



## AN EXAMINATION OF POSITIVE THINKING SKILLS IN TERMS OF PERSONALITY TYPES, AUTOMATIC THINKING, SOCIAL RELATIONSHIP, AND PROBLEM-SOLVING VARIABLES

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### Abstract:

The rapidly developing science and technology in our world directly affect the human mind, making the development of higher-order thinking skills essential. Today's educational approaches place the student at the center of all processes, aiming to develop cognitive skills to the highest level. In this context, positive thinking skills play a key role in individuals' happiness and success in life. This research aims to examine positive thinking skills in terms of personality types, automatic thoughts, social relationships, and problem-solving variables. The research method is designed as a descriptive research type within the survey field research model. The population of the study consists of all high school students in Turkey, while the study population consists of high school students in the province of Samsun. Sampling was conducted in 17 districts of Samsun province, ensuring maximum diversity by including Science High Schools, Anatolian High Schools, Anatolian Imam Hatip High Schools, and Vocational/Technical High Schools, based on population and school diversity. In line with the research objective, the Positivity Scale, Personality Type Scale, Automatic Thoughts Scale, Social Relationships Elements Scale, and Problem-Solving Scale were administered to 2354 students. The permissions have been obtained from the scale owners for the scales used. Statistical analyses of the obtained data were performed using the SPSS statistical program. Total scores on the positivity, personality types, automatic thoughts, social relationships, and problem-solving skills scales showed significant differences

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according to the district type variable, but not according to the grade level. Total scores on the positivity, automatic thoughts, social relationships, and problem-solving skills scales showed significant differences according to the high school type variable. Total scores on the positivity, personality types, automatic thoughts, social relationships, and problem-solving skills scales showed significant differences according to the gender variable. The mean total score of the positivity scale showed a significant difference compared to the mean total scores of the personality types, automatic thoughts, social relationships, and problem-solving skills scales.

**Keywords:** positive thinking skills, personality types, automatic thoughts, social relationships, problem-solving skills

## 1. Introduction

Every individual needs a positive thinking-based lifestyle to live their life more easily and meaningfully. It is observed that high school students today sometimes become fixated on unrealistic and negative thoughts about the future. Individuals in this age group accept unhappiness and failure within a state of learned helplessness. They look at the future hopelessly with the belief that they cannot control their own behavior. This situation can lead individuals to gradually move away from the goal of being happy, to adopt unhappiness as a way of life, and to the development of automatic thoughts, depression, and suicide attempts. Indeed, research by Macleod *et al.* (2005) emphasized that a lack of positive thinking about the future is more decisive than negative thinking in individuals who attempt suicide. Similarly, Hankin *et al.* (2001), in their study examining the relationship between depression and hopelessness in adolescence, stated that cognitively vulnerable individuals become more prone to depression when they experience feelings of hopelessness along with negative thoughts, and that this process manifests itself with negative symptoms such as suicidal tendencies, sleep disorders, concentration problems, and mood disturbances, especially in conjunction with stressful life events. Therefore, ensuring that high school students develop positive thinking skills is one of the most fundamental aspects in terms of raising them as useful members of society (Karagöz, 2011).

In the literature, the relationship between positive thinking and coping with stress (D’Zurilla, 1990), emotional regulation, and problem-solving skills has been addressed in various studies. Studies mostly focus on examining the relationship between two variables. Studies that include positive thinking with multiple psychosocial variables are quite limited. Furthermore, the vast majority of existing research is limited to university students or adults. The developmental needs of young individuals at the high school level have not been adequately addressed (Nezu, 1985). The relationship between positive thinking and psychosocial adjustment in high school students has been addressed in a limited number of studies. In this context, the problem lies in the failure

to address students' cognitive, affective, and social domains through a more holistic approach.

Based on this data, this research examines positive thinking skills in terms of personality types, automatic thoughts, social relationships, and problem-solving skills. Positive thinking skills, when considered in isolation, are insufficient to explain an individual's psychosocial circumstances. Questions such as how this skill interacts with personality types, to what extent it is related to automatic thoughts, and its relationship with social relationships elements pose problems for researchers. Similarly, determining how an individual's problem-solving skills function as a supportive (predictive) element for positive thinking skills is among these questions. Understanding the multifaceted nature of this skill is extremely valuable for many fields (Heppner *et al.*, 2004; Fredrickson, 2001).

The literature shows that positive thinking skills interact with an individual's personality traits, levels of automatic thoughts, social interactions, and problem-solving processes. Various studies support the idea that individuals with a positive self-image and internal locus of control tend to establish more effective social relationships, are less affected by negative automatic thoughts, and exhibit more constructive approaches in problem-solving processes. In this context, a multifaceted approach to positive thinking skills and their examination in relation to variables contributing to an individual's psychological well-being is an important scientific necessity. This research aims to reveal, from a holistic perspective, how positive thinking affects not only an individual's internal thought patterns but also their interpersonal relationship competence and problem-solving skills. It is hoped that the research findings will make significant contributions to the development of education and intervention programs for high school students and will guide educational approaches. The research is limited to the 2023-2024 academic year and the topic of positive/optimistic thinking skills.

## **2. Research Problem**

The literature shows that positive thinking skills interact with an individual's personality traits, levels of automatic thoughts, social interactions, and problem-solving processes. This research examines positive thinking skills in terms of personality types, automatic thoughts, social relationships, and problem-solving skills. Positive thinking skills, when considered in isolation, are insufficient to explain an individual's psychosocial circumstances. Questions such as how this skill interacts with personality types, to what extent it is related to automatic thoughts, and its relationship with social relationship elements pose problems for researchers. Similarly, determining how an individual's problem-solving skills function as a supportive element for positive thinking skills is also included among these questions. Being able to see the multifaceted nature of this skill is extremely valuable for many fields (Heppner *et al.*, 2004; Fredrickson, 2001). The following topics were examined in the research:

- 1) Do the mean total scores on the positive thinking, personality types, automatic thoughts, social relationships, and problem-solving skills scales of 10th and 11th-grade high school students show significant differences according to the variables: a) Gender b) Grade level c) High school type d) District type?
- 2) Is there a significant difference between the mean total scores of the positive thinking scale and the total scores of the a) Personality Type b) Automatic Thoughts c) Social Relationships d) Problem-solving skills scale?

A multifaceted approach to positive thinking skills and their examination in relation to variables contributing to an individual's psychological well-being is an important scientific necessity. This research aims to reveal, from a holistic perspective, how positive thinking affects not only an individual's internal thought patterns but also their interpersonal relationship competence and problem-solving skills. It is expected that the research findings will make significant contributions to the development of education and intervention programs for high school students and will guide educational approaches.

## **2. Research Method**

The research model, sample, permissions, data collection tools, data collection process and data analysis dimensions are mentioned below.

### **2.1. Research Design**

The research is classified as descriptive in terms of how the research topic is addressed; quantitative in terms of the type of variables; short-term/cross-sectional in terms of the time required; theoretical in terms of the level of research; scale-based in terms of the data collection instrument; inductive in terms of methodology; and basic research in terms of its purpose. This study aims to examine positive thinking skills in terms of personality types, automatic thoughts, social relationships, and problem-solving skills. To achieve this aim, a descriptive research type within the Survey (field survey) model was used. The most prominent feature of descriptive research is to reveal the existing situation within its own conditions and as it is (Sönmez & Alacapınar, 2011). The aim of this type of research is to describe the events and situations in detail, without altering them, and to explain the possible relationships between these events (Çepni, 2007; Erkuş, 2005). The independent variables of the research are gender, grade level, type of high school, and district type. In addition, personality type, automatic thoughts, social relationships, and problem-solving skills were examined within the scope of other research variables. The dependent variable in this study is positive thinking ability.

### **2.2. Study Group/Sample**

The research population consists of all high school students in Turkey. Since it was not possible to reach the entire population for this research (due to limitations such as cost, time, and number of researchers), high school students in Samsun province were selected

as the study population. Sampling was conducted in 17 districts of Samsun province, ensuring maximum diversity by including Science High Schools, Anatolian High Schools, Anatolian Imam Hatip High Schools, and Vocational/Technical High Schools, based on population and school diversity. Two stages were used in sample selection. In the first stage, stratified sampling, a type of random sampling, was used to define the types of high schools. In the second stage, schools were identified from the districts according to these high school types using a simple random sampling method. Random sampling is considered one of the best sampling types for representing the population, and the data obtained using this method have a high generalizability to the study population. This model was preferred due to its high representativeness. Frequently used in quantitative research, this method involves selecting a smaller group containing all the characteristics of the population, based on the assumption that certain characteristics are normally distributed within the population when access to the entire population is not possible (Yıldırım & Şimşek, 2011, p. 101).

In this study, 10th- and 11th-grade high school students were defined as the inclusion criteria, while 9th- and 12th-grade students were defined as the exclusion criteria. The reason for selecting 10th- and 11th-grade students is that 9th-grade students are generally at the beginning of adolescence and are in the process of adapting to school. 12th-grade students are likely to experience intense academic and social pressures as they prepare for graduation. These situations may lead to deviations in the assessment of positive thinking skills. Students in 10 and 11 grades are in the middle of their high school education, more adapted to school life, but still at a stage where they can focus on making future decisions and development processes. Therefore, they are considered the most suitable group for studying positive thinking skills. The estimated number of participants to be included in the study (based on the 2022 census population of Samsun, which was 1,368,488) has been determined as 2354. Furthermore, in quantitative research, a criterion of 10 times the number of participants for each independent variable and 5 times the number of questions for dependent variables was used. The sample size is sufficient to allow generalization of the data to the study population.

### **2.3. Data Collection and Permissions**

In line with the purpose of the research, 5 scales were administered to the students. Necessary permissions were obtained from the scale owners. Additionally, "Ethics Committee Permission" was obtained from the Ondokuz Mayıs University Social and Human Sciences Research Ethics Committee on November 24, 2023, with decision number 2023-985. Data collection in schools located in the districts of Samsun province (19 Mayıs, Alaçam, Asarcık, Atakum, Ayvacık, Bafra, Canik, Çarşamba, Havza, İlkadım, Kavak, Ladik, Salıpazarı, Tekkeköy, Terme, Vezirköprü, Yakakent) was carried out "face-to-face" after obtaining the necessary permissions from the R&D department of the Samsun Provincial Directorate of National Education. The data collection process lasted five months. The scales were administered to students in the selected schools. The administration of the measurement tools took an average of 25-30 minutes. Students

participated in the research on a voluntary basis. In addition, parental consent forms were sent to the families of the students participating in the study, and their consent was obtained.

