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Development and Validation of the Hope Scale for Secondary School Students in Turkey: A Study on Various Variables

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Abstract

In this study, a scale was developed to evaluate secondary school students' levels of hope, and their hope levels were examined in terms of various variables through this scale. Initially, a draft scale consisting of 41 items was crafted by synthesizing existing literature and consulting experts in the field. The study was divided into two phases: the first involving 514 students for scale development and the second comprising 503 students for scale validation. Throughout the scale development process, confirmatory and exploratory factor analyses, Cronbach's Alpha and Guttman Split-half values were calculated. The final scale, comprising 22 items across four factors, accounted for 56.565% of the total variance. Confirmatory factor analysis affirmed the adequacy of the model. The overall Cronbach's alpha value of the scale was determined as 0.896. As a result of the research, a valid and reliable scale was created. In addition, it was observed that the hope levels of the students did not differ significantly according to the variables of gender, academic achievement, and socio-economic level. However, there was a significant difference in the mean hope levels by grade, with fifth-grade students scoring higher, and by exposure to trauma, with those who had experienced trauma at least once having higher mean hope levels. These findings provide valuable insights into how hope develops in secondary school students and highlight the importance of early interventions to support students' emotional resilience.

Keywords: COVID-19, Earthquake, Hope Scale, Scale Development, Secondary School Students

Türkiye'deki Ortaokul Öğrencileri İçin Umut Ölçeğinin Geliştirilmesi ve Geçerlenmesi: Çeşitli Değişkenler Üzerine Bir Çalışma

Özet (Türkçe)

Bu çalışmada, ortaokul öğrencilerinin umut düzeylerini değerlendirmek için bir ölçek geliştirilmiş ve öğrencilerin umut düzeyleri çeşitli değişkenler açısından bu ölçek aracılığıyla incelenmiştir. İlk olarak, mevcut literatür taranarak ve alan uzmanlarıyla görüşülerek 41 maddelik bir taslak ölçek oluşturulmuştur. Çalışma iki aşamaya ayrılmıştır: ilk aşamada ölçeğin geliştirilmesi amacıyla 514 öğrenciden, ikinci aşamada ise ölçeğin doğrulanması için 503 öğrenciden veri toplanmıştır. Ölçek geliştirme sürecinde, doğrulayıcı ve açımlayıcı faktör analizleri, Cronbach Alpha ve Guttman Split-half değerleri hesaplanmıştır. Nihai ölçek, dört faktör altında toplanan 22 maddeden oluşmuş ve toplam varyansın %56,565'ini açıklamıştır. Doğrulayıcı faktör analizi modelin yeterliliğini doğrulamıştır. Ölçeğin genel Cronbach Alpha değeri 0,896 olarak belirlenmiştir. Araştırma sonucunda geçerli ve güvenilir bir ölçek oluşturulmuştur. Ayrıca, öğrencilerin umut düzeylerinin cinsiyet, akademik başarı ve sosyo-ekonomik düzey değişkenlerine göre anlamlı bir farklılık göstermediği gözlemlenmiştir. Ancak, umut düzeyleri sınıf düzeyine göre anlamlı farklılık göstermiş; beşinci sınıf öğrencilerinin daha yüksek umut puanları aldığı belirlenmiştir. Bunun yanı sıra, en az bir kez travma yaşamış öğrencilerin ortalama umut düzeyleri de daha yüksek bulunmuştur. Bu bulgular, ortaokul öğrencilerinde umudun nasıl geliştiğine dair önemli içgörüler sunmakta ve öğrencilerin duygusal dayanıklılıklarını desteklemek için erken müdahalelerin önemini vurgulamaktadır.

Anahtar Kelimeler: COVID-19, Deprem, Umut Ölçeği, Ölçek Geliştirme, Ortaokul Öğrencileri

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Introduction

Traumatic life events, such as natural disasters (earthquakes, floods, storms, and fires), epidemics (such as COVID-19), long-term illnesses, and other impactful experiences, have the potential to deeply affect individuals, families, and entire societies (Beaglehole et al., 2018; Morganstein & Ursano,2020). These events also create significant disruptions in the education systems of affected countries, presenting challenges that directly impact students' psychological well-being and academic performance. One critical aspect in addressing these challenges is understanding and supporting the hope levels of students who are coping with the consequences of traumatic events. The concept of hope, which encompasses finding solutions, fostering resilience, and striving toward goals, has been shown to play a crucial role in helping individuals navigate difficulties and recover from adverse experiences (Sun et al., 2020; Yan et al., 2024). Despite the known importance of hope in overcoming challenges, studies focused on measuring hope levels among students at the secondary school level, especially after traumatic events, remain limited.

The current literature primarily examines hope in broader psychological contexts but lacks targeted research on hope among secondary school students impacted by traumatic experiences (Contractor et al., 2018;Greup et al., 2018;Ortiz &Sibinga, 2017). This gap indicates a need for tools to assess hope specifically within educational contexts, allowing educators and policymakers to better understand and support students' emotional resilience. This study aims to address this gap by developing a reliable and valid scale to measure hope levels among secondary school students. Additionally, the study seeks to examine hope levels in relation to various demographic and situational variables. By focusing on hope as a measurable and influential factor, this research contributes to educational psychology and provides insights that may guide interventions to support students' well-being and academic resilience following traumatic experiences.

Concept of Hope

The concept of hope is defined as “the feeling of trust that arises from hoping” and expectance means “the person or thing that gives this feeling” (TDK, 1988). According to Goleman (2016), the concept of hope is more than an overly optimistic view that believes that everything will work out sooner or later in a technical sense. Bloch (2007), on the other hand, defined hope as an expectation for the possible that has not yet been realized, and underlined that hope is a sense of expectation and stated that this feeling is the most human of all heart movements. According to him, the feeling of hope is open only to man and allows him to open up to the widest and brightest horizons. Many studies have revealed that hope is the power of people to cope with life's challenges. The identification of hope as a potential resilience factor (Kashdan et al., 2002) was expressed in early studies by Menninger (1959) and Stotland (1969) as having positive expectations about achieving goals. The earlier definition of hope included generalized expectations of positive outcomes (Scheier and Carver, 1985). The search for hope has gained momentum since the early 1990s (Snyder, 1994; Snyder et al., 1991).Snyder (1994), who formulated the theory of hope in 1991 and created an important road map on how the concept of hope should be handled in psychology, defined hope as “the state of being equipped with goal-oriented energy and planning strategies”. Lopez (2013), who is known for his studies emphasizing the importance of hope in human life and how hope can be developed, defined hope as “a positive expectation for the future”. In particular, Scioli and Biller (2009), who reviewed the effects of hope on human well-being and ways to strengthen hope, defined hope as “a general belief in the availability of resources”.

