education.

Table 8 shows the students' psychological resilience and coping skills levels according to fathers' educational levels ANOVA test results.

Table 8. Students' psychological resilience and coping skills levels according to fathers' educational levels (ANOVA)

	<i>Fathers' Edu. Level</i>	<i>n</i>	\bar{x}	<i>S</i>	<i>sd</i>	<i>F</i>	<i>p</i>	<i>Sig. difference</i>
Psychological Resilience	1) Primary	27	3.97	.56	228	.34	.79	-
	2) High school	51	3.92	.66				
	3) University	126	3.85	.59				
Active Coping	1) Primary	27	2.73	.61	228	.08	.96	-
	2) High school	51	2.69	.59				
	3) University	126	2.66	.55				
Avoidance Coping	1) Primary	27	2.62	.54	228	1.30	.27	-
	2) High school	51	2.43	.57				
	3) University	126	2.44	.47				
Negative Coping	1) Primary	27	2.01	.65	228	.05	.98	-
	2) High school	51	1.99	.68				
	3) University	126	1.98	.52				

*p<.05

As can be seen in Table 8, there was no significant difference seen between psychological resilience and the coping skills dimensions according to the fathers' educational level.

Table 9 shows students' psychological resilience and coping skills levels according to parental income level ANOVA test results.

Table 9. Students' psychological resilience and coping skills levels according to parental income levels (ANOVA)

	<i>Income Levels</i>	<i>n</i>	\bar{x}	<i>S</i>	<i>sd</i>	<i>F</i>	<i>p</i>	<i>Sig. Difference</i>
Psychological Resilience	1) 2500 TL or below	30	3.83	.62	228	.86	.46	-
	2) 2501-5000 TL	89	3.92	.61				
	3) 5001 TL or above	110	3.89	.64				
Active Coping	1) 2500 TL or below	30	2.68	.60	228	2.13	.09	-
	2) 2501-5000 TL	89	2.79	.56				
	3) 5001 TL or above	110	2.59	.60				
Avoidance Coping	1) 2500 TL or below	30	2.44	.56	228	.32	.81	-
	2) 2501-5000 TL	89	2.49	.52				
	3) 5001 TL or above	110	2.42	.50				
Negative Coping	1) 2500 TL or below	30	1.92	.69	228	.82	.47	-
	2) 2501-5000 TL	89	2.02	.56				
	3) 5001 TL or above	110	1.97	.57				

*p<.05

As can be seen in Table 9, there was no significant difference seen between psychological resilience and coping skills dimensions according to parental income level.

Table 10 shows the range of students' psychological resilience and coping levels according to parental marital status.

Table 10. Range of students' psychological resilience and coping levels according to parental marital status

	Parental Marital Status	n	\bar{x}	S	sd	t	p
Psychological Resilience	Married	198	3.90	.63	227	.26	.75
	Divorced	31	3.86	.62			
Active Coping	Married	198	2.69	.58	227	.70	.65
	Divorced	31	2.61	.62			
Avoidance Coping	Married	198	2.44	.50	227	.37	.03*
	Divorced	31	2.49	.63			
Negative Coping	Married	198	1.98	.56	227	.02	.17
	Divorced	31	1.98	.71			

*p<.05

As can be seen in Table 10, there was no significant difference found between psychological resilience and negative and active coping skills dimensions according to parental marital status. In avoidance coping skills, the results are on behalf of divorced parents [$t_{(227)}=.37$, $p<.05$]. Accordingly, it can be said that students whose parents are divorced prefer avoidance strategies more.

Table 11 shows *r* statistics results of the relationship between psychological resilience and coping with stress.

Table 11. R statistics results showing relationship between psychological resilience and coping with stress

Dimensions	Active Coping	Avoidance Coping	Negative Coping
Psychological Resilience	.521**	-.257**	-.406**

**p<.01

As can be seen in Table 11, a medium-level [$r=.521$, $p<.01$] significant difference was seen between psychological resilience and active coping strategies. As expected, psychological resilience showed a negative medium-level [$r=-.406$, $p<.01$] significant difference with negative coping, and a negative low-level [$r=-.257$, $p<.01$] significant difference with avoidance coping strategies.

CONCLUSION AND DISCUSSION

In this research, the students' psychological resilience levels did not differ according to gender. There have been other research studies that also support these findings (Diker-Coşkun et al., 2014, p. 673; Şahin-Baltacı & Karataş, 2015, p. 112; Terzi, 2008, p. 297). However, other research determined that females are more psychologically resilient than males (Çelikkaleli & Kaya, 2016, p. 203; Güngörmüş et al., 2015, p. 9; Oktan, 2008). Besides, the psychological resilience of females in grade 8 and in high schools have been reported as being higher (Gündaş & Koçak, 2015, p. 799; Koç-Yıldırım et al., 2015, p. 290). In the current research, there was no significant difference found between male and female students in psychological resilience due to the school's structure. For the school in the current research, the academic success was considered as high. Besides, about half of the students' parents in the sample graduated from university as an undergraduate. Meanwhile, other research has shown the effects of school type on psychological resilience (Şahin-Baltacı & Karataş, 2015, p. 112; Yılmaz & Sipahioğlu, 2012, p. 938).