### 2.3.1. Data Collection Tools

Permissions have been obtained from the scale owners for the scales that are used. The scales used are as follows;

- 1) **Positivity Scale:** The Positivity Scale, developed by Caprara *et al.* and adapted into Turkish by Çıkrıkçı, Ö., Çiftçi, M., and Gençdoğan, B. (2015). The Cronbach's Alpha (Cr. $\alpha$ ) reliability coefficient was found to be 0.89 (highly reliable). The internal consistency coefficient was determined to be 0.73, and the test-retest reliability was 0.91. This scale was designed to assess the level of positivity in individuals and consists of eight items in total. The minimum score on the scale can be 8, and the maximum score can be 40. Higher scores indicate that the individual has a highly positive outlook. The scale meets all reliability and validity requirements.
- 2) **Personality Type Scale:** The Personality Type Scale, developed by Kenan Taştan (2019). The Cronbach's Alpha (Cr. $\alpha$ ) reliability coefficient was found to be 0.89 (highly reliable). This scale is a 0-6 Likert-type scale consisting of 44 items used to determine personality types in Turks according to Enneagram principles. There are 9 subtypes, each representing a personality type. It is a Likert-type scale developed for personality types, rated from 0 (definitely no) to 7 (definitely yes). Items 7, 27, 34, and 39 were reverse-scored. The scale meets all reliability and validity requirements.
- 3) **Automatic Thoughts Questionnaire (ATQ):** The Automatic Thoughts Questionnaire (ATQ) was developed by Hollan and Kendal (1980) and adapted into Turkish by Şahin and Şahin (1992). The Cronbach's Alpha (Cr. $\alpha$ ) reliability coefficient was found to be 0.89 (highly reliable). The scale consists of 30 items and is a 5-point Likert-type scale designed to determine the frequency with which negative thoughts associated with depression automatically pass through individuals' minds. Each item on the scale describes a thought that might automatically cross an individual's mind. The lowest possible score on the scale is 30, and the highest is 150. A high score indicates a high frequency of automatic thoughts associated with depression; in other words, the presence of depression-specific cognitive structure and negative self-evaluation. The internal consistency coefficient for the entire scale is 0.95 (Şahin & Şahin, 1992). The scale meets all reliability and validity requirements.
- 4) **Provision of Social Relationship (PSR) Scale:** Developed by Turner, Frankel, and Levin (1983) and adapted into Turkish by Duyan, Gelbal, and Var (2013), the Provision of Social Relationship Scale – PSR. The Cronbach's Alpha (Cr. $\alpha$ ) reliability coefficient was found to be 0.89 (highly reliable). This scale is a measurement tool consisting of 15 items. The scores that can be obtained from the

scale range from 15 to 75. Two of the items aimed at determining social relationship components in terms of social support are negatively worded (items 7 and 15), while thirteen are positively worded. Higher scores obtained from the scale indicate that individuals perceive themselves as receiving greater social support from their environment (Turner, Frankel & Levin, 1983; Duyan, Gelbal & Var, 2013). The scale meets all reliability and validity requirements.

- 5) **Problem Solving Inventory:** The Problem-Solving Inventory, developed by Serin, Bulut Serin, and Saygılı (2010). The Cronbach's Alpha (Cr.α) reliability coefficient was found to be 0.89 (highly reliable). This scale is a 24-item, 5-point Likert-type self-assessment scale that measures an individual's self-perception of their problem-solving skills. Higher scores indicate a higher level of self-perceived problem-solving ability, whereas a decrease indicates a lower level of self-perceived problem-solving ability. The score range is 24-120. The scale meets all reliability and validity requirements.

## 2.4. Data Analysis

The data obtained from the Positivity Scale, Personality Types, Automatic Thoughts, Social Relationship, and Problem-Solving Skills measurement tools were entered into the SPSS statistical program and analyzed. To determine whether parametric or non-parametric tests should be used in the analyses, the distribution of the total scores of the normalized data was examined, and the data were evaluated primarily according to skewness and kurtosis values. Based on the results of the normality test, when the skewness and kurtosis values were examined, values between +1 and -1 for skewness and kurtosis are considered an excellent range (George & Mallery, 2012). Accordingly, the skewness and kurtosis values of all obtained data were tested, and it was found that they met the conditions for normal distribution. The Positivity Scale, Personality Types, Automatic Thoughts, Social Relationships, and Problem-Solving Skills, which met the conditions for normal distribution, were used in conjunction with parametric tests to reveal the relationships between independent variables. Data related to gender, grade levels, high school type, and district variables were analyzed as frequencies and percentages. The other data obtained from the measurement tools were tabulated using descriptive statistics, including frequency, percentage, arithmetic mean, mean of means, and standard deviation analyses. An independent samples t-test was conducted to investigate whether there were significant differences in students' positive thinking skills based on gender and grade level. ANOVA analysis was used to investigate whether there were significant differences in students' positive thinking skills based on high school type and district variables. Post-hoc tests were applied to determine the source of any significant differences found. The significance level in data analysis was set at  $p \leq 0.05$ . ANOVA analyses were also conducted to investigate whether there were significant differences in the total score of the positivity scale based on the scores of the personality type, automatic thoughts, social relationship, and problem-solving skills scales.

The positivity scale consists of 8 items, the personality type scale 44 items, the automatic thought scale 30 items, the social relationships scale 15 items, and the problem-solving skills scale 24 items. Since the item scores of the scales differed, the average of the total scores according to the number of questions was calculated, and then the average of the total scores was compared. Due to the fact that the Personality Type scale differs from the other scales in its Likert format, it was recoded from a 7-point Likert scale to a 5-point Likert scale using the “Recode into Same Variables” function. In determining the scale intervals, the formula “range/number of groups to be formed” proposed by Tekin (1996) was considered. The score intervals corresponding to each option in the scale were taken as criteria and are given in Table 1.

**Table 1:** Score Ranges and Cut-off Points Used for Options in Data Collection Tools

| Options           | Cut-off Points | Levels   | Cut-off Points |
|-------------------|----------------|----------|----------------|
| Strongly Agree    | 4.21 – 5.00    | Agree    | 3.41 – 5.00    |
| Agree             | 3.41 – 4.20    |          |                |
| Neutral           | 2.61 – 3.40    | Neutral  | 2.61 – 3.40    |
| Disagree          | 1.81 – 2.60    | Disagree | 1.00 – 2.60    |
| Strongly Disagree | 1.00 – 1.81    |          |                |

### 3. Findings

This section systematically presents the findings obtained within the scope of the research, in line with the sub-problems of the study. In organizing the findings, the analysis results related to each sub-problem are discussed under separate headings, and the obtained data are interpreted and explained. The aim is to make sense of the findings in a way that will provide answers to the basic questions of the research and to evaluate them within a holistic framework. Furthermore, the results obtained are structured in a way that will provide a basis for discussion by comparing them with the relevant literature.

#### 3.1. Findings Regarding the Total Scores of Positivity, Personality Types, Automatic Thoughts, Social Relationship, and Problem-Solving Skills Scales

This section presents descriptive statistics on the total scores of all scales and examines how these scores vary according to gender, grade level, type of high school, and district type.

**Table 1:** Descriptive Statistics Results Regarding Students' Total Positivity Scale Scores

| Items                                                  | N    | X    | SS   |
|--------------------------------------------------------|------|------|------|
| I have a strong faith in the future.                   | 2354 | 3,66 | 1,17 |
| I am satisfied with my life.                           | 2354 | 3,68 | 1,15 |
| Others are usually there for me when I need them.      | 2354 | 3,71 | 1,16 |
| I look forward to the future with hope and enthusiasm. | 2354 | 3,59 | 1,25 |
| I am satisfied with myself as a whole.                 | 2354 | 3,74 | 1,18 |
| The future sometimes seems uncertain to me.            | 2354 | 3,60 | 1,25 |

|                                           |      |      |      |
|-------------------------------------------|------|------|------|
| I feel I have many things to be proud of. | 2354 | 3,69 | 1,19 |
| I don't usually feel safe.                | 2354 | 3,81 | 1,18 |

When the averages in Table 1 are examined, it is seen that item 8 has the highest average (=3.81) and item 4 has the lowest average (=3.59) on the positivity scale. Accordingly, it is observed that students mostly responded “Agree” to item 8, which states “I generally feel safe,” and also mostly responded “Agree” to item 4, which states “I look forward to the future with hope and enthusiasm.”

**Table 2:** Descriptive Statistics Results Regarding Students' Total Personality Type Scale Scores

| Items                                                                                          | N    | X    | SS    |
|------------------------------------------------------------------------------------------------|------|------|-------|
| I find it difficult to take action because I consider all options.                             | 2354 | 3,64 | 1,746 |
| I am very particular about details.                                                            | 2354 | 4,48 | 1,75  |
| I have a critical perspective.                                                                 | 2354 | 4,71 | 1,68  |
| I immediately identify what is dangerous or harmful.                                           | 2354 | 5,29 | 1,98  |
| I think about every detail of my work before I do it.                                          | 2354 | 4,84 | 2,26  |
| I am humble.                                                                                   | 2354 | 5,17 | 1,59  |
| I cannot tolerate boredom at all.                                                              | 2354 | 2,93 | 1,87  |
| I want people to speak directly to me without speaking in circles.                             | 2354 | 6,10 | 1,57  |
| Being appreciated is very important to me.                                                     | 2354 | 5,13 | 1,93  |
| If someone I've given a task to works too slowly, I'll take the job away and finish it myself. | 2354 | 5,06 | 2,16  |
| I am very ambitious.                                                                           | 2354 | 4,67 | 1,80  |
| I am very hardworking.                                                                         | 2354 | 4,28 | 1,65  |
| I can accomplish almost anything I set my mind to.                                             | 2354 | 4,79 | 1,54  |
| I always have a goal I want to achieve.                                                        | 2354 | 5,20 | 1,67  |
| I always have work to do.                                                                      | 2354 | 4,40 | 1,72  |
| I can be easily hurt.                                                                          | 2354 | 4,51 | 2,03  |
| I am a very sensitive person.                                                                  | 2354 | 4,21 | 2,04  |
| I experience emotions very intensely.                                                          | 2354 | 4,37 | 2,19  |
| My sense of aesthetics is highly developed.                                                    | 2354 | 4,43 | 2,17  |
| I often feel sad.                                                                              | 2354 | 4,01 | 2,26  |
| I am a researcher.                                                                             | 2354 | 4,50 | 2,62  |
| I pay close attention to details.                                                              | 2354 | 4,97 | 2,03  |
| I have excellent observation skills.                                                           | 2354 | 5,20 | 1,55  |
| I have a highly developed imagination.                                                         | 2354 | 5,12 | 1,69  |
| I have an artistic soul.                                                                       | 2354 | 4,06 | 2,06  |
| I need to be constantly alert to feel safe.                                                    | 2354 | 4,39 | 2,82  |
| I don't like taking risks.                                                                     | 2354 | 4,10 | 2,17  |
| My skepticism prevents me from taking risks.                                                   | 2354 | 3,93 | 2,49  |
| I feel uncomfortable in managerial positions.                                                  | 2354 | 3,18 | 1,90  |
| I am an active and social person.                                                              | 2354 | 4,96 | 2,28  |
| I have boundless energy.                                                                       | 2354 | 4,36 | 2,00  |
| I am generally a cheerful person.                                                              | 2354 | 5,01 | 2,13  |
| I spread joy wherever I go.                                                                    | 2354 | 4,83 | 1,76  |
| I may not win every battle I enter, but my enemies don't easily forget me.                     | 2354 | 2,81 | 1,73  |
| I always prefer to be independent.                                                             | 2354 | 4,25 | 1,88  |
| I think I am different from everyone else.                                                     | 2354 | 4,20 | 1,95  |

|                                                                      |      |      |      |
|----------------------------------------------------------------------|------|------|------|
| Being extraordinary is important to me.                              | 2354 | 4,31 | 2,30 |
| I don't easily back down in arguments.                               | 2354 | 2,90 | 1,85 |
| I find it difficult to openly get angry at someone.                  | 2354 | 3,27 | 2,12 |
| The thing I avoid most is conflict.                                  | 2354 | 3,43 | 2,20 |
| My most important characteristics are being peaceful and easy-going. | 2354 | 4,46 | 1,83 |

When the averages in Table 2 are examined, it is seen that item 8 has the highest average (=6.10) and item 34 has the lowest average (=2.81) on the personality type scale. Accordingly, it was observed that students mostly answered "Yes" to item 8, which states, "I want people to speak to me directly, without speaking in circles", while they answered "Neutral" to item 34, which states, "I may not win every battle I enter, but my enemies will not easily forget me."