Determining students' levels of hope is an important factor that can affect their academic success. Studies have shown that students with high levels of hope generally have higher performance (Snyder, 1994). Therefore, determining students' levels of hope plays a critical role in identifying measures that can be taken to improve their academic performance. It has also been observed that hopeful students tend to cope with challenges more effectively (Cheavens, Snyder, & Alford, 2005). Individuals with higher levels of hope exhibit greater creativity and demonstrate increased determination in achieving their goals. Additionally, they may be more willing to accomplish these goals (Yıldırm & Aslan, 2022). This, in turn, increases their motivation and allows them to work in a more focused manner (Snyder et al., 2003). Finally, being hopeful can improve overall psychological well-being and make students less stressed and happier (Cheavens, Snyder, & Alford, 2005). Therefore, determining students' levels of hope is critical to increasing their academic achievement, improving their emotional well-being, and enabling them to cope with challenges more effectively. Many studies that reveal the importance of being hopeful for education have shown that hopeful students have higher academic achievement, better psychological well-being, better problem-solving skills, and higher motivation (Pekrun, 2006; Rand et al., 2020; Wong & Cheung, 2024).

Traumatic Life Events (COVID–19 Pandemic and Earthquake)

Traumatic life events, such as natural disasters, are unexpected occurrences that threaten a person's physical or psychological integrity (Spiegel, 1997; Briere & Scott, 2006). These events can significantly disrupt daily life and induce feelings of fear, terror, and helplessness (Herman, 1997). Although unpredictable, they may provide opportunities for personal growth (Tedeschi & Calhoun, 2004). The COVID-19 pandemic and earthquakes serve as examples of such events. The COVID-19 pandemic, which began in December 2019 in Wuhan, China, and was declared a global pandemic by the WHO on March 11, 2020, had widespread impacts on health systems, economies, and social life. It led to lockdowns, travel restrictions, and school closures, which significantly impacted people's psychological well-being by increasing stress, anxiety, and depression. The pandemic affected nearly every sector globally, including education, where Turkey swiftly adapted to online learning (Serçemeli & Kurnaz, 2020).

The earthquake on February 6, 2023, referred to as the "disaster of the century," further deepened the psychological impact on affected individuals. Earthquakes not only cause financial losses but also result in psychological trauma, with factors like destruction, loss, and homelessness exacerbating mental health issues. Hope, however, plays a crucial role in recovery, serving as a source of strength during challenging times. High levels of hope can mitigate the psychological effects of such events and aid in coping (Yılmaz, 2018). The post-earthquake recovery process highlights the importance of psychosocial support and mental health services (Karabacak Çelik, 2023). Both the pandemic and earthquakes increase the perception of risk and uncertainty, which can be alleviated by hope, offering a sense of reassurance for a better future. Research shows that individuals with higher levels of hope cope more effectively with traumatic events (Snyder, 1994; Moghaddam, 1998). Hope serves as a protective factor in reducing the emotional toll of traumatic experiences, facilitating emotional recovery and resilience after traumatic events like natural disasters.

Measurement of The Concept of Hope

Hope, a timeless phenomenon, has experienced a resurgence in recent years and has been conceptualized and assessed through various approaches (Marujo, Velez, Gonçalves, Neto, &

Casais, 2021).There are various scales to measure the concept of hope. Developed by Snyder in 1991, Snyder's Hope Scale is a widely used scale to determine the hope levels of individuals. The State Hope Scale, developed by Snyder et al. in 1996, is designed to measure individuals' overall hope levels and assess personality hope. The Adult Dispositional Hope Scale, which is used to measure the hope levels of adults, was developed by Snyder in 1991. The Children's Hope Scale (CHS), developed by Snyder et al. in 1997, is widely used to measure children's levels of hope. These scales provide important tools for assessing the concept of hope on different age groups and populations. As in many cultures, one of the most used scales to measure hope in our country is undoubtedly the Continuous Hope Scale, which was developed by Snyder et al. (1991) and adapted to Turkish culture by Akman and Korkut (1993) and Tarhan and Balcı (2015). In addition, Atik and Kemer (2009) adapted the Children's Hope Scale (CHS) developed by Snyder et al. (1997) to Turkish by obtaining evidence on its validity and reliability. Just like in Turkey, studies in which the hope scales developed by Syder et al. were adapted and accepted in many countries (Marques etal., 2014; Ling et al., 2021; Valle et al., 2004). In addition, some of the scales developed to determine individuals' levels of hope are as follows: the Integrative Hope Scale (Schrank et al., 2011) adapted to Turkish culture by Sarıçam and Akın (2013); the Continuous Hope Scale and the State Hope Scale (Scioli et al., 2011), which examine hope with an integrated approach; the Herth Hope Index (Herth, 1992) adapted by Aslan et al. (2007); the Miller Hope Scale (Miller, 2007). The last two scales mentioned were developed to determine the hope levels of individuals through sick people. The fact that the sample group in the adaptation study of the Herth Hope Index consists of cancer patients exemplifies this situation. Finally, the Karaca-Kandemir Hope scale, which was developed by Karaca and Kandemir (2016) by obtaining data from university students, has been one of the scales developed in Turkey. In the examinations, it has been observed that there is no original scale development study to determine the hope levels of secondary school students in Turkey. It is thought that the scale used for this age group in the adaptation studies is an adaptation study conducted in 2009, and there may be a need to develop a scale to determine the hope levels of students living in the digital age, who experienced the pandemic and the disaster of the century, who experienced the distance education process during the pandemic process in both the pandemic and the earthquake disaster.

In this study, with the scale developed for secondary school students, the differences of students' hope levels in terms of gender, academic achievement, socio-economic level and number of exposure to trauma were also addressed. When the relevant literature on these variables was examined in the literature, it was seen that there were differences. Hope levels between male and female students vary according to different studies. In a study conducted in Indonesia, it was found that male students had lower levels of hope compared to female students and that males experienced a lack of hope compared to females (Saripah & Asiah, 2023). Similarly, another study conducted in Iran revealed that male students exhibited higher levels of hope than female students (Sengupta & Karmakar, 2021). In contrast, a study focusing on university students in the United States found that male students reported lower academic self-efficacy, which is closely related to hope, compared to female students (Ganji et al., 2021)These findings suggest that there are differences in levels of hope between male and female students in different cultural and educational contexts and emphasise the importance of understanding and addressing these differences in order to effectively support students.