In the current research, students' psychological resilience was shown to have a significant difference depending on grade. The 9th, 10th, and 11th graders perceived themselves as being more psychologically resilient than 12th graders; and 10th graders perceived themselves as being more psychologically resilient than 11th graders. In short, increasing grade levels resulted in decreasing psychological resilience. In Turkey there is an entrance exam for university held in the 12th grade. When considering that the academic success of the school in the current study is high; it is possible that there is an extra burden for students in the 12th grade related to exam pressure. Students and their parents are known to focus on exam expectations and success, and that this situation results in additional pressure. In some research, it was seen that grade level affected psychological resilience (Öz et al., 2012, p. 233; Şahin & Buzlu, 2017, p. 132). However, in other research, there was no change based on grade (Diker-Coşkun et al., 2014, p. 673; Güngörmüş et al., 2015). According to general determinations, an increasing grade levels results in increasing psychological resilience. However, when negative events such as immigration has come in to ground in one grade, level of psychological resilient can be lower in that grade (Şahin & Buzlu, 2017, p. 133).

In psychological resilience, students who partly attended preschool education were seen as more disadvantaged than those who attended or did not attend preschool education. Accordingly, it can be said that more effective ways should be used in children's nursing and education. It is therefore better to grow up in a safe environment with family members or to attend preschool education continuously (with no breaks). According to another result of the current research, students' parental educational levels did not affect psychological resilience. However, according to Koç-Yıldırım et al. (2015), high school students whose parents graduated from high school or as university undergraduates had better conditions than those whose parents graduated from primary education. In research performed with undergraduate students, students with fathers who were university undergraduates and mothers who graduated from high school were found to be more psychologically resilient (Diker-Coşkun et al., 2014, p. 673; Güngörmüş et al., 2015, p. 12).

According to the current study's results, there was no significant difference seen between the income levels of the parents and the students' psychological resilience. There have been other research studies which have revealed that socioeconomic levels do not affect psychological resilience (Diker-Coşkun et al., 2014, p. 673; Güngörmüş et al., 2015, p. 12). Parental marital status also was shown to have no effect on psychological resilience in the current research. According to Yılmaz and Sipahioğlu (2012), plus Şahin-Baltacı and Karataş (2015, p. 112), students whose parents lived together had higher psychological resilience levels.

In the current study, students whose mothers graduated from secondary or primary schools had better active coping skills than students whose mothers were university undergraduates. This result is interesting because it is normally expected that children of undergraduate mothers' have better active coping skills. However, children of primary and secondary school graduates tend to use avoidance coping strategies more than the children of undergraduates and those with higher education. Accordingly, in problem solving, children of primary and secondary school graduates choose avoiding more than children of university graduates. Also there was no significant difference seen according to fathers' educational levels in all coping skill dimensions. According to the findings, students whose parents were divorced tended to use avoidance coping skills. According to a similar research, students who had divorced parents used non-advantageous coping skills, while students with married parents used

emotional coping skills (Tekin, 2017). However, according to their parents' marital status, students' active and negative coping strategies did not change. In addition, coping skills levels did not differ based on gender, grade, socioeconomic level, or having attended preschool. In similar research by Çiftçi (2002), no significant difference was found regarding gender. In addition, according to Yılmaz and Sipahioğlu (2012, p. 640) and Şahin-Baltacı and Karataş' (2015, p. 112), this result was also seen on behalf of male students and those students who lived with both parents at home.

A medium-level significant difference was determined between psychological resilience and active coping strategies. As expected, psychological resilience had a negative medium-level significant difference with negative coping, and a negative low-level significant difference with avoidance coping strategies. The research of Arslan and Balkış (2016) and Aysan (2003, p. 128) implicitly supports these results. Research with undergraduate students also gave similar results (Çiftçi, 2002; Diker-Coşkun et al., 2014, p. 673; Kaya & Demir, 2017, pp. 18-19; Malkoç & Yalçın, 2015; Terzi, 2008, p. 302).

In summary, according to the analysis, as the class level (grade) increases, psychological resilience decreases; with regard to 12th graders, this result was considered notable. Students who received limited preschool education were seen as disadvantaged compared to those who had no preschool education or those who attended preschool continuously. Students whose mothers were primary school or high school graduates used active coping strategies more than those whose mothers were university undergraduates. Students whose parents were divorced, on the other hand, tended to use avoidance strategies. A medium-level positive relationship was found between psychological resilience and active coping, and a medium-level negative relationship was found between psychological resilience and negative coping. In this sense, students considered at-risk in high schools should be determined in the 11th and 12th grades, and especially in the 12th grade, and special help should be administered in order to improve the students' psychological resilience and skills for coping with stress. Such studies can be performed at schools by teachers, school counselors, and also by parents. Parents should provide consistent preschool education, so without this education being disrupted or interrupted.

Research in the future can analyze why students who are at-risk and whose mothers graduated from primary and secondary education are more successful in coping strategies than students whose mothers graduated as university undergraduates. The fact that students' whose parents are divorced tend to used avoidance skills should be considered with interest, and studies undertaken in order to improve their active coping skills in problem solving. The current research was performed with high school teenagers. Similar research could be performed with university undergraduates or with adults. This research was applied in a high school of a high socioeconomic level, educated parents, and a high academic success rate. Similar research may be applied to populations of opposing characteristics. Considering the relationship between psychological resilience and coping skills, students should be encouraged and educated about active coping through role-modeling.

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