**Table 3:** Descriptive Statistics Results Regarding  
Students' Total Automatic Thoughts Scale Scores

| Items                                           | N    | X    | SS   |
|-------------------------------------------------|------|------|------|
| It feels like the whole world is against me.    | 2354 | 3.66 | 1.21 |
| I am useless.                                   | 2354 | 3.84 | 1.20 |
| Why can't I ever succeed?                       | 2354 | 3.39 | 1.25 |
| Nobody understands me.                          | 2354 | 3.14 | 1.31 |
| I've disappointed others.                       | 2354 | 3.39 | 1.20 |
| I don't think I can go on.                      | 2354 | 3.80 | 1.32 |
| I wish I were a better person.                  | 2354 | 3.60 | 1.41 |
| I'm so powerless...                             | 2354 | 3.95 | 1.29 |
| My life isn't going the way I want it to.       | 2354 | 3.08 | 1.37 |
| I've disappointed myself.                       | 2354 | 3.29 | 1.35 |
| Nothing feels enjoyable anymore.                | 2354 | 3.02 | 1.45 |
| I can't take it anymore.                        | 2354 | 3.80 | 1.33 |
| I just can't seem to get myself to take action. | 2354 | 3.29 | 1.38 |
| What is wrong with me?                          | 2354 | 3.36 | 1.42 |
| I wish I were somewhere else.                   | 2354 | 3.00 | 1.49 |
| I can't make ends meet.                         | 2354 | 3.77 | 1.24 |
| I hate myself.                                  | 2354 | 3.98 | 1.32 |
| I am a worthless person.                        | 2354 | 4.02 | 1.31 |
| I wish I could disappear suddenly.              | 2354 | 3.57 | 1.51 |
| Why do I put myself through this?               | 2354 | 3.90 | 1.28 |
| I am always destined to lose in life.           | 2354 | 4.06 | 1.24 |
| My life is a mess.                              | 2354 | 3.35 | 1.43 |
| I am a failure.                                 | 2354 | 3.61 | 1.33 |
| I will never succeed.                           | 2354 | 3.98 | 1.25 |
| I feel very helpless.                           | 2354 | 3.63 | 1.33 |
| Some things need to change.                     | 2354 | 2.62 | 1.40 |
| There must be something wrong with me.          | 2354 | 3.75 | 1.35 |
| My future is bleak.                             | 2354 | 3.63 | 1.36 |
| Nothing is worth the effort.                    | 2354 | 3.64 | 1.37 |
| I can't finish anything.                        | 2354 | 3.73 | 1.34 |

When the averages in Table 3 are examined, it is seen that item 8 has the highest average (=4.06) and item 26 has the lowest average (=2.62) on the positivity scale. Accordingly, students answered "Always" to item 21, which states "I am always destined to lose in life," and "Occasionally" to item 26, which states "Some things need to change."

**Table 4:** Descriptive Statistics Results Regarding Students' Total Social Relationship Scale Scores

| Items                                                                                            | N    | X    | SS   |
|--------------------------------------------------------------------------------------------------|------|------|------|
| When I'm with my friends, I can be myself and feel comfortable.                                  | 2354 | 3,79 | 1,23 |
| I share a common perspective on life with many of my friends.                                    | 2354 | 3,38 | 1,14 |
| Those who know me trust and respect me.                                                          | 2354 | 4,00 | 1,06 |
| I know my family will be there for me when I need them, no matter what.                          | 2354 | 4,00 | 1,86 |
| When I want to go out and do something, I know many of my friends will enjoy keeping me company. | 2354 | 3,64 | 1,22 |
| I have at least one friend I can tell everything to.                                             | 2354 | 3,97 | 2,15 |
| Sometimes I'm not entirely sure I can trust my family.                                           | 2354 | 3,23 | 1,49 |
| Those who know me know I'm good at what I do.                                                    | 2354 | 3,74 | 1,26 |
| I feel very close to some of my friends.                                                         | 2354 | 3,99 | 1,22 |
| People in my family trust me.                                                                    | 2354 | 4,03 | 1,90 |
| My family makes me feel like they think I'm a valuable person.                                   | 2354 | 3,73 | 1,28 |
| People in my family help me find solutions to my problems.                                       | 2354 | 3,63 | 1,31 |
| My friends make time for me to talk about my problems whenever I want.                           | 2354 | 3,52 | 1,30 |
| I know my family will always support me.                                                         | 2354 | 3,91 | 1,23 |
| Even when I'm with my friends, I feel lonely.                                                    | 2354 | 3,42 | 1,14 |

When the means in Table 4 are examined, it is seen that in the Social Relations scale, item 10 has the highest mean (= 4.03), while item 7 has the lowest mean (= 3.23). Accordingly, students responded "This applies to me" to item 10, which states "People in my family trust me," and "This applies to me somewhat" to item 7, which states "Sometimes I'm not entirely sure I can trust my family."

**Table 5:** Descriptive Statistics Results Regarding Students' Total Problem-Solving Scale Scores

| Items                                                                            | N    | X    | SS   |
|----------------------------------------------------------------------------------|------|------|------|
| Instead of running away from my problems, I try to solve them.                   | 2354 | 3,41 | 1,21 |
| Whenever I have a problem, I always feel pessimistic and I can't easily recover. | 2354 | 2,97 | 1,31 |
| I try to stay calm when problems arise.                                          | 2354 | 3,48 | 2,71 |
| When things bother me, I get angry and say things I don't mean.                  | 2354 | 2,62 | 1,32 |
| I believe that the problems I experience can happen to anyone.                   | 2354 | 3,18 | 1,65 |
| I get upset quickly when a problem arises.                                       | 2354 | 3,04 | 1,48 |
| When encountering a problem, I don't give up until the solution I find works.    | 2354 | 3,20 | 1,24 |
| I can't get over the effects of a problem for a long time.                       | 2354 | 3,14 | 1,42 |
| When I have problems, I always ask myself questions and look for solutions.      | 2354 | 3,43 | 1,26 |
| I lose interest in everything when I can't solve my problems.                    | 2354 | 2,98 | 1,38 |
| I try all possible solutions to overcome the problems I face without giving up.  | 2354 | 3,20 | 1,29 |
| When I'm having problems, I find it difficult to concentrate on my studies.      | 2354 | 2,59 | 1,53 |
| First, I try to find out what is causing my problems.                            | 2354 | 3,34 | 1,18 |
| When I have problems with my friends, I fight with them instead of talking.      | 2354 | 3,86 | 1,25 |
| Instead of avoiding problems, I keep trying until I find a solution that works.  | 2354 | 3,21 | 1,27 |

|                                                                                              |      |      |      |
|----------------------------------------------------------------------------------------------|------|------|------|
| I make up lots of excuses to avoid my work and responsibilities.                             | 2354 | 3,40 | 1,29 |
| I am quite patient and determined when faced with problems.                                  | 2354 | 3,15 | 1,37 |
| When I have a problem, I think that no matter what I do, it won't be solved.                 | 2354 | 3,57 | 1,26 |
| When I can't solve my problems, I ask my family or friends for help.                         | 2354 | 3,20 | 1,31 |
| I'm generally not successful at solving my problems.                                         | 2354 | 3,42 | 1,21 |
| I usually find creative and effective solutions to my problems.                              | 2354 | 3,16 | 1,25 |
| Acting like a little child when I have problems makes me feel better.                        | 2354 | 3,73 | 1,70 |
| When encountering a problem, I believe I can solve it by considering all possible solutions. | 2354 | 3,17 | 1,26 |
| When I have a problem, instead of looking for solutions, I just let things be.               | 2354 | 3,23 | 1,26 |

When the averages in Table 5 are examined, it is seen that item 14 has the highest average (=3.86) and item 12 has the lowest average (=2.59) on the problem-solving skills scale. Accordingly, it is observed that students responded "I always behave like this" to item 14, which states "When I have problems with my friends, I fight with them instead of talking," and "I never behave like this" to item 12, which states "When I'm having problems, I find it difficult to concentrate on my studies."

### 3.2. Finding about Variation of the Total Scores of the Positive Thinking, Personality Types, Automatic Thoughts, Social Relationships, and Problem-Solving Skills Scales According to the Gender Variable

An independent-samples t-test was conducted to determine whether the total scores on the personality types, automatic thoughts, social relationships, and problem-solving skills scales differed significantly according to the students' gender, and if so, in which direction the difference was. The results are given in Table 4.6.

**Table 6:** Descriptive Statistics Results Regarding Positivity,  
Personality Types, Automatic Thoughts, Social Relationships, and  
Problem-Solving Skills Scale Dimensions According to Gender Variable

| Scales               | Gender | N    | $\bar{X}$ | SS    | Df   | t      | P    | $\eta^2$ |
|----------------------|--------|------|-----------|-------|------|--------|------|----------|
| Positivity           | Female | 1063 | 29,66     | 6,80  | 1833 | ,662   | ,508 | 0,23     |
|                      | Male   | 772  | 29,44     | 6,87  |      |        |      |          |
| Personality Types    | Female | 1063 | 197,4     | 26,58 | 1833 | 5,085  | .000 | 0,014    |
|                      | Male   | 772  | 190,9     | 27,72 |      |        |      |          |
| Automatic Thoughts   | Female | 1063 | 103,9     | 26,48 | 1833 | -5,793 | .000 | 0,018    |
|                      | Male   | 772  | 111,1     | 26,36 |      |        |      |          |
| Social Relationships | Female | 1063 | 56,84     | 11,35 | 1833 | 2,386  | .017 | 0,003    |
|                      | Male   | 772  | 55,57     | 11,24 |      |        |      |          |
| Problem-Solving      | Female | 1063 | 75,71     | 14,98 | 1833 | -7,537 | .000 | 0,03     |
|                      | Male   | 772  | 80,83     | 13,47 |      |        |      |          |

According to the T-test results in Table 6, there is no significant difference in the total positivity scale score based on gender ( $p \geq .05$ ). Total scores on the positivity, personality types, automatic thoughts, social relationships, and problem-solving skills scales showed significant differences according to gender variable ( $p \leq .05$ ). Personality Type scale scores

were found to be higher among female students ( $\bar{X}=197,44$ ), than among male students ( $\bar{X}=190,93$ ). When evaluated in terms of effect size, the value is less than 0.2, so it is considered a low-level effect. Automatic Thoughts scale scores were found to be higher among male students ( $\bar{X}=111,18$ ), than among female students ( $\bar{X}=103,94$ ). When evaluated in terms of effect size, it is considered a low-level effect. Social Relationship scale scores were found to be higher among female students ( $\bar{X}=56,84$ ), than among male students ( $\bar{X}=55,57$ ). When evaluated in terms of effect size, the value is less than 0.2, so it is considered a low-level effect. Problem-Solving scale scores were found to be higher among male students ( $\bar{X}=80,83$ ), than among female students ( $\bar{X}=75,71$ ). When evaluated in terms of effect size, the value is less than 0.2, so it is considered a low-level effect. The minimum effect size limits for the Independent Groups t-test are as follows: Low-level effect 0.2, medium-level effect 0.5, high-level effect 0.8.

### 3.3. Finding about Variation in the Total Scores of the Positivity, Personality Types, Automatic Thoughts, Social Relationships, and Problem-Solving Skills Scales by Grade Level

An independent-samples t-test was conducted to determine whether the total scores on the positivity, personality types, automatic thoughts, social relationships, and problem-solving skills scales differed significantly according to the students' grade level, and if so, in which direction. The results are given in Table 7.