Hope plays a very important role in academic achievement and there are various studies emphasising this importance. Research has shown that hope is positively associated with

academic achievement (Hayat et al., 2022; Penzar, 2019). In addition the relationship between hope and academic outcomes has been systematically evaluated, revealing a moderate, positive relationship between hope and academic achievement at different educational levels (Akmal et al., 2017). Various studies show that there is an important relationship between hope and socioeconomic status (SES). Research has revealed that SES can influence an individual's experiences and levels of hope. In particular, individuals with higher SES backgrounds have been found to think more hopeful compared to those with lower SES backgrounds (Lei et al., 2019; Yang et al., 2020). In addition, hope was found to partially mediate the relationship between SES and academic achievement. This suggests that hope plays a very important role in academic achievement, especially for individuals with low SES background (Dixson et al., 2018) However, the moderating effect of SES on the relationship between hope and life satisfaction was found to be insignificant. This suggests that the effect of hope on life satisfaction remains consistent across different SES levels (Raats et al., 2019). Research in multiple studies shows that there is a significant relationship between hope and trauma exposure (Baxter et al., 2017; Long, 2022;Sparks et al., 2021).
Each of these variables has critical importance in understanding and supporting students' hope levels. Therefore, in this study, we aimed to evaluate students' hope levels more comprehensively by addressing these variables and to better understand the effects of these variables on hope. Through this approach, it is aimed to contribute to the development of strategies necessary for effective support of students.

Research Questions

In recent years, especially positive psychology has gained popularity in Turkey, which has necessitated the research of the concept of hope. However, literature reviews reveal that a unique scale to measure hope is not derived from Turkish culture. However, during the period of a global crisis such as a pandemic and after the earthquake process, the importance of research focusing on the concept of hope and the hope levels of individuals increases even more (Bernardo & Mendoza 2021). Determining students' levels of hope is important in terms of both academic success and psychological well-being. These assessments can be used to provide better support to students. The level of hope shapes expectations for the future and affects motivation. At the same time, low levels of hope can increase the risk of depression, anxiety and stress. That is why it is important to determine students' level of hope to keep track of their emotional health. In addition to making an important contribution to the literature on the concept of hope, this study aims to reveal the possibility of determining the hope levels of individuals with a culture-specific scale. In addition, understanding individuals' levels of hope and their impact on their ability to cope with the crisis during an extraordinary period such as COVID-19 and an earthquake is an important step in determining strategies for the mental health of the post-pandemic society. In this context, answers to the following questions were tried to be answered in this study.

- Can the items comprising the Hope Scale reflect the concept of hope according to the opinions of subject field experts?
- Is the structure of the Hope Scale stable and simple?
- What are the reliability values of the Hope Scale?
- What is the item-total score correlation for each item on the Hope Scale?
- Can the Hope Scale distinguish between different groups of individuals?

What are the students' levels of hope in terms of various variables (Gender, Grade level, Academic achievement, Socio-economic level, Number of exposures to traumatic life event) after traumatic events such as the pandemic process and earthquakes?

Method

The population of the study consists of secondary school students studying in different regions of Turkey. Necessary ethical approval permissions were obtained before the research data was collected. Research sample was determined according to the typical case sampling method, which involves selecting a representative case that is not atypical from a larger population relevant to the research context (Fraenkel, Wallen, & Hyun, 2012). During the scale's development and testing stages, research was conducted using two distinct sample groups. The first group comprised 545 secondary school students enrolled in the first half of the 2023-2024 academic year. However, due to incomplete information and the removal of extreme values during the scale-filling process, data from 31 participants were excluded, leaving a total of 514 datasets for analysis. The second group included 503 students enrolled in the latter half of the same academic year. Table 1 provides the personal information of participants from both sample groups.

Table 1. Frequency and Percentage Distribution

Variables		**1. Sample Group**	**2. Sample Group**
		f (%)	**f (%)**
Gender	Female	248 (% 48,2)	244 (%48,5)
	Male	266 (%51,8)	259 (%51,5)
Grade Level	5	144 (%28,0)	144 (%28,6)
	6	169 (%32,9)	159 (%31,6)
	7	154 (%30,0)	153 (%30,4)
	8	47 (%9,1)	47(%9,3)
Academic achievement	Low	39(%7,6)	39 (%7,8)
	Moderate	78(%15,2)	78 (%15,5)
	Good	397 (%77,2)	386 (%76,7)
Socio-economic level	Lower	51 (%9,9)	51 (%10,1)
	Moderate	146 (%28,4)	144 (%28,6)
	Higher	317 (%61,7)	308 (%61,2)
Exposure to a traumatic life event	Maximum 1 (epidemic, earthquake, flood, erosion)	226 (%44,0)	226 (%44,9)
	Maximum 2 (epidemic, earthquake, flood, erosion)	207 (%40,3)	200 (%39,8)
	Maximum 3 (epidemic, earthquake, flood, erosion)	81 (%15,8)	77 (%15,3)
	Total	514 (%100,0)	503 (%100,0)

Upon examining Table 1, it is revealed that in the first study group, 48.2% of the participants were female, while 51.8% were male. Considering the distribution by grade level, 28% of the students are 5th grade students; 32.9% of them are 6th grade students; 30% of them are 7th grade students; 9.1% of them are 8th grade students. A majority of the students (77.2%) demonstrated good academic achievement, and the majority (61.7%) had an income above the minimum wage. In addition, it is seen that 44% of the students have experienced one of the traumatic life events at most once; 40.3% of them have experienced at most twice; 15.8% of them have experienced at most 3 times. In the second study group, 48.5% were female, while

51.5% were male. In terms of grade distribution, 28.6% were in the 5th grade, 31.6% in the 6th grade, 30.4% in the 7th grade, and 9.3% in the 8th grade. Similar to the first group, a majority of the students (76.7%) displayed good academic achievement, and the majority (61.2%) had an income above the minimum wage. Moreover, 44.9% of the students experienced a traumatic event once at most, 39.8% experienced it twice at most, and 15.3% experienced it three times at most.

Data Collection Tools

In this section, firstly, it was explained how the Hope Scale was developed; then, it was examined how the developed scale varies according to the demographic characteristics of the students.

The Preparation Process of the Hope Scale

The initial phase of the research entailed the construction of the Hope Scale, employing a methodical methodology aligned with the guidelines outlined by Balcı (2001) and Devellis (2016). This systematic process involved several crucial stages, including the generation of an item pool, preliminary testing to evaluate content validity, establishment of construct validity, rigorous reliability analyses, and finalization of the scale. These sequential steps are depicted in Figure 1

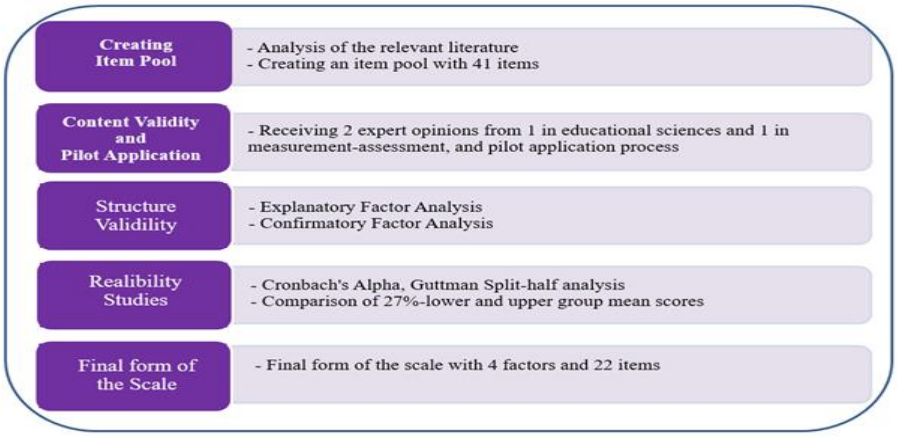

Figure 1. Development Process of Hope Scale

As depicted in Figure 1, the item pool was initially generated by reviewing relevant literature, resulting in a pool of 41 items. Subsequently, a pilot study was conducted to assess content validity, with input from two experts in Educational Sciences and Measurement and Evaluation. Next, exploratory and confirmatory factor analyses (EFA and CFA) were employed to assess structural validity. In the following stage, reliability analyses were conducted using Cronbach's Alpha, Guttman Split-half analysis, and comparison of lower and upper group averages (27%). Finally, the scale was refined, resulting in a final version comprising 22 items across four factors.