**Table 7:** Descriptive Statistics Regarding the Total Scores of the Positivity, Personality Types, Automatic Thoughts, Social Relationships, and Problem-Solving Skills Scales Results by Grade Level

| Scales               | Grade Level | N    | $\bar{X}$ | ss    | df   | t      | P    | $\eta^2$ |
|----------------------|-------------|------|-----------|-------|------|--------|------|----------|
| Positivity           | 10th Grade  | 1255 | 29,63     | 6,70  | 2352 | ,860   | .390 | 0,4      |
|                      | 11th Grade  | 1099 | 29,39     | 6,63  |      |        |      |          |
| Personality Types    | 10th Grade  | 1255 | 193,70    | 26,52 | 2352 | -1,440 | .150 | 0,8      |
|                      | 11th Grade  | 1099 | 195,34    | 28,82 |      |        |      |          |
| Automatic Thoughts   | 10th Grade  | 1255 | 106,73    | 26,54 | 2352 | -,532  | .595 | 0,0      |
|                      | 11th Grade  | 1099 | 107,31    | 25,94 |      |        |      |          |
| Social Relationships | 10th Grade  | 1255 | 56,12     | 11,15 | 2352 | ,398   | .691 | 0,0      |
|                      | 11th Grade  | 1099 | 55,93     | 11,59 |      |        |      |          |
| Problem-Solving      | 10th Grade  | 1255 | 77,69     | 14,34 | 2352 | -,431  | .667 | 0,0      |
|                      | 11th Grade  | 1099 | 77,94     | 13,95 |      |        |      |          |

According to the T-test results in Table 7, there are no significant differences in positivity, personality types, automatic thoughts, social relationships, and problem-solving skills scale total scores based on students' grade levels ( $p \geq .05$ ).

### 3.4. Finding about Variation in the Total Scores of the Positivity, Personality Types, Automatic Thoughts, Social Relationships, and Problem-Solving Skills Scales by High School Type

A one-way Analysis of Variance (ANOVA) and Post-Hoc test was conducted to determine whether the total scores on the positivity, personality types, automatic thoughts, social relationships, and problem-solving skills scales differed significantly by students' high school type, and, if so, in which direction. The results are given in Table 8.

**Table 8:** Descriptive Statistics Regarding the Total Scores of the Positivity, Personality Types, Automatic Thoughts, Social Relationships, and Problem-Solving Skills Scales Results by High School Type

| Scales                 | High School Type       | N           | $\bar{X}$     | SS           |
|------------------------|------------------------|-------------|---------------|--------------|
| Positivity             | Science High School    | 393         | 29,19         | 7,21         |
|                        | Anatolian High School  | 886         | 30,11         | 6,47         |
|                        | Imam Hatip High School | 574         | 28,97         | 6,67         |
|                        | V.T.A.H                | 501         | 29,36         | 6,50         |
|                        | <b>Total</b>           | <b>2354</b> | <b>29,52</b>  | <b>6,67</b>  |
| Personality types      | Science High School    | 393         | 194,96        | 28,59        |
|                        | Anatolian High School  | 886         | 195,30        | 27,67        |
|                        | Imam Hatip High School | 574         | 194,26        | 25,91        |
|                        | V.T.A.H                | 501         | 192,84        | 28,66        |
|                        | <b>Total</b>           | <b>2354</b> | <b>194,46</b> | <b>27,62</b> |
| Automatic Thoughts     | Science High School    | 393         | 110,40        | 25,34        |
|                        | Anatolian High School  | 886         | 106,46        | 25,57        |
|                        | Imam Hatip High School | 574         | 107,83        | 26,06        |
|                        | V.T.A.H                | 501         | 104,33        | 28,09        |
|                        | <b>Total</b>           | <b>2354</b> | <b>107,00</b> | <b>26,26</b> |
| Social Relationships   | Science High School    | 393         | 56,84         | 10,44        |
|                        | Anatolian High School  | 886         | 56,87         | 10,70        |
|                        | Imam Hatip High School | 574         | 55,26         | 11,68        |
|                        | V.T.A.H                | 501         | 54,80         | 12,58        |
|                        | <b>Total</b>           | <b>2354</b> | <b>56,03</b>  | <b>11,35</b> |
| Problem-Solving Skills | Science High School    | 393         | 80,23         | 14,55        |
|                        | Anatolian High School  | 886         | 76,71         | 13,79        |
|                        | Imam Hatip High School | 574         | 78,04         | 14,16        |
|                        | V.T.A.H                | 501         | 77,59         | 14,30        |
|                        | <b>Total</b>           | <b>2354</b> | <b>77,81</b>  | <b>14,16</b> |

Table 8 shows that, on the positivity scale, students attending Anatolian high schools scored the highest, while those attending Imam Hatip high schools scored the lowest; on the personality types scale, students attending Anatolian high schools scored the highest, while those attending vocational and technical Anatolian high schools (V.T.A.H) scored the lowest; on the automatic thought scale, students attending science high schools scored the highest, while those attending vocational and technical Anatolian high schools scored the lowest; on the social relationships scale, students attending Anatolian high schools scored the highest, while those attending vocational and technical Anatolian high schools

scored the lowest; and on the problem-solving skills scale, students attending science high schools scored the highest, while those attending Anatolian high schools scored the lowest.

The highest average scores achieved by the students were, in order: personality types ( $\bar{X}=195.30$ ), automatic thoughts ( $\bar{X}=110.40$ ), social relationships ( $\bar{X}=56.87$ ), problem-solving skills ( $\bar{X}=80.23$ ), and positivity ( $\bar{X}=30.11$ ). The lowest mean scores for the same scales are;  $\bar{X}=194.26$ ,  $\bar{X}=104.33$ ,  $\bar{X}=54.80$ ,  $\bar{X}=76.71$ , and  $\bar{X}=28.97$ , respectively.

The results of the One-Way Analysis of Variance (ANOVA) conducted to determine whether the total scores on the scales of positivity, personality types, automatic thoughts, social relationships, and problem-solving skills differ significantly according to the type of high school are presented in Table 9.

**Table 9:** ANOVA Results Regarding Students' Total Scores on Positivity, Automatic Thoughts, Social Relationship, and Problem-Solving Skills Scales by High School Types

| Scales               |                | Sum of Squares  | Df          | Squares of Means | F     | Sig. | Source of Difference                          |
|----------------------|----------------|-----------------|-------------|------------------|-------|------|-----------------------------------------------|
| Positivity           | Between Groups | 535,642         | 3           | 178,547          | 4,026 | ,007 | Anatolian High School> Imam Hatip High School |
|                      | Within Groups  | 104214,7        | 2350        | 44,347           |       |      |                                               |
|                      | <b>Total</b>   | <b>104750,3</b> | <b>2353</b> |                  |       |      |                                               |
| Personality Types    | Between Groups | 2057,968        | 3           | 685,989          | ,899  | ,441 |                                               |
|                      | Within Groups  | 1794.169        | 2350        | 763,476          |       |      |                                               |
|                      | <b>Total</b>   | <b>1796.227</b> | <b>2353</b> |                  |       |      |                                               |
| Automatic Thoughts   | Between Groups | 8769,058        | 3           | 2923,019         | 4,254 | ,005 | Science High School> V.T.A.H                  |
|                      | Within Groups  | 1614.646        | 2350        | 687,083          |       |      |                                               |
|                      | <b>Total</b>   | <b>1623.415</b> | <b>2353</b> |                  |       |      |                                               |
| Social Relationships | Between Groups | 1982,227        | 3           | 660,759          | 5,148 | ,002 | Anatolian High School> V.T.A.H                |
|                      | Within Groups  | 301626,0        | 2350        | 128,351          |       |      |                                               |
|                      | <b>Total</b>   | <b>303608,2</b> | <b>2353</b> |                  |       |      |                                               |
| Problem-Solving      | Between Groups | 3434,390        | 3           | 1144,797         | 5,741 | ,001 | Science High School> Anatolian High School    |
|                      | Within Groups  | 468587,7        | 2350        | 199,399          |       |      |                                               |
|                      | <b>Total</b>   | <b>472022,1</b> | <b>2353</b> |                  |       |      |                                               |

According to the ANOVA results in Table 9, the total scores of the positivity, automatic thought, social relationships, and problem-solving skills scales show significant differences according to the type of high school ( $p \leq .05$ ). The total score on the personality types scale did not differ significantly according to high school type ( $p \geq .05$ ).

**Table 10:** Post-Hoc Test Table of Students' Total Scores on Positivity, Automatic Thoughts, Social Relationships, and Problem-Solving Skills Scales by High School Type

| High School Type | Science | Anatolian | İmam Hatip | V.T.A.H |
|------------------|---------|-----------|------------|---------|
| Science          |         | ,001      |            | ,008    |
| Anatolian        | ,001    |           | ,008       | ,014    |
| İmam Hatip       |         | ,008      |            |         |
| V.T.A.H          | ,008    | ,014      |            |         |

$p \leq .05$

Table 10 shows that students attending Anatolian high schools ( $\bar{X}=30.11$ ) have higher levels of positivity than students attending Imam Hatip high schools ( $\bar{X}=28.97$ ) in the total scores of the positivity scale. Students attending science high schools ( $\bar{X}=110.40$ ) have higher levels of automatic thoughts than students attending vocational and technical Anatolian high schools ( $\bar{X}=104.33$ ) in the total scores of the automatic thoughts scale. In terms of total social relationships scale scores, students attending Anatolian high schools ( $\bar{X}=56.87$ ) have higher levels of social relationships scores than students attending vocational and technical Anatolian high schools ( $\bar{X}=54.80$ ). Students attending science high schools ( $\bar{X}=80.23$ ) have higher levels of problem-solving skills than students attending Anatolian high schools ( $\bar{X}=76.71$ ) in the total scores of the problem-solving skills scale.

### **3.5. Finding about Variation in the Total Scores of the Positivity, Personality Types, Automatic Thoughts, Social Relationships, and Problem-Solving Skills Scales by District Type**

A one-way Analysis of Variance (ANOVA) and Post-Hoc test was conducted to determine whether the total scores on the positivity, personality types, automatic thoughts, social relationships, and problem-solving skills scales differed significantly by students' district type, and, if so, in which direction. The results are given in Table 11.

Table 11 shows that students in Kavak district have the highest average on the positivity scale, and those in Bafra district have the lowest; students in Çarşamba district have the highest average on the personality types scale, and those in Alaçam district have the lowest; students in 19 Mayıs district have the highest average on the automatic thoughts scale, and those in Asarcık district have the lowest; students in Kavak district have the highest average on the social relationships scale, and those in Alaçam district have the lowest; and students in 19 Mayıs district have the highest average on the problem-solving skills scale, and those in Asarcık district have the lowest. The highest average scores achieved by the students were, in order: personality types ( $\bar{X}=202.09$ ), automatic thoughts ( $\bar{X}=113.11$ ), social relationships ( $\bar{X}=58.60$ ), problem-solving skills ( $\bar{X}=82.14$ ), and positivity ( $\bar{X}=31.50$ ). The lowest averages for the same scales are, respectively;  $\bar{X}=187.31$ ,  $\bar{X}=100.59$ ,  $\bar{X}=50.85$ ,  $\bar{X}=72.95$ ,  $\bar{X}=27.10$ .

**Table 11:** Descriptive Statistics Regarding the Total Scores of Positivity, Personality Types, Automatic Thoughts, Social Relationships, and Problem-Solving Skills Scales Results by District Type

| Districts    | N          |                   |                    |                      |                 | X          |                   |                    |                      |                 | SS         |                   |                    |                      |                 |
|--------------|------------|-------------------|--------------------|----------------------|-----------------|------------|-------------------|--------------------|----------------------|-----------------|------------|-------------------|--------------------|----------------------|-----------------|
|              | Positivity | Personality Types | Automatic Thoughts | Social Relationships | Problem-Solving | Positivity | Personality Types | Automatic Thoughts | Social Relationships | Problem-Solving | Positivity | Personality Types | Automatic Thoughts | Social Relationships | Problem-Solving |
| 19 Mayıs     | 115        | 115               | 115                | 115                  | 115             | 29,24      | 191,45            | 113,11             | 55,40                | 82,14           | 5,00       | 22,18             | 26,50              | 10,25                | 16,50           |
| Alaçam       | 83         | 83                | 83                 | 83                   | 83              | 28,47      | 187,31            | 104,39             | 50,85                | 78,28           | 5,23       | 28,77             | 27,63              | 12,46                | 11,44           |
| Asarcık      | 85         | 85                | 85                 | 85                   | 85              | 28,69      | 197,59            | 100,59             | 58,39                | 72,95           | 5,78       | 34,13             | 28,93              | 14,43                | 13,01           |
| Atakum       | 240        | 240               | 240                | 240                  | 240             | 28,04      | 192,98            | 105,97             | 56,01                | 77,19           | 6,35       | 26,28             | 29,17              | 11,43                | 14,53           |
| Ayvacı       | 45         | 45                | 45                 | 45                   | 45              | 27,93      | 196,55            | 105,65             | 56,71                | 76,34           | 6,86       | 29,70             | 28,60              | 8,38                 | 13,23           |
| Bafra        | 159        | 159               | 159                | 159                  | 159             | 27,10      | 191,74            | 105,90             | 52,54                | 78,14           | 7,21       | 28,58             | 24,57              | 10,65                | 13,88           |
| Canık        | 90         | 90                | 90                 | 90                   | 90              | 28,12      | 192,72            | 106,23             | 53,62                | 78,97           | 6,38       | 25,66             | 28,90              | 8,79                 | 14,86           |
| Çarşamba     | 160        | 160               | 160                | 160                  | 160             | 28,58      | 202,09            | 108,63             | 57,71                | 76,82           | 6,85       | 26,90             | 28,09              | 11,00                | 15,82           |
| Havza        | 133        | 133               | 133                | 133                  | 133             | 30,07      | 188,09            | 111,97             | 56,25                | 78,65           | 8,15       | 25,49             | 23,80              | 10,98                | 14,04           |
| İlkadım      | 407        | 407               | 407                | 407                  | 407             | 31,24      | 196,30            | 105,99             | 58,05                | 77,76           | 6,77       | 27,26             | 25,71              | 10,63                | 13,26           |
| Kavak        | 163        | 163               | 163                | 163                  | 163             | 31,50      | 193,45            | 111,95             | 58,60                | 80,02           | 6,29       | 23,69             | 23,70              | 10,28                | 13,84           |
| Ladik        | 155        | 155               | 155                | 155                  | 155             | 30,93      | 198,63            | 100,83             | 54,48                | 75,67           | 7,37       | 32,78             | 27,07              | 11,97                | 14,45           |
| Salıpazarı   | 52         | 52                | 52                 | 52                   | 52              | 31,69      | 197,18            | 111,34             | 57,47                | 80,58           | 8,21       | 28,35             | 24,86              | 10,35                | 13,39           |
| Tekkeköy     | 127        | 127               | 127                | 127                  | 127             | 30,06      | 192,03            | 103,52             | 54,89                | 76,40           | 6,88       | 30,48             | 26,52              | 12,32                | 17,03           |
| Terme        | 132        | 132               | 132                | 132                  | 132             | 28,74      | 196,81            | 108,87             | 54,27                | 77,44           | 5,43       | 27,84             | 24,45              | 13,19                | 13,09           |
| Vezirköprü   | 178        | 178               | 178                | 178                  | 178             | 28,90      | 193,18            | 107,29             | 55,90                | 77,77           | 5,26       | 25,36             | 22,06              | 10,70                | 12,24           |
| Yakakent     | 32         | 32                | 32                 | 32                   | 32              | 29,24      | 193,33            | 111,75             | 58,51                | 79,46           | 4,86       | 26,11             | 23,50              | 12,12                | 13,26           |
| <b>Total</b> | 2354       | 2354              | 2354               | 2354                 | 2354            | 29,52      | 194,46            | 106,99             | 56,03                | 77,81           | 6,67       | 27,61             | 26,25              | 11,35                | 14,15           |

The results of the One-Way Analysis of Variance (ANOVA) conducted to determine whether the total scores of the positivity, personality types, automatic thoughts, social relationships, and problem-solving skills scales differ significantly according to district type are presented in Table 12.

**Table 12:** ANOVA Results Regarding Students' Positivity, Personality Types, Automatic Thoughts, Social Relationships, and Problem-Solving Skills Scales Results by District Type

| Scales            |                | Sum of Squares  | Df          | Squares of Means | F     | Sig. | Source of Difference                                                                                                                                                                                                                                                                                 |
|-------------------|----------------|-----------------|-------------|------------------|-------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Positivity        | Between Groups | 4674,120        | 16          | 292,133          | 6,826 | ,000 | İlkadım>Alaçam                                                                                                                                                                                                                                                                                       |
|                   | Within Groups  | 100106,5        | 2339        | 42,799           |       |      | İlkadım>Atakum                                                                                                                                                                                                                                                                                       |
|                   | <b>Total</b>   | <b>104780,6</b> | <b>2354</b> |                  |       |      | İlkadım>Bafra<br>İlkadım>Canik<br>İlkadım>Çarşamba<br>İlkadım>Terme<br>İlkadım>Vezirköprü<br>Kavak>Atakum<br>Kavak>Bafra<br>Kavak>Canik<br>Kavak>Çarşamba<br>Kavak>Terme<br>Kavak>Vezirköprü<br>Ladik>Atakum<br>Ladik>Bafra<br>Havza>Bafra<br>Salıpazarı><br>Atakum<br>Havza>Bafra<br>Tekkeköy>Bafra |
| Personality Types | Between Groups | 28757,95        | 16          | 1797,372         |       |      | Çarşamba>Alaçam                                                                                                                                                                                                                                                                                      |
|                   | Within Groups  | 1767.481        | 2339        | 755,657          | 2,379 | ,002 | Çarşamba>Havza                                                                                                                                                                                                                                                                                       |

İsmail Gelen, Emel Birlik  
AN EXAMINATION OF POSITIVE THINKING SKILLS IN TERMS OF PERSONALITY TYPES,  
AUTOMATIC THINKING, SOCIAL RELATIONSHIP, AND PROBLEM-SOLVING VARIABLES

|                      |                |                 |             |          |       |      |                                              |
|----------------------|----------------|-----------------|-------------|----------|-------|------|----------------------------------------------|
|                      | <b>Total</b>   | <b>1796239</b>  | <b>2354</b> |          |       |      |                                              |
| Automatic Thoughts   | Between Groups | 26690,84        | 16          | 2923,019 |       |      | 19 Mayıs>Ladik<br>Havza>Ladik<br>Kavak>Ladik |
|                      | Within Groups  | 1596.766        | 2339        | 682,670  | 2,444 | ,001 |                                              |
|                      | <b>Total</b>   | <b>1623.415</b> | <b>2354</b> |          |       |      |                                              |
| Social Relationships | Between Groups | 9679,352        | 16          | 604,960  |       |      | İlkadım>Alaçam<br>İlkadım>Bafra              |
|                      | Within Groups  | 293934,4        | 2339        | 125,667  | 4,814 | ,000 |                                              |
|                      | <b>Total</b>   | <b>303613,8</b> | <b>2354</b> |          |       |      |                                              |
| Problem-Solving      | Between Groups | 7019,039        | 16          | 438,690  |       |      | 19Mayıs>Asarcık 19Mayıs>Ladik Kavak>Asarcık  |
|                      | Within Groups  | 465027,1        | 2339        | 198,814  | 2,207 | ,004 |                                              |
|                      | <b>Total</b>   | <b>472046,1</b> | <b>2354</b> |          |       |      |                                              |

According to the ANOVA results in Table 12, positivity, personality types, automatic thoughts, social relationships, and problem-solving skills scale total scores show significant differences by district type ( $p \leq .05$ ).

**Table 13:** Post-Hoc Test Table Regarding Students' Total Positivity Scale Scores by District Type

| İlçeler  | Bafra | Havza | İlkadım | Kavak | Ladik | Salıpazarı | Tekkeköy | Terme | Vezirköprü |
|----------|-------|-------|---------|-------|-------|------------|----------|-------|------------|
| Alaçam   |       |       | ,042    |       |       |            |          |       |            |
| Atakum   |       |       | ,000    | ,000  | ,002  | ,027       |          |       |            |
| Bafra    |       | ,012  | ,000    | ,000  | ,000  | ,001       | ,016     |       |            |
| Canik    |       |       | ,002    | ,009  |       |            |          |       |            |
| Çarşamba |       |       | ,002    | ,009  |       |            |          |       |            |
| Havza    | ,012  |       |         |       |       |            |          |       |            |
| İlkadım  |       |       |         |       |       |            |          | ,014  | ,008       |
| Kavak    |       |       |         |       |       |            |          | ,031  | ,026       |

p≤.05

Table 13 shows that students in İlkadım district ( $\bar{X}$ =31.24) have higher total scores on the positivity scale compared to students in Alaçam district ( $\bar{X}$ =28.47), Atakum district ( $\bar{X}$ =28.04), Bafra district ( $\bar{X}$ =27.10), Canik district ( $\bar{X}$ =28.12), and Çarşamba district ( $\bar{X}$ =28.58). Students in Kavak district ( $\bar{X}$ =31.50) have higher total scores on the positivity scale compared to students in Atakum district ( $\bar{X}$ =28.04), Bafra district ( $\bar{X}$ =27.10), Canik district ( $\bar{X}$ =28.12), Çarşamba district ( $\bar{X}$ =28.58), Terme district ( $\bar{X}$ =28.74), and Vezirköprü district ( $\bar{X}$ =28.90). Students in Ladik district ( $\bar{X}$ =30.93) have higher total scale scores than students in Atakum district ( $\bar{X}$ =28.04). Students in Havza district ( $\bar{X}$ =30.07) have higher total scale scores than students in Bafra district ( $\bar{X}$ =27.10). Students in Salıpazarı district ( $\bar{X}$ =31.69) have higher total scale scores than students in Atakum district ( $\bar{X}$ =28.04) and Bafra district ( $\bar{X}$ =27.10). Students in Tekkeköy district ( $\bar{X}$ =30.06) have higher total scale scores than students in Bafra district ( $\bar{X}$ =27.10).

**Table 14:** Post-Hoc Test Table Regarding  
Students' Total Personality Type Scores by District Type

| Districts | Alaçam | Havza |
|-----------|--------|-------|
| Çarşamba  | ,019   | ,002  |

p<.05

Table 14 shows that students in Çarşamba district ( $\bar{X}$ =202.09) have higher total scores on the Personality Type scale compared to students in Alaçam district ( $\bar{X}$ =187.31) and Havza district ( $\bar{X}$ =188.09).

**Table 15:** Post-Hoc Test Table Regarding Students' Total  
Scores on Automatic Thought Scales by District Type

| Districts | Ladik |
|-----------|-------|
| 19 Mayıs  | ,019  |
| Havza     | ,043  |
| Kavak     | ,020  |

p<.05

Table 15 shows that students in 19 Mayıs district ( $\bar{X}$ =113.11) have higher total scores on the Automatic Thought scale compared to students in Ladik district ( $\bar{X}$ =100.83). Students in Havza district ( $\bar{X}$ =111.97) have higher total scores compared to students in Ladik

district ( $\bar{X}=100.83$ ). Students in Kavak district ( $\bar{X}=111.95$ ) have higher total scores than students in Ladik district ( $\bar{X}=100.83$ ).

**Table 16:** Post-Hoc Test Table Regarding Students'  
Total Social Relationships Type Scores by District Type

| Districts | Alaçam | Bafra | İlkadım |
|-----------|--------|-------|---------|
| Alaçam    | -      | -     | ,028    |
| Bafra     | -      | -     | ,035    |
| İlkadım   | ,028   | 0.35  | -       |

$p \leq .05$

Table 16 shows that students in İlkadım district ( $\bar{X}=58,05$ ) have higher total scores on the Personality Type scale compared to students in Bafra district ( $\bar{X}=52,54$ ) and Alaçam district ( $\bar{X}=50.85$ ).