Creating the Item Pool

During the preparation phase of the Hope Scale items, the initial step involved a comprehensive review of relevant literature. This included exploring the definition and various dimensions associated with the concept of hope. Following this literature review, existing studies pertaining to hope were scrutinized, and the initial draft items were formulated. Subsequently, a pool of 41 items was compiled based on insights gleaned from the literature concerning the concept of hope.

Content Validity

Submission of the Item Pool to Expert Opinion

The draft form containing 41 items underwent evaluation for content validity through expert opinion. Content validity, as defined by Balcı (2001) and Çepni, Baki, Demircioğlu and Akyıldız, (2009), pertains to the accuracy of a measurement tool in assessing its intended construct. Initially, the item pool was presented to experts in educational sciences and measurement and assessment. These experts assessed each item as either "appropriate," "requiring correction," or "inappropriate" based on its suitability for the intended purpose. Based on feedback from experts, corrections were made and implemented on the form. This process was carried out taking into account expert opinions to increase the content validity of the form and to ensure its compliance with the objectives of the measurement tool.

Pilot Application

The draft form consisting of 41 items was prepared by taking into account expert opinions and then tested on 153 students. The form was evaluated by paying attention to factors such as the face validity, the page layout, the size of the font size and the ease of use. The 41-item trial scale form, which was created after corrections, was applied to 514 students studying in different regions of Turkey. According to the results of the analysis, the final scale form consisting of 22 items was applied to a second sampling of 503 students studying in different regions of Turkey. This process was carried out taking into account expert opinions and student feedback to ensure both content and face validity of the form.

Data Analysis

Before commencing the analysis, the data were tabulated and transferred to the computerized environment. Subsequently, Mahalanobis Distance was employed to identify missing data and extreme values in the data collection tool, resulting in the exclusion of 31 forms from the assessment. The initial phase involved evaluating the construct validity of the 514 dataset acquired during scale development through EFA using IBM SPSS 26.0 software. Additionally, arithmetic mean values, standard deviations, and total score correlations of the scale items were considered. In the subsequent stage, the 22-item scale was administered to 503 students, and CFA was conducted using Lisrel software. Reliability assessment encompassed Cronbach’s Alpha and Guttman Split-half analysis. Item discrimination capabilities were determined via t-test analysis of independent samples. Following completion of validity and reliability studies, the normality of scores obtained from the Hope Scale warranted the use of independent samples t-test for two-group comparisons (e.g., gender) and one-way analysis of variance (ANOVA) for comparisons involving more than three groups (e.g., grade level). Prior to analyses, homogeneity of variances was confirmed, and normality conditions were verified with Skewness and Kurtosis values falling within acceptable limits (between +-1 for all variables). Given the sample size exceeded 300, the Skewness and Kurtosis values obtained were deemed sufficient for normal distribution (Kim, 2013). Comparisons between groups were slated for Scheffe test implementation, with a significance value of p=0.01 accepted for statistical analyses.

Findings

This section presents findings in two primary sections. The first part comprises results concerning the validity and reliability of the developmental process of the "Hope Scale" In the second part, the alterations of the developed scale relative to the variables were investigated.

Construct Validity Findings of the Hope Scale

Factor analysis was employed to assess the structural validity of the Hope Scale. EFA was utilized to identify the latent factors measured by the instrument (Sharma, 1996), whereas CFA was employed to evaluate hypotheses grounded in the underlying theory (Tabachnick & Fidell, 2001). Initially, EFA was conducted to determine the factor structure, followed by CFA to examine the fit of the resulting model. The adequacy of the EFA results for the hope scale was assessed using the Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of Sphericity, which evaluated the instrument's suitability for factor analysis and the sufficiency of the sample size (Büyüköztürk, 2011). Detailed results of this analysis are presented in Table 2.

Table 2. KMO and Barlett Sphericity Test Values

KMO		,926
Barlett Sphericity Test	X^2	4423,722
	p	,000

Table 2 illustrates a KMO value of 0.926, indicating that sample adequacy for EFA was "very good" (Sharma, 1996). Furthermore, the Bartlett Sphericity test yielded a significant result at the 0.01 level, supporting the suitability for factor analysis. For the EFA conducted on the Hope Scale, the promax maximum variability bending procedure was employed for principal components analysis (Tabachnick & Fidell, 2001). This analysis yielded four factors with eigenvalues above 1 for the 22 items. It is generally accepted that a factor's structure is stable when its eigenvalue is one or above (Büyüköztürk, 2002; Tabachnick & Fidell, 2001). The scree-plot graph, a commonly used criterion for determining the number of factors, is depicted in Figure 2.

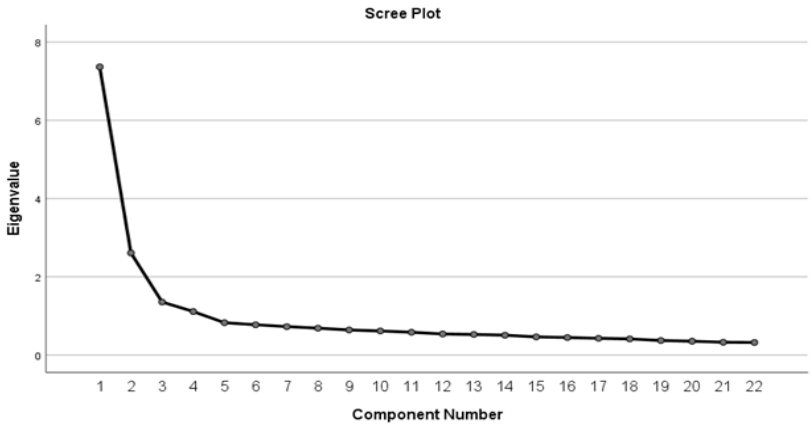

Figure 2. Scree and Plot Graph

After the fourth factor, the scree-plot graph assumes a horizontal shape, indicating that the scale can be grouped under four factors. Consequently, a four-factor structure was derived from the analysis. Table 3 presents eigenvalues, item factor loadings, and variance values for each factor.