**Table 17:** Post-Hoc Test Table Regarding Students'  
Total Problem-Solving Skills Scores by District Type

| Districts | Asarcık | Ladik |
|-----------|---------|-------|
| 19 Mayıs  | ,001    | ,027  |
| Kavak     | ,025    |       |

According to Table 17, students in 19 Mayıs district ( $\bar{X}=82.14$ ) have higher total scores on the Problem-Solving Skills scale than students in Asarcık district ( $\bar{X}=72.95$ ). Students in 19 Mayıs district ( $\bar{X}=82.14$ ) have higher total scores than students in Ladik district ( $\bar{X}=75.67$ ). Students in Kavak district ( $\bar{X}=80.02$ ) have higher total scores than students in Asarcık district ( $\bar{X}=72.95$ ).

### 3.6. Finding about Variation of the Mean Total Score of the Positivity Scale with Relation to the Mean Total Scores of Personality Types, Automatic Thoughts, Social Relationships, and Problem-Solving Skill Scales

A one-way analysis of variance (ANOVA) and post-hoc test were conducted to determine whether the mean total score of the positivity scale differed significantly from the mean total scores of the personality types, automatic thoughts, social relationships, and problem-solving skills scales, and if so, to identify the direction of the difference. The results are given in Table 18.

**Table 18:** Descriptive Statistics Regarding Mean Total Scores of  
the Positivity Scale and Mean Total Scores of Personality Types, Automatic  
Thoughts, Social Relationships, and Problem-Solving Skills Scales

|        | Scales                 | N            | $\bar{X}$   | SS          |
|--------|------------------------|--------------|-------------|-------------|
| Scales | Positivity             | 2354         | 3,24        | ,589        |
|        | Personality Types      | 2354         | 3,69        | ,833        |
|        | Automatic Thoughts     | 2354         | 3,35        | ,522        |
|        | Social Relationships   | 2354         | 3,56        | ,875        |
|        | Problem-Solving Skills | 2354         | 3,73        | ,756        |
|        | <b>Total</b>           | <b>11780</b> | <b>3,51</b> | <b>,752</b> |

Table 18 shows that the Problem-Solving Skills scale has the highest average score, while the Positivity scale has the lowest average score. The highest averages are, respectively, Problem-Solving Skills ( $\bar{X}=3.73$ ), Personality Type ( $\bar{X}=3.69$ ), Social Relationships ( $\bar{X}=3.56$ ), Automatic Thoughts ( $\bar{X}=3.35$ ), and Positivity ( $\bar{X}=3.24$ ).

**Table 19:** ANOVA Results Regarding the Mean Total Scores of the Positivity Scale in Relation to the Mean Total Scores of the Personality Types, Automatic Thoughts, Social Relationships, and Problem-Solving Skills Scales

| Scales         | Sum of Squares | Df    | Squares of Means | F      | Sig. | Source of Difference    |
|----------------|----------------|-------|------------------|--------|------|-------------------------|
| Between Groups | 426.680        | 4     | 106.670          | 200.91 | ,000 | Personality Types>      |
| Within Groups  | 6251.730       | 11775 | ,531             |        |      | Positivity              |
| Total          | 6678.410       | 11779 |                  |        |      | Automatic Thoughts>     |
|                |                |       |                  |        |      | Positivity              |
|                |                |       |                  |        |      | Social Relationships>   |
|                |                |       |                  |        |      | Positivity              |
|                |                |       |                  |        |      | Problem-Solving Skills> |
|                |                |       |                  |        |      | Positivity              |

According to the ANOVA results, Table 19 shows that the mean total score on the positivity scale differs significantly from the mean total scores on the personality types, automatic thoughts, social relationship, and problem-solving skills scales ( $p \leq .05$ ).

**Table 20:** Post-Hoc Test Table of Positivity Scale Mean Total Scores in Relation to Personality Types, Automatic Thinking, Social Relationship, and Problem-Solving Skill Scale Mean Total Scores

| Scales               | Positivity | Personality Types | Automatic Thoughts | Social Relationships | Problem-Solving |
|----------------------|------------|-------------------|--------------------|----------------------|-----------------|
| Positivity           |            | ,000              | ,000               | ,000                 | ,000            |
| Personality Types    | ,000       |                   |                    |                      |                 |
| Automatic Thoughts   | ,000       |                   |                    |                      |                 |
| Social Relationships | ,000       |                   |                    |                      |                 |
| Problem-Solving      | ,000       |                   |                    |                      |                 |

When Table 20 is examined, the mean total score of the personality type scale ( $\bar{X}=3.69$ ) is higher than the mean total score of the positivity scale ( $\bar{X}=3.24$ ). The mean total score of the automatic thoughts scale ( $\bar{X}=3.35$ ) is higher than the mean total score of the positivity scale ( $\bar{X}=3.24$ ). The mean total score of the social relationships scale ( $\bar{X}=3.56$ ) is higher than the mean total score of the positivity scale ( $\bar{X}=3.24$ ). The mean total score of the problem-solving skills scale ( $\bar{X}=3.73$ ) is higher than the mean total score of the positivity scale ( $\bar{X}=3.24$ ).

## 4. Discussion and Interpretation

### 4.1. Discussion and Interpretation of Positivity Scale Total Scores by Gender, Grade Level, High School Type, and District Type

According to the data obtained from the research findings, when examining the students' responses to the items on the positivity scale, the highest average was observed for item 8 ( $\bar{X}=3.59$ ). This item is "I generally feel safe." Most students responded "Agree" to this statement. This may indicate that students' psychological well-being is positive and that their family and environmental relationships are healthy. The lowest average was observed for item 4 ( $\bar{X}=3.59$ ). Students mostly responded "Agree" to this item as well, which reads "I look forward to the future with hope and enthusiasm". This finding may indicate that very few students are hopeful and goal-oriented about the future. It could also be said that they may have a pessimistic outlook.

The research shows that the total score on the positivity scale does not show a significant difference according to gender. Tülek (2023) found in her research that positive thinking did not show a significant difference across genders. In contrast to our findings, Karadağ (2019) showed a significant relationship between positive thinking skills and gender, with men having slightly higher positive thinking skills than women. The total score on the positivity scale shows a significant difference according to grade level. Similarly, Yıldız (2011) concluded in his research that positive thinking did not differ according to grade level. Tümkaya, Çelik, Aybek (2011) found in their research that the levels of hopelessness among high school students did not differ according to grade level.

The total score on the positivity scale shows a significant difference by the type of high school. The difference is observed between students attending Anatolian high schools and those attending Imam Hatip high schools. This difference is seen to be in favor of students studying in Anatolian high schools. This situation may stem from differences in school atmosphere, education system, future expectations, and social interaction factors. In their research, Çelikci (2021) and Gürsu (2012) revealed that students in high schools that accept students with high achievement rankings have higher psychological resilience than students in high schools that accept students with low achievement rankings. It is thought that this variation in the findings across studies stems from differences in the environments in which schools are located, perceptions of school success, and the meanings that adolescents attribute to schools.

The total positivity scale score shows a significant difference by district type. This difference is observed between İlkadım and Alaçam, Atakum, Bafra, Canik, Çarşamba, Terme, and Vezirköprü districts, favoring students in İlkadım district. This difference is observed between Kavak and Atakum, Bafra, Canik, Çarşamba, Terme, and Vezirköprü districts, favoring students in Kavak district. This difference is observed between Ladik and Atakum/Bafra districts, favoring students in Ladik district. This difference is observed between Salıpazarı and Atakum/Bafra districts, favoring students in Salıpazarı district. Differences are also observed between students in Havza and Bafra districts,

favoring students in Havza district. Finally, differences are observed between Tekkeköy and Bafra districts, favoring students in Tekkeköy district. This situation may stem from environmental, social, economic, and cultural factors. The differences in living conditions and social support resources for students in rural and urban areas may have influenced this situation. Students living in urban areas have greater access to learning resources, more intensive social interaction networks, and more frequent exposure to awareness-based programs, which can contribute to the development of their positive thinking skills. In contrast, considering that social relationships in rural areas develop within closer but more limited circles, and economic and cultural resources are relatively more restricted, this situation may limit individuals' ability to develop positive expectations for the future or cope with negative experiences. However, in a central district like Atakum, students' levels of positive thinking were found to be lower compared to other districts. Possible reasons for this can be evaluated within the context of the district's social, economic, and cultural structure. Atakum, being a district with a high level of urbanization, a rapidly growing population, and significant migration, may present an environment where students are more exposed to stressors such as intense competition, academic pressure, and individualism. The individualism brought about by urban life, the decrease in social solidarity, the weakening of family interactions, and constantly changing social environments can cause individuals to think pessimistically. However, common stressors among young people, such as social media use, intense test anxiety, and low expectations for the future, may also contribute to this result.

#### **4.2. Discussion and Interpretation of the Personality Type Scale Total Scores by Gender, Grade Level, High School Type, and District Type**

According to the data obtained from the research findings, when the students' responses to the items on the personality type scale were examined, it was observed that the highest average belonged to item 8 ( $\bar{X}=6.10$ ). This item is, "I want people to speak directly to me without speaking in circles". Most students responded "Agree" to this statement. This situation may indicate that young individuals avoid uncertainties during this period when they are trying to form their identities and that their expectations of honesty are high. This tendency may also reveal the need for transparency and trust in social relationships. The lowest average was observed for item 34 ( $\bar{X}=2.81$ ), which is "I may not win every battle I enter, but my enemies don't easily forget me. It is observed that students mostly remained undecided about this statement. This situation may suggest that individuals have difficulty defining themselves as aggressive, directly confrontational, vengeful, or competitive personality types, or that they find such statements exaggerated. In addition, it can be said that adolescents may hesitate to define themselves in such a strong and assertive way due to their emotional variability and sensitivity to social norms.

As a result of the research, the total score of the personality types scale shows a significant difference according to gender. This difference appears to be in favor of female students. It is seen that female students know their personality types and how to express

them, and are also more aware and open in the social relationships they form with their environment. The personality model based on Enneagram theory states that individuals tend towards one or more of the nine basic personality types. These nine personality types include different personalities: The Reformer (Type 1), The Helper (Type 2), The Achiever (Type 3), The Individualist (Type 4), The Investigator (Type 5), The Loyalist (Type 6), The Enthusiast (Type 7), The Challenger (Type 8), and The Peacemaker (Type 9) (Riso & Hudson, 1999). The fact that female students have higher personality scores suggests that they may be more inclined towards types such as The Helper (Type 2) and The Peacemaker (Type 9). In the study by Kenan Taştan (2019), the finding that female students scored higher than male students in certain Enneagram subtypes (e.g., helpfulness and emotional sensitivity) supports this research. Indeed, a study conducted by Yıldız and Duy (2020) found that female students exhibited more empathetic and harmonious behaviors in interpersonal relationships, while male students tended towards individual achievement and an extroverted power image. This difference suggests that Enneagram personality types Type 3 (The Achiever) and Type 8 (The Challenger) may be more prominent in males.

The total score of the personality types scale does not show a significant difference according to grade level. In the study conducted by Kenan Taştan (2019), no significant difference was found between grade level and personality type scores. This supports the idea that personality development does not change directly with age or grade level.

The total score of the personality types scale does not show a significant difference according to the high school type. This may indicate that the type of high school students attend, and therefore the differences in educational programs, do not have a decisive effect on the personality traits of individuals. The Enneagram theory argues that personality types are formed in early life and possess relatively enduring traits that are resistant to environmental influences (Riso & Hudson, 2000). In this context, it is theoretically expected that this variable does not have a decisive effect on personality type. Therefore, not only educational contexts but also the individual's early experiences and psychosocial development processes can be considered as determining factors in understanding personality development.