Table 3. Items and Factor Loads

Item no	Factor Loads			
	F1	F2	F3	F4
I1: Most of the time, I act bravely in the face of adversity	,921			
I2: If I do not leave the work, I started unfinished, I will end it	,777			
I3: I know that I can find methods or ways to solve problems.	,696			
I4: Obstacles make me strong	,696			
I5: I always focus on the light at the end of the tunnel	,683			
I6: I can be self-motivated	,681			
I7: Thanks to my perseverance, I can make all my dreams come true.	,529			
I8: I believe that I will walk on the path I aim for without stopping	,485			
I9: I think I have lost hope.		,779		
I10: Most of the time I feel helpless		,779		
I11:Hope is the greatest of evils because it prolongs the life of human suffering		,763		
I12: Living is often difficult and meaningless		,752		
I13: I cannot enjoy life		,736		
I14: Most of the time, I am pessimistic.		,696		
I15: Where there is life, there is hope			,909	
I16: I am excited when a plant sprouts from a rock.			,861	
I17: Every day born is a new hope			,735	
I18: I look to the future with hope and believe that good things will happen			,512	
I19: I believe that the bad days will pass and good days are waiting for me			,470	
I20: I dream about the future.				,966
I21: Most of the time I daydream				,827
I22: Dreaming about the future excites me.				,680
Eigen value	7,366	2,610	1,356	1,112
Percentage of Variance Explained	%33,483	%11,863	%6,163	%5,056
Number of items	8	6	5	3

Upon examination of Table 3, it is evident that the applied analysis resulted in a four-factor scale comprising 22 items, explaining 56.565% of the total variance. Of this variance, 33.483% is attributed to the 1st Factor, 11.863% to the 2nd Factor, 6.163% to the 3rd Factor, and 5.056% to the 4th Factor. Factor loadings of the scale range from .966 to .470. In identifying items measuring the same sub-factor, a significant criterion is the inclusion of substance factor loadings in a single value with a high load. Furthermore, it was ensured that item factor loadings were at least .30 (Secer et al., 2013; Tabachnick & Fidell, 2001). The correlation values of the Hope Scale are detailed in Table 4.

Table 4. Correlation Coefficients Values of Total Score and Sub-Factors of the Hope Scale

Sub-factors	F1	F2	F3	F4	$\bar{x}$	SD
F1	1				31,3678	6,16845
F2	,356**	1			20,7535	5,89642
F3	,648**	,448**	1		19,1133	4,79677
F4	,473**	,097*	,446**	1	12,3002	2,61990
Total	,847**	,705**	,847**	,554**	83,5348	14,89305

**p<.01

Upon scrutinizing Table 4, it was deduced that statistically significant correlations (**p<.01) exist between the total score of the Hope Scale and the sub-factor scores. The F1 sub-factor exhibited significant positive correlations with other sub-factors, scoring .356, .648, and .321, respectively, and a score of .847 with the total score. The F2 sub-factor displayed significant positive correlations with other sub-factors, scoring .448 and .097, respectively, and a score of .705 with the total score. The F3 sub-factor demonstrated a significant positive correlation with other sub-factors, scoring .446, and a score of .847 with the total score. Lastly, the F4

sub-factor also exhibited a significant positive correlation with the total score, scoring .554. According to Büyüköztürk (2011), correlation coefficients below 0.30 indicate a weak relationship, while coefficients ranging from 0.30 to 0.70 suggest a moderate relationship. In this regard, the sub-factors of the scale exhibit statistically significant positive relationships, ranging from low to moderate. Additionally, a statistically significant correlation, ranging from moderate to high, is observed between the sub-factors and the total score

In naming the sub-factors of the Hope Scale, considerations were given to item contents and relevant literature in the field. Consequently, the factors were designated as "Being Hopeful," "Being Hopeless," "Believing in the Positive Results of Hope," and "Being a Dreamer."

Findings on CFA of the Hope Scale

The results of the EFA conducted on the hope scale guided the application of CFA to assess the appropriateness of the three-factor structure identified. The CFA was executed using data from the second sample group. Limit and fit index values obtained throughout the analysis process are presented in Table 5.

Table 5. Fit Index Values

Fit indices	Calculated value	Limit values	Resources
χ2/df	375,21/203=1,848	≤3	Hooper, Coughl and Mullen (2008)
RMSEA	0,041	≤.05	Brown (2006
SRMR	0,046	≤.05	Brown (2006)
NNFI	0,98	≥.95	Kline (2005), Sümer (2000), Tabachnick and Fidell (2001).
GFI	0,94	>.90	Hooper et al.(2008)
CFI	0,98	≥.95	Sümer (2000), Kline(2005)
IFI	0,98	≥.95	Hwang and Takane (2014)

Looking at Table 5, the fit indices are as follows: χ2/sd=1.848, RMSEA=.041, SRMR=.046, NNFI=0.98, GFI=0.94, CFI=0.98, IFI=0.98. Both RMSEA and SRMR values range from 0 to 1, with values closer to “0” indicating minimal error between observed and produced matrices. A value equal to or less than 0.05 suggests a perfect fit, while up to 0.08 indicates acceptable fit. In this case, the RMSEA and SRMR values obtained can be considered indicative of a perfect fit.GFI ranges from 0 to 1, with a value of 0.90 and above indicating good fit, and values above 0.85 indicating acceptable fit. The GFI values obtained here suggest a good fit. CFI evaluates model fit considering sample size and degrees of freedom. A CFI value above 0.90 indicates sufficient fit, while above 0.95 suggests a perfect fit. In this context, the CFI values obtained suggest a perfect fit. Based on these results, it's evident that the obtained values fall between good and perfect fit criteria. Thus, it confirms the factor structure of the four-factor Hope Scale. The t-values for the four-factor model are presented in Table 6. Items are arranged by factors in a manner consistent with the original analysis.

Table 6. T-values Obtained from CFA

Item No	T	Item No	T	Item No	T	Item No	T
I1	15,35*	I9	18,34*	I15	15,90*	I20	13,94*
I2	12,91*	I10	17,10*	I16	11,04*	I21	17,36*
I3	13,03*	I11	12,25*	I17	17,45*	I22	16,89*
I4	16,05*	I12	18,78*	I18	20,38*		
I5	18,20*	I13	14,94*	I19	18,82*		
I6	15,84*	I14	13,55*				

I7	15,95*
I8	17,02*

*p<0.01

Upon reviewing Table 6, the t-test values for the Hope Scale range from 11.04 to 20.38. If these t-values exceed 1.96, they are deemed significant at the .05 level; if they surpass 2.58, they are considered significant at the .01 level (Kline, 2016; Çokluk, Şekercioğlu, & Büyüköztürk, 2014). Examination reveals that all t-values indicate significance at the .01 level, confirming the factor structure of the Hope Scale. The standardized values for the proposed Hope Scale are illustrated in Figure 3.

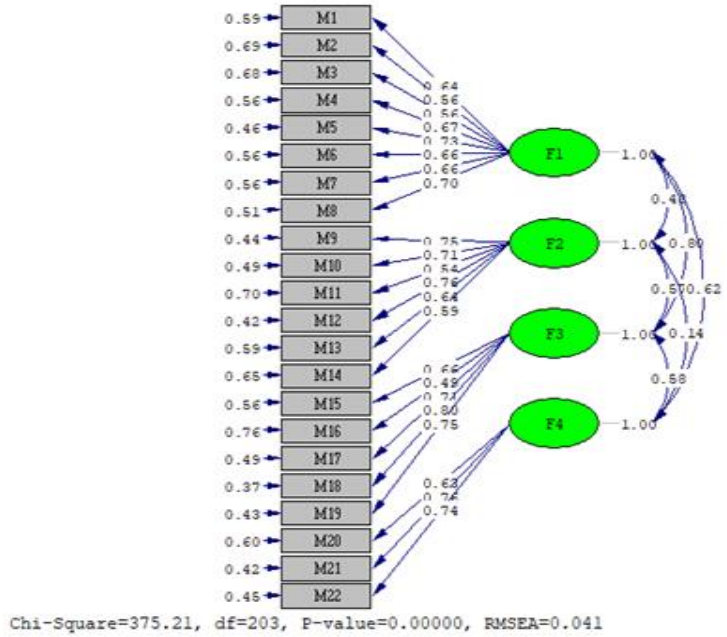

Figure 3. Standardized values

Observing Figure 3, the factor loadings for the proposed model range from .49 to .80. Assessing the error variances of the observed variables, it is evident that the error variance of the scale items is not substantial. This indicates that the correlation values among the observed variables are appropriate (Çokluk et al., 2014).

Findings on Reliability of the Scale

To determine the reliability of the Hope Scale, both Cronbach's Alpha internal consistency coefficient and the Guttman Split-half test were computed. The findings from these analyses are summarized in Table 7.

Table 7. Reliability analysis findings of the scale

Factors	Cronbach's Alpha	Guttman split-half Values
F1	.850	.842
F2	.828	.824
F3	.808	.745
F4	.743	.698
Total	.896	.860

According to Table 7, the Cronbach's Alpha internal consistency coefficients for each sub-factor are as follows: 0.850 for Factor 1, 0.828 for Factor 2, 0.808 for Factor 3, and 0.743 for Factor 4. The overall internal consistency value for the entire scale is 0.896. Furthermore, the Guttman Split-half test was conducted to assess the scale's consistency. The split-half values were determined as 0.842 for Factor 1, 0.824 for Factor 2, 0.745 for Factor 3, and 0.630 for Factor 4. The split-half coefficient for the entire scale was calculated as 0.860. According to

Fraenkel, Wallen, and Hyun (2012) and Tavşancıl (2010), values exceeding 0.70 indicate that the scale is reliable. These results indicate that the scale demonstrates satisfactory reliability across all factors and as a whole.

Distinguishing Characteristics of the Items of the Hope Scale

The discriminant power of the items in the Hope Scale was assessed using an independent groups t-test (Can, 2013). The upper and lower 27% groups were identified by ranking the total scores obtained from a secondary sample group comprising 503 students. Given the normal distribution of scores within these groups, an independent groups t-test was conducted. The analysis outcomes are presented in Table 8.

Table 8. T-Test Results for Lower and Upper Group Scores from the Hope Scale

Item No	Lower group			Upper group		
	N	$\bar{x}$	SD	$\bar{x}$	SD	*p*
I1	135	3,2222	1,07666	4,6074	,63594	.000**
I2	135	3,4148	1,21793	4,5852	,73693	.000**
I3	135	3,4222	1,11614	4,7111	,62135	.000**
I4	135	2,8148	1,03076	4,5778	,73775	.000**
I5	135	2,9556	1,02117	4,6222	,70039	.000**
I6	135	2,8963	1,25350	4,7333	,60099	.000**
I7	135	2,9630	1,13563	4,6667	,54636	.000**
I8	135	2,9333	1,16029	4,7852	,69524	.000**
I9	135	2,7037	1,18494	4,6296	,77979	.000**
I10	135	2,6222	1,16457	4,2667	,80298	.000**
I11	135	2,8741	1,31824	4,2963	1,24633	.000**
I12	135	2,3259	1,22675	4,3852	,93828	.000**
I13	135	2,4963	1,22702	4,0889	1,08907	.000**
I14	135	2,5259	1,32614	4,2519	,95197	.000**
I15	135	3,0519	1,27735	4,8370	,40899	.000**
I16	135	2,5333	1,30327	4,3333	1,13952	.000**
I17	135	2,5704	1,15604	4,8444	,50174	.000**
I18	135	2,7556	1,04000	4,8222	,50174	.000**
I19	135	2,5556	1,09044	4,7630	,47642	.000**
I20	135	3,7259	1,05399	4,4667	,82679	.000**
I21	135	3,6370	1,22540	4,7630	,54918	.000**
I22	135	3,0370	1,19955	4,7852	,53790	.000**

**p<0.01

As depicted in Table 8, a statistically significant difference emerged between the mean scores of the upper and lower groups ($p < .01$). Consequently, there exists a significant disparity in the average scores derived from the items within the Hope Scale between students belonging to the lower and upper groups (Büyüköztürk, 2011).

Answering and Scoring of the Hope Scale

As a result of this study, a valid and reliable measurement tool has been developed to assess students' levels of hope. This scale comprises a total of 22 items and measures four distinct factors. During data entry, responses to negative items were scored using a conversion method in SPSS software, specifically as follows: "1-5; 2-4; 3-3; 4-2; 5-1." Scores derived from the five-item Likert scale range from 22 to 110 (22 multiplied by 5 equals 110). For interpreting the Hope Scale, total scores or scores from sub-factors can be calculated by dividing by the total number of items. Higher scores on this scale may suggest that students possess higher levels of hope skills within the relevant dimensions. The scale is applicable to students across various grade levels, including elementary, secondary, and high school. Analysis outcomes concerning scale answering and scoring were obtained from data collected in the second sample group

Findings on Students' Levels of Hope according to Gender

Table 9 displays the outcomes of the independent groups t-test analysis, which aimed to ascertain whether there existed a significant difference in total scores from the Hope Scale based on gender among the participating students in the study.

Table 9. T-Test Results on the Total Score of Hope Scale of Students by Gender

Gender	N	x̄	SD	Sd	T	*p*
Female	244	83,92	14,892	501	,566	.572
Male	259	83,16	14,913			
Total	503	83,53	14,893			

As depicted in Table 9, there is no statistically significant difference observed in students' total scores from the Hope Scale based on gender ($t(501) = 0.566$, $p > 0.01$). Upon examining the mean scores, it is evident that the hope levels of female students (83.92) are slightly higher compared to male students (83.16). However, it can be concluded that the overall hope levels of all students (83.53/22 = 3.79) are generally at a moderate level.