The total score on the personality types scale shows a significant difference according to the district type. The difference is found to be between the districts of Çarşamba and Alaçam, and Çarşamba and Havza. This difference is seen to be in favor of students in Çarşamba district. This situation suggests that the socio-cultural structure and education level of the living environment can have an effect on the personality traits of the individual. The forms of social interaction, educational opportunities, family structures, and societal expectations encountered by individuals raised in urban and rural districts can differ, and this can indirectly or directly affect the personality development of individuals. Especially considering that personality types are shaped by early experiences according to Enneagram theory, it suggests that the environmental conditions in which an individual is born and raised may play a significant role in this process.

#### **4.3. Discussion and Interpretation of the Automatic Thoughts Scale Total Scores by Gender, Grade Level, High School Type, and District Type**

According to the data obtained from the research findings, when the students' responses to the items on the automatic thought scale were examined, the highest average was found to be for the statement "I am always destined to lose in life" ( $\bar{X}=4.06$ ). This result indicates that learned helplessness or feelings of constant failure may be quite common in some groups of high school students. Such thoughts can negatively affect an individual's self-sufficiency, belief and ability to cope with problems. Especially during adolescence, intense academic pressures, family expectations, and comparisons in the social environment can sometimes cause young people to see themselves as failures and inadequate. In this context, the fact that students carry generalized negative thoughts such as "destined to lose" highlights the importance of supporting their psychological resilience levels. The lowest average was found to be for the statement "Some things need to change" ( $\bar{X}=2.62$ ). This situation may reveal that students have a low level of desire to seek change in their lives, or that they are experiencing indecision about change. However, adolescence can be considered a period in which individuals set new goals for themselves and lay the foundations for building their lives. Considering these two findings, it can be said that students may have a pessimistic outlook on life, and these negative thoughts may limit their desire for change.

The research shows a significant difference in the total score of the automatic thought scale according to gender. This difference appears to be in favor of male students. This finding indicates that male students may have more negative automatic thoughts. This situation may be related to the pressure men experience due to societal roles, leading them to suppress their emotions and be more hesitant to express them.

There is no significant difference in the total score of the automatic thoughts scale by grade level. In this context, it can be said that students may be similarly vulnerable to negative automatic thoughts regardless of their grade level.

The total score of the automatic thoughts scale shows a significant difference by the type of high school. The difference is found between students studying in science high schools and those studying in vocational and technical Anatolian high schools. This difference is seen to be in favor of students studying in science high schools. This finding suggests that students who enter high school with high scores may have more intense automatic thoughts due to exam anxiety and pressures. Supporting this situation, Tümkaya, Çelik, and Aybek (2011), in their study examining the levels of loneliness and cognitive distortion among high school students, concluded that students in school types with high academic pressure developed more negative cognitive patterns. In environments with high expectations for achievement, such as science high schools, supporting students with interventions such as cognitive constructivists aimed at changing negative thinking patterns can help them cope with negative automatic thoughts.

The total score of the automatic thought scale shows a significant difference according to district type. The difference is observed between the 19 Mayıs and Ladik

districts, favoring students in the 19 Mayıs district. A difference is also observed between the Havza and Ladik districts, favoring students in the Havza district. Furthermore, a difference is observed between the Kavak and Ladik districts, favoring students in the Kavak district. The fact that the 19 Mayıs, Havza, and Kavak districts are more centrally located, offer greater access to resources, and provide easier access to education and guidance services compared to Ladik may lead to these students experiencing fewer negative automatic thoughts. However, the fact that Ladik district has a more limited geographical and social environment may cause students to have difficulty accessing social support and may lead to more frequent and prolonged negative thought patterns.

#### **4.4. Discussion and Interpretation of the Social Relationships Scale Total Scores by Gender, Grade Level, High School Type, and District Type**

According to the data obtained from the research findings, when examining the students' responses to the items related to the Social Relationships Scale, the highest average was observed for the statement "People in my family trust me" ( $\bar{X}=4.03$ ). It can be said that students believe their families trust them and that a positive, trust-based relationship exists within the family. In this context, it can be said that individuals who feel trusted are in healthy social development. The lowest average score was given to the statement "Sometimes I'm not entirely sure I can trust my family" ( $\bar{X}=3.23$ ). This situation is noteworthy as it shows that some students have doubts about family trust. Adolescence is a period in which the individual's need for independence increases and conflicts with the family are intense. During this period, contradictory attitudes or communication breakdowns with parents can damage the individual's trust in their family. Especially during adolescence, the most important source of social support is the family. Social support from family plays a fundamental role in an adolescent's emotional resilience. Research indicates that the level of support an adolescent perceives from their family is a protective factor in coping with stress (Demirtaş, 2007) and positively affects their academic success. When these two findings are evaluated, it appears that students generally believe their families trust them, but a group of young people are hesitant to trust their families. This situation once again highlights the impact of family support and the quality of family communication on students' social relationships. It can be emphasized that guidance and psychological counseling programs in schools should also include content aimed at strengthening family relationships.

The research shows a significant difference in the total score of the social relationships scale according to gender. This difference appears to be in favor of female students. This might suggest that girls, traditionally supported from a young age in building social relationships, developing empathy, and expressing their emotions, could possess higher levels of social skills. Similar to the findings of our study, Memiş & Memiş (2013) concluded that female students' social skills scores were significantly higher than those of male students. Yıldırım and Acar (2014) also stated that female students have a stronger tendency to seek social support and maintain these relationships.

The total score of the social relationships scale does not show a significant difference according to grade level. Similarly, a study by Koçyiğit and Kartal (2019) revealed that there was no significant difference in the social relationships of secondary school students based on their grade level. The researchers interpreted this finding as indicating that, during adolescence, individuals' evaluations of their social environments are influenced more by their personal characteristics than by their grade level.

The total score on the social relationships scale shows a significant difference according to the type of high school. The difference is found between students attending Anatolian high schools and those attending vocational and technical Anatolian high schools, favoring the students studying in Anatolian high schools. This result can be explained by the fact that Anatolian high schools have similar academic orientations and offer broader social circles, thus providing students with more opportunities to develop their social relationships. However, the fact that vocational high school students tend to have narrower and more professionally focused social circles may result in lower social relationship scale scores. Such support can positively improve students' social relationships. A study by Baştürk (2002) highlighted differences in social support and relationship levels depending on the type of high school and emphasized that students in academically oriented schools have more developed social skills. This type of support can help students establish healthier social relationships. The general positive reputation of Anatolian high schools in society and their socioeconomic environment can influence students' social interactions and social circles.

The total score on the social relationships scale shows a significant difference according to district. The difference is found between İlkadım-Alaçam and İlkadım-Bafra districts. This difference is seen to be in favor of students in İlkadım district. İlkadım district, one of the central districts of Samsun, may offer a richer environment in terms of its urban structure, population density, opportunities for social interaction, and accessible educational and cultural resources. In districts like Alaçam, which is closer to a rural structure, and Bafra, which exhibits partially semi-urban characteristics, factors such as limited social interaction areas, low peer diversity, the socio-cultural levels of families, and lack of social support may cause students to receive lower scores in social relationship levels.

#### **4.5. Discussion and Interpretation of the Problem-Solving Skills Scale Total Scores by Gender, Grade Level, High School Type, and District Type**

According to the findings of the study, when examining the students' responses to the items on the problem-solving skills scale, the highest average was found for the statement "When I have problems with my friends, I fight with them instead of talking." ( $\bar{X}=3.86$ ). Students mostly responded to this item with "I always behave like this." Based on these findings, it is possible to say that some students may tend to give physical or verbal reactions instead of establishing healthy communication when faced with problems. The underdeveloped problem-solving skills may also be particularly influential in this outcome. Students who are successful in problem-solving perceive themselves as more

highly motivated individuals, less reliant on chance in problem-solving, and more attentive, intuitive, consistent, determined, and systematic (Heppner, Stephen, Strozier, and Heppner, 1991). On the other hand, it has been found that individuals who perceive themselves as unsuccessful in problem-solving skills experience more internal conflict, exhibit overly sensitive, depressive, and obsessive behaviors in interpersonal relationships, and display hostile and negative behaviors (Dixon, Heppner, and Anderson, 1991). Therefore, supportive interventions may be needed to improve students' problem-solving skills and coping strategies. Rachna Nath, a high school teacher in the USA, developed a program aimed at improving students' creativity and problem-solving skills. The results proved the program to be quite effective. Through this program, students produced solutions to real-world problems and significantly improved their problem-solving skills in the process. The lowest average score was observed for the statement, "When I'm having problems, I find it difficult to concentrate on my studies" ( $\bar{X}=2,59$ ). Students mostly responded to this item with, "I never behave like that." This statement suggests that most students do not experience negative effects on their academic lives when dealing with problems. On the other hand, students may have stated that they did not let their personal problems affect their studies. However, while this result doesn't clearly show that their academic performance won't be negatively affected, it may indicate that they have suppressed their emotions. This situation can lead to risks such as ignoring emotions and not being able to fully focus on academics (Zimmer-Gembeck & Skinner, 2011). When both findings are considered, it can be said that students give unconstructive responses by choosing unhealthy communication methods to problems they experience with their friends, while believing that the problems they experience do not directly affect their academic performance. It can be considered that there may be a disconnection between students' problem-solving skills and their emotional regulation skills. Indeed, a study conducted by Serin and Gençdoğan (2011) found that an 8-week problem-solving training given to high school students resulted in positive changes in both their academic achievement and interpersonal relationships.

The research results show that the total problem-solving skill scale score differs significantly according to gender. This difference appears to be in favor of male students. In our society, girls are raised in a more authoritarian, protective, and restrictive manner, while boys are raised to be more independent and risk-taking, which can lead them to be more decisive and problem-solving-oriented from an early age. Societal roles and expectations may also have an influence on this outcome. Koray and Azar (2008) stated in their research that male students' problem-solving and logical thinking skills were significantly higher than those of female students. Erdem and Genç (2013) stated in their research that there was no significant difference in high school students' opinions on problem-solving skills based on gender.

The total score on the problem-solving skills scale does not show a significant difference according to grade level. It can be said that problem-solving skills are generally at similar levels within a certain age range.

The total score on the problem-solving skills scale shows a significant difference according to the type of high school. The difference is found between students attending science high schools and those attending Anatolian high schools. This difference is seen to be in favor of students studying in science high schools. This situation can be interpreted as the curriculum and intensive scientific content of science high schools contributing to the further development of students' analytical thinking, strategy development, and problem-solving abilities. In the research conducted by Özyıldırım and Hergüner (2023), the problem-solving and emotional intelligence skills of students in different types of high schools were examined. It was found that students attending science high schools scored the highest in these skills, while students attending vocational high schools had the lowest scores. In contrast to the findings of our research, studies by Yıldız (2021) and Binboğa (2002) emphasized that high school students' stress coping strategies did not differ significantly according to the type of school.

The total score on the problem-solving skills scale shows a significant difference according to the type of district. The difference is found to be between the districts of 19 Mayıs and Asarcık. This difference is seen to be in favor of students in 19 Mayıs district. The difference is observed between the 19 Mayıs and Ladik districts, favoring students in the 19 Mayıs district. Furthermore, a difference is observed between the Kavak and Asarcık districts, favoring students in the Kavak district. Differences in educational opportunities, socioeconomic status, cultural and family factors, social interactions, extracurricular activities, and support programs may have contributed to this outcome.

#### **4.6. Discussion and Interpretation Regarding the Analyses of the Positivity Scale and the Personality Type Scale**

The mean total score of the positivity scale shows a significant difference compared to the mean total score of the personality type scale. This difference appears to favor the personality type scale. This difference appears to favor the personality type scale. The significant difference in positivity scale scores compared to personality type scale scores, and the fact that it favors personality types, may suggest that an individual's personality type is a determining factor in their positive thinking ability. In their study, Yağcı, Arıcı Doğan, Kütük, and Acarkan (2024) reveal that Enneagram personality types influence how individuals approach certain events and solve problems, and indirectly indicate that the tendency towards positive thinking can also be influenced by personality structure. It is emphasized that extroverted, results-oriented, and independent-thinking individuals develop more positive and solution-oriented approaches. Jung *et al.* (2007) found that individuals with certain personality structures (e.g., those with high self-efficacy) tend to think more positively. Zhang and Sternberg (2000) showed that individuals' thinking styles are closely related to their personality structures and that individuals with different personality traits show significant differences in their learning and problem-solving approaches.

#### **4.7. Discussion and Commentary Regarding the Analysis of the Positivity Scale and the Automatic Thoughts Scale**

The mean total score of the positivity scale shows a significant difference compared to the mean total score of the automatic thoughts scale. This difference appears to be in favor of automatic thoughts. The significant difference in positivity scale scores compared to automatic thought scale scores, favoring automatic thoughts, may indicate that the frequency of automatic thoughts can have an impact on positive thinking skills. In her research conducted with students studying in all high schools within the borders of Samsun province, Kumcağız (2000) emphasized that reducing negative automatic thoughts would help students develop healthier coping strategies and contribute to an increase in their psychological well-being. In his study, Lightsey (1994) stated that positive automatic thoughts increase happiness levels while reducing symptoms of depression. (Koçak, 2017) states that words affect thoughts and beliefs. He emphasized that in order to think positively, negative words should be removed from sentences, and this approach helps to improve the ability to see the positive aspects of every event. When the mind is filled with positive thoughts, this returns to the person as health, success, joy, and happiness. In an experiment with a chemical substance that has no effect, two groups of patients were told that the drug was very effective and treated their illness. Treatment success appears to be around 70% in this group. The other group was told that the medication cures the disease, but only 25% of the patients showed positive results. This experiment also shows the power of positive thinking and its importance in human life. Anthony Robbins likens negative thoughts to weeds in a garden. Instead of getting angry at them, he suggests we should clean them out every day and plant positive thoughts in our minds instead.

#### **4.8. Discussion and Interpretation Regarding the Analysis of the Positivity Scale and the Social Relationship Scale**

The mean total score on the positivity scale differs significantly from the mean total score on the social relationships scale. This difference appears to favor the social relationships scale. The significant superiority of social relationships scores compared to positivity scales may indicate that individuals with strong social relationships have greater emotional resilience and positive emotions such as hope and satisfaction with life. (Koçak, 2017) emphasizes that, in order to think positively and live positively, individuals need to trust themselves and their environment. It states that people who are confident in themselves and their surroundings, and who are faithful and determined, experience an increase in their quality of life. In a study conducted by Karadeniz (2021), it was found that the secure attachment styles of university students were positively related to their psychological well-being levels. In this context, it can be considered that strong social bonds positively affect the mental health of individuals. A study conducted in Switzerland by Mehrpour *et al.* (2024) revealed that the social bonds of young adults within their circle of friends had positive impacts on life satisfaction and self-esteem through their sense of social identity. This result may indicate that social friendships and

social support affect individuals' psychological well-being positively and increase positive thinking.

#### **4.8. Discussion and Interpretation Regarding the Analyses of the Positivity Scale and the Problem-Solving Skills Scale**

The mean total score on the positivity scale differs significantly from the mean total score on the problem-solving skills scale. This difference appears to favor the problem-solving skills scale. This result suggests that problem-solving skills support individuals' positive thinking skills and their level of coping with stress. It can be said that individuals with a tendency towards positive thinking can develop more effective coping strategies and exhibit a more optimistic attitude when facing problems. Individuals whose goals are restricted or frustrated are seen to become angry very quickly and use maladaptive coping styles (Yazgan, 2003). On the other hand, the existence of life goals makes individuals more willing to solve problems that hinder these goals and to struggle with difficulties (Ülküer, 1988). In a study conducted by Demir (2019), a significant positive correlation was obtained between problem-solving skills and life satisfaction, and a significant negative correlation between problem-solving skills and perceived stress among high school students. In this context, based on our research findings, it can be said that individuals with positive thinking skills may have a better level of coping with problems and stress.

### **5. Results and Suggestions**

#### **5.1. Results**

The research revealed that the total score on the positivity scale did not show a significant difference according to gender and grade level. However, it was observed to differ according to the type of high school. It was determined that students attending Anatolian high schools had higher levels of positivity compared to students attending Imam Hatip high schools. The study found that the total score on the positivity scale differed according to the type of district. Students in İlkadım district were found to have higher levels of positivity than students in Alaçam, Atakum, Bafra, Canik, and Çarşamba districts. Similarly, students in Kavak district had higher levels of positivity than students in Atakum, Bafra, Canik, Çarşamba, Terme, and Vezirköprü districts; students in Ladik district had higher levels of positivity than students in Atakum district; students in Havza district had higher levels of positivity than students in Bafra district; students in Salıpazarı district had higher levels of positivity than students in Atakum and Bafra districts; and students in Tekkeköy district had higher levels of positivity than students in Bafra district.

The study found that personality type scale scores differed significantly according to gender, favoring female students. This suggests that female students may be more inclined towards traits such as inner awareness, emotional depth, and sensitivity in interpersonal relationships, and that Enneagram types may be shaped in interaction with

gender roles. When personality type scale scores were examined according to the grade level variable, no significant difference was found. Studies have shown that Enneagram personality types do not vary according to individuals' age and education level but tend to exhibit a stable structure. Similarly, when personality type scale scores were examined according to the type of high school, no significant difference was found. The Enneagram theory, which suggests that personality types are shaped in an individual's early experiences and carry lasting characteristics based on environmental factors, influenced these results. Another finding of the study is that personality type scale scores differed significantly according to the type of district where the students lived. This result indicates that the socio-cultural environment and living spaces of individuals can be influential in shaping their personality traits.

The study found that automatic thoughts scale scores differed according to gender, favoring male students. Gender roles, societal expectations, suppression of emotions, ways of expressing thoughts, developmental factors, and environmental factors contributed to this difference. The study also found that automatic thoughts scale scores did not differ according to grade level. Since adolescents go through the same emotional and cognitive developmental processes, no difference was observed according to grade level. However, it was determined that automatic thoughts scale scores differed significantly according to high school type, favoring students in science high schools. In high schools, especially science high schools, where admission is based on high scores, factors such as high expectations for achievement, exam pressure, and competition can create anxiety and stress in students, which affects the frequency and content of automatic thoughts. The research results showed that automatic thought scale scores differed significantly according to the type of district where students lived, with a higher score favoring the Çarşamba district.

The study concluded that social relationship scale scores differed significantly according to gender, favoring female students. It was determined that female students were more effective than male students in establishing, maintaining, and seeking social support. On the other hand, it was observed that social relationship scale scores did not differ according to grade level. However, it was found that social relationship scale scores differed according to the type of high school. The differences in educational environments, peer relationships, and social interaction opportunities offered in different types of high schools contributed to this result. Another finding of the study is that social relationship scale scores showed a significant difference according to the type of district. Since the forms of social interaction, educational opportunities, and family structures encountered by individuals raised in urban and rural districts may differ, the impact on social relationships is inevitable.

The research results showed that problem-solving skills differed significantly according to gender, favoring male students. Environmental factors and societal expectations influenced this result. However, it was concluded that problem-solving skills did not differ according to students' grade level. Another variable in the study, the type of high school, revealed significant differences in problem-solving skills scale scores.

The fact that the difference favored students attending science high schools suggests that students admitted to science high schools with high scores possess a strong academic background, highlighting that academic orientation and school type can be decisive factors in students' problem-solving skills. Another finding of the research was that problem-solving skill scale scores differed according to the type of district. The greater resources, quality of education, and developmental opportunities offered to students in urban districts have enabled students in these areas to utilize their problem-solving skills at a higher level.

The study found that positive thinking skills differed significantly according to personality types, automatic thoughts, social relationships, and problem-solving skills. In this context, it shows that positive thinking skills are closely related to an individual's personality traits, healthy thinking style, relationships with their environment, and ability to cope with problems. While individuals with positive and constructive personality traits are expected to have higher levels of positive thinking skills, it is also noteworthy that positive thinking may be more dominant among individuals with lower levels of automatic thoughts. Similarly, healthy social relationships and effective problem-solving skills are important factors that support individuals in approaching events with a positive and hopeful outlook. These results indicate that positive thinking skills need to be strengthened in a multidimensional manner.

## **5.2. Suggestions**

### **5.2.1. Recommendations for Applications**

To improve students' positive thinking skills, schools can regularly organize seminars, workshops, conferences, and group activities based on positive thinking. These activities can support students in adopting positive thinking skills in their lives by incorporating methods such as developing positive thought patterns, coping with negative automatic thoughts, developing hope for the future, and keeping a gratitude journal.

To make positive thinking skills applicable in an individual's life, participant-based activities and workshops can be organized. These sessions can suggest effective methods such as coping with pressure and stress, managing time, communicating effectively with others, relaxation exercises before and after encountering problems, maintaining physical and mental health, maintaining control, building support, and creating a support map.

To particularly appeal to young people growing up in the technology and digital age, students can be supported in adapting this skill to their lives through digital applications, online journals, and platforms containing positive thinking exercises.

Young people and students can be included as target audiences in positive communication campaigns in our country. Campaigns can be conducted in schools with slogans such as "The Power of Positive Thinking." These campaigns can be supported by activities such as poster making, banner design, creative drama, video production, and social responsibility events for students.

For students living in developing and rapidly urbanizing areas like Atakum, it is recommended to increase guidance services and psychological resilience programs aimed at supporting positive thinking skills.

### **5.2.2. Recommendations for Future Research**

The lack of studies in literature regarding positive thinking skills is noteworthy. Therefore, it is suggested that the frequency of studies on positive thinking skills should be increased.

To examine the impact of positive thinking skills on life more deeply, qualitative research can be conducted through interviews, focus group studies, and observations. Research can be conducted to improve positive thinking skills and to examine students' current state regarding this skill.

Mixed-methods research can be conducted to simultaneously evaluate both the quantitative and qualitative aspects of positive thinking skills. While the impact of positive thinking training programs is measured quantitatively, students' feelings and thoughts about the process can be explained with qualitative data. This can provide valuable data for improving the content of educational programs.

To understand how positive thinking contributes to an individual's life and development, it is suggested that research be conducted with several variables. For example, research can be conducted on topics such as levels of hope, academic achievement and motivation, stress and anxiety, and self-efficacy.

A positive thinking training program can be prepared for high school students, and experimental research can be conducted using pre-test and post-test control groups. After the implementation, variables such as students' well-being, stress management, motivation, life satisfaction, self-perception, and hope level can be analyzed to scientifically demonstrate the effectiveness of a positive thinking-based program.

A similar study can be conducted with university students in different cities, different schools, and different age groups.

The extent to which positive communication campaigns conducted in our country are effective can be assessed using different research methods such as pre-test/post-test surveys and focus group interviews. This will allow future campaigns to be made more strategic and effective.

### **Author Contributions**

The authors contributed equally to the study.

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### **Ethical Approval and Informed Consent**

This study was approved by the Institutional Ethics Review Board of Ondokuz Mayıs University (decision dated November 24, 2023, and numbered 2023-985). All procedures in the study were carried out in accordance with the protocols approved by the Institutional Ethics Review Board of Ondokuz Mayıs University.

### **Data Availability Statement**

This research was produced from an MEd master's thesis. The thesis data and the entire text can be accessed at [tez.yok.gov.tr](http://tez.yok.gov.tr)

### **Ethical Approval**

Ethical permission with the number 2024-508 was obtained from Ondokuz Mayıs University, the Social and Humanities Ethics Committee, for this research on 24.11.2023.

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### **Conflict of Interest Statement**

The authors declare no conflicts of interest.

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