Findings on Students' Hope Levels according to Grade Level

Table 10 presents the findings of the independent groups t-test analysis, which aimed to assess whether there existed a significant difference in total scores from the Hope Scale among students participating in the research based on their grade levels.

Table 10. T-Test Results on the Total Score of Hope Scale of Students by Grade Level

Grade Level	N	x̄	SD	Sd	F	*p*	Direction of difference
5	144	87,59	13,710	1	5,161	,002	8<5,7<5
6	159	81,72	15,295				and 6<5
7	153	81,90	15,138				
8	47	82,48	14,229				

According to Table 10, a significant difference can be observed between students' total scores according to grade level [$F(1.501)=5.161$, $p<0.01$]. According to the results of the Scheffe analysis, there is a significant difference in favor of 5th grade students. According to analysis results, it is seen that the hope levels of 5th grade students (87.59) are higher than those of 6th grade (81.72), 7th grade (81.90) and 8th grade (82.48) students.

Findings on Students' Levels of Hope according to Academic Achievements

The outcomes of a one-way analysis of variance are displayed in Table 11 to investigate whether there is a significant disparity in students' levels of hope corresponding to their academic achievements.

Table 11. One-way Variance Values on Students' Total Scores from Hope Scale according to Grade Level

Academic Success	N	x̄	SD	Sd	F	*p*
Low	39	83,58	14,368	2	.218	.804
Moderate	78	82,51	14,047			
Good	386	83,73	15,136			

According to Table 11, there is no significant difference between students' levels of hope according to their academic achievements [$F(2.500) = .218$, $p>0.01$]. However, when the arithmetic averages are examined, it is observed that the students with high academic

achievements (83.73) have higher levels of hope than the students with low academic achievements (83.58) and moderate academic achievements (82.51).

Findings on Students' Levels of Hope According to their Socio-economic Levels

Table 12 presents the results of a one-way analysis of variance conducted to assess whether there exists a significant distinction in students' levels of hope based on their income levels.

Table 12. One-way Variance Values on Students' Total Scores from Hope Scale according to Income Status

Socioeconomic level	N	x̄	SD	Sd	F	*p*
Lower	51	88,29	10,524	2	3.260	.039
Moderate	144	83,83	15,489			
Higher	308	82,60	15,107			

According to Table 12, there is no significant difference between students' levels of hope according to their income levels [F(2.500) = .3,260, p>0.01]. However, when the arithmetic means are examined, it is observed that the students with low socio-economic level (88.29) have higher levels of hope than the students with moderate socio-economic level (83.83) and high socio-economic level (82.60).

Findings on Students' Levels of Hope according to Exposure to a Traumatic Life Event

Table 13 displays the outcomes of a one-way analysis of variance utilized to ascertain if there is a noteworthy discrepancy in students' levels of hope contingent on their exposure to a traumatic life event

Table 13. One-way Variance Values on Students' Total Scores from Hope Scale according to Exposure to a Traumatic Life Event

Exposure to a Traumatic Life Event	N	x̄	SD	Sd	F	P	Direction of difference
Max. 1	226	86,10	14,294	2	8,542	.000	3<1
Max. 2	200	82,59	14,830				2<1
Max. 3	77	78,42	15,356				

According to Table 13, there is no significant difference between students' levels of hope according to their exposure to a traumatic life event [F(2.500) = 8.542, p>0.01]. According to the results of Scheffe analysis, a difference can be seen in favor of students who are exposed to a traumatic life event at most once (1 time). Examining the arithmetic means, it is observed that the students who were exposed to the traumatic life event at most 1 time (86.10) had higher levels of hope compared to those who were exposed to a traumatic life event at most 2 times (82.59) and at most 3 times (78.42).

Conclusion and Discussion

This study seeks to develop a valid and reliable scale for assessing the hope levels of secondary school students and to explore variations in students' hope levels across different variables using this scale. In the initial phase, a pool of 41 items was generated by reviewing relevant literature, and content validity was ensured by seeking expert opinions. EFA results indicated that the scale accounted for 56.565% of the total variance, with factors identified as "being hopeful," "being hopeless," "believing in the positive outcomes of hope," and "being a dreamer." CFA was then employed to assess the structural adequacy of the hope scale, revealing excellent fit indices. Reliability analyses confirmed the scale's high internal consistency, further supported by item discrimination analyses indicating significant differences between the upper and lower 27% groups in total scores, signifying the

discriminative power of the scale items. Based on these comprehensive findings, it can be concluded that the scale serves as a valid and reliable instrument for gauging students' hope levels. The study examined how students' levels of hope varied based on gender, grade level, academic achievement, socio-economic status, and exposure to traumatic life events. No significant difference in hope levels was found between genders, though female students' hope levels were slightly higher than those of male students. The analysis by grade level revealed that 5th-grade students had higher hope levels compared to students in other grade levels. While no significant difference was found between academic achievement levels and hope, students with higher academic achievements showed slightly higher hope levels. In terms of socio-economic status, students from lower socio-economic backgrounds had higher hope levels compared to those from moderate or higher socio-economic backgrounds, though this difference was not significant. Finally, the evaluation of exposure to traumatic life events indicated that students who had been exposed to a traumatic event once had higher hope levels than those who had experienced two or three traumatic events. These findings suggest that age and life experiences are more significant factors in shaping students' levels of hope.

In this study, students' levels of hope were examined in terms of gender, grade level, academic achievement, socio-economic level and exposure to traumatic life events. As a result of the examinations, when the hope levels of the students were examined according to the gender variable, it was seen that female students' levels of hope were higher than those of male students, and this difference was not significant. In addition, it can be said that all students' levels of hope are at a medium level. Different studies examining the hope levels of individuals according to gender from the field literature have revealed different results. In the studies, it was stated that gender had a significant effect on the level of hope, but this situation should be evaluated by considering individual differences and cultural differences. Some studies (Chang, 2003; Hendricks-Ferguson, 2006; Nas, 2022) suggests that male participants' levels of hope are higher than those of female participants. These results can be attributed to the fact that men are generally more willing to set and achieve more specific goals. However, other studies (Aydin, 2010; Snyder et. al., 1997) have revealed that gender has no significant effect on hope levels or that women's hope levels are similar to men's. In conclusion, it is possible to indicate that making precise generalizations about levels of hope by gender is difficult, and that such studies should take into account cultural differences and individual variations. Society's expectations can have an impact on individuals' gender roles. In this context, it can be said that factors such as culture (Chiao, 2017) leading men to be strong and men not being welcomed to express their emotions comfortably may cause hope to be reflected differently between genders. From here, it can be said that these research findings are similar to those from the field literature.

According to the grade level variable, it was observed that 5th grade students had higher levels of hope than those of 6th-grade, 7th-grade and 8th-grade students, and this difference was significant in favor of 5th grade students. In the field literature, it has been observed that there are differences in the studies which discuss with this variable in the context of grade level or age. Williams (2009) conducted a study with university students and found that there was no significant relationship between students' university education duration and their levels of hope. In his study, Aydın (2010) indicated that the scores of the third-grade students in the planning factor, which is the sub-dimension of the hope scale, were significantly higher than the scores of the second-grade students in this dimension. In his study, Nas (2022) stated that the hope levels of 15-year-old students were lower than those of 16, 17, and 18-year-old students, and the hope levels of 18-year-old students were higher than the hope levels of 16- and 17-year-old students. The level of education can affect the level of hope (Can & Aydın,

2018). College students or graduates can look to future career opportunities with more hope. Elementary and secondary school students may have a purer and more optimistic hope because they have not yet experienced many aspects of life. High school students may experience fluctuations in their levels of hope due to exam stress, future plans, and academic achievements. Studies have shown that younger individuals are generally more hopeful. Young age can increase hope in individuals who feel that life has a long time ahead of them. As time passes by, life experiences and realism can be more influential. Older individuals are able to maintain hope despite the challenges they face in life. Accordingly, it can be said that this research finding is similar to findings from the field literature.

According to the academic achievement variable, it was observed that the hope levels of the students with high academic achievement were higher than those of students with low and medium academic achievements, and this difference was not significant. Felman and Shu (2023) have revealed that there is a significant and positive relationship between hope and GPA in their study examining the relationship between hope and GPA among university students in Hong Kong. Similarly, Hayatet al., (2022) concluded in their study that there is a positive and significant relationship between students' levels of hope and academic success.In his study, Berber (2018) revealed that there was a statistically significant relationship between hope and achievement orientations of secondary school students. In another study (Somers et al., 2022), it was stated that students' levels of hope were associated with learning motivation, achievement, executive functions, loneliness, and risky behaviors, and that hope played an important role in the general psychosocial functioning of adolescents. As a result of this study, although there was no significant difference, it was seen that the total scores of the students with high academic success from the hope scale were higher. Accordingly, it can be said that this research finding is similar to the field literature.

In terms of the socio-economic level variable, it was observed that the socio-economic level of the students with low socio-economic level was higher than that of students with secondary and high socio-economic levels, and this difference was not significant. In the studies conducted in the literature, there are studies reporting that individuals with a moderate socio-economic level are more hopeful (Karayiğit, 2018) or individuals with a high socio-economic level (Yang et al., 2020) are more hopeful. These research findings differ from the field literature. The reason for this situation may be due to traumatic life events that individuals are exposed to. According to the variable of exposure to a traumatic life event, it was observed that the students who were exposed to the traumatic life event at most 1 time had higher levels of hope than the students who were exposed to the most 2 times and the most 3 times, and this difference differed significantly in favor of those who were exposed to the most 1 time. In other words, as the number of times students are exposed to traumatic life events increases, their level of hope decreases. Long (2022) found that hope reduces the risk of post-traumatic stress and supports the positive outcomes of adversity. Hope is an important source of resilience (Alarcon et al., 2013). The reason why this study reveals different findings from the literature may be due to the fact that the data were obtained immediately after the traumatic life event and the age group of the students was small. In addition, the fact that trauma has the potential to reduce hope can also be an important factor. Traumatic experiences can "shatter" assumptions about personal safety and control so that survivors may prioritize restoring safety over personal growth (Wang et al., 2019). Additionally, the higher hope levels reported by students exposed to a single traumatic event can be explained within the context of psychological resilience and coping strategies. Snyder's Hope Theory (2002) and the works of Luthar and Cicchetti (2000) on resilience suggest that the recovery processes individuals develop in response to trauma can enhance their hope for the future. A single trauma may

allow students to develop more focused coping strategies (Bonanno, 2004), which can accelerate the recovery process. Furthermore, social support is a crucial factor in facilitating post-trauma recovery (Cohen & Wills, 1985). In this context, the higher hope levels demonstrated by students who experienced a single trauma can be explained through the interaction of resilience, coping strategies, and social support.

In summary, this study highlights the development of a valid and reliable scale for assessing the hope levels of secondary school students, providing insights into how various demographic factors influence hope. The findings suggest that while gender, academic achievement, and socio-economic status did not show significant effects on hope levels, significant differences were found based on grade level, with fifth-grade students demonstrating higher hope levels. Additionally, students exposed to a single traumatic event reported higher hope levels than those exposed to multiple traumatic events, indicating that trauma can have a complex relationship with hope, potentially fostering resilience and more focused coping strategies.

Recommendation and Future Research

Based on the findings of this study, several recommendations can be made for educational policies and practices. First, considering the impact of gender differences on hope levels, more inclusive educational approaches that address gender disparities should be developed. Specifically, creating environments where male students can express their emotions more freely may play a significant role in enhancing their levels of hope. The analysis of grade level revealed that 5th-grade students exhibited higher levels of hope compared to other grade levels. This finding underscores the importance of fostering hope and goal-setting skills at an early age. Therefore, hope development programs should be strengthened, particularly in elementary and middle school levels. While no significant difference was found between academic achievement and hope levels, students with higher academic achievements showed slightly higher hope levels. This suggests the potential to use academic success as a tool to enhance students' hope. Educators should not solely assess students based on academic criteria but also guide them towards achieving their personal goals. The findings regarding socio-economic status indicate that students from lower socio-economic backgrounds had higher levels of hope compared to those from higher socio-economic backgrounds, although this difference was not significant. This suggests that students who develop psychological resilience in the face of financial challenges may exhibit higher hope levels. Therefore, psychological support and motivation-enhancing programs should be offered to students from lower socio-economic backgrounds. The study found that students' hope levels varied depending on the number of traumatic life events they had experienced. This highlights the importance of post-trauma support and recovery processes. Schools should develop psychological support programs for students who have experienced trauma, and teachers should be trained to raise awareness about these issues. Finally, considering the influence of cultural differences on hope levels, educational strategies that reflect cultural diversity should be adopted. These strategies should include teaching approaches that respect and seek to understand students' diverse backgrounds and experiences. Future research could explore these findings across various age groups and larger sample populations, while also examining factors such as psychological resilience and emotional intelligence that may influence hope levels. Furthermore, testing these findings with broader and international sample groups would provide a better understanding of how cultural diversity affects hope levels, thereby increasing the generalizability of the results.

Limitations

This study has several limitations that should be noted. First, the research data is limited to responses from secondary school students in different regions of Turkey, which may affect the generalizability of the findings. Further studies could expand the sample to include students from diverse age groups, educational levels, and countries to enhance generalizability. Second, the study relies on the assumption that all students responded sincerely to the questionnaire items; however, social desirability bias or misunderstanding of items may have influenced their responses. To mitigate this, future research could incorporate qualitative interviews or focus groups to verify and deepen the understanding of students' responses. Lastly, because the study data were collected within a limited time frame, longitudinal studies may provide a more comprehensive perspective on the changes in hope levels over time.

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