

# Hope and Uncertainty Among Turkish Adults: Pathways to Subjective Well-Being

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This cross-sectional research aimed to explore how intolerance of uncertainty and hope predict subjective well-being in adults, while accounting for demographic and other relevant psychological variables. The sample consisted of 822 adults, with 58.60% female and 41.40% male participants, aged 18 to 65 years ( $M = 36.21$ ,  $SD = 12.76$ ). Regression analysis indicated that both hope and intolerance of uncertainty significantly contributed to unique variance in subjective well-being, even after controlling for all other variables in the model. It was found that hope had a greater impact on subjective well-being, explaining an additional 15% of the variance, compared to intolerance of uncertainty, which accounted for an additional 2% of the variance. Furthermore, hope remained a significant predictor of subjective well-being even when controlling for intolerance of uncertainty and other relevant factors. These results underscore the importance of fostering hope as a distinct and independent factor that enhances subjective well-being, beyond the effects of intolerance of uncertainty and other variables.

*Keywords:* Subjective well-being, hope, intolerance of uncertainty, income, trauma, adults


Adults in various regions of the world face a range of challenges, including economic uncertainties, unemployment, high cost of living, social pressures, and gender roles (Banks, 2016; Buğra & Keyder, 2006; Sobotka et al., 2011). These challenges and problems negatively affect individuals' psychological health and harm their happiness (Kaya, 2007). Adults whose happiness is damaged often experience mental health problems such as increased stress, anxiety and depression (Kennedy et al., 2024; Silva & Figueiredo-Braga, 2018). They may also experience difficulties in social relationships and decreased work performance (Kansky & Diener, 2017). In psychology, happiness is addressed with the concept of subjective well-being (Diener, 2000) and spending life happily is one of the important desires of people (Eryılmaz & Ercan, 2011). As a matter of fact, one of the most important research topics of positive psychology is subjective well-being (Arslan & Allen, 2022; Doğan, 2013). This study follows Diener's (1984) definition of subjective well-being. Subjective well-being pertains to how people assess their lives through both emotional and cognitive lenses (Diener, 2000). It encompasses an individual's experience of positive emotions, the lack of negative emotions, and overall life satisfaction over a period (Diener, 1984). Essentially, subjective well-being involves individuals evaluating and forming judgments about their own lives (Haybron, 2000).

Subjective well-being represents the positive aspect of mental health and is emphasized because it contributes positively to individuals' lives (Chng et al., 2022; Eren et al., 2020). Research has shown that individuals with elevated levels of subjective well-being

tend to be more social and creative, enjoy stronger immune systems, and have longer lifespans. They also earn higher incomes, exhibit better citizenship, show increased productivity in their careers, experience greater marital satisfaction, and manage stress more effectively (Diener & Chan, 2011; Lyubomirsky et al., 2005; Majercakova-Albertova & Bolekova, 2022; Niu, 2024; Sanders et al., 2022). Subjective well-being is a measure of the quality of life of the individual and society and is a valuable concept that should be emphasized for the existence of a good life and a livable society (Arslan, 2018; Diener et al., 2003). In this context, supporting the subjective well-being of adults can help strengthen social bonds and help individuals gain resilience against challenging life conditions. In addition, it is thought that an effort in this direction will also be critical in terms of ensuring social peace and increasing economic productivity. On the other hand, although many studies have been conducted on the determinants of subjective well-being of adolescents (Arslan, 2024a; Kılınç & Uzun, 2020; Navarro et al., 2017; Steinmayr et al., 2019) and young adults (Arslan et al., 2024a; Arslan, 2024b; Cappa & Patton, 2017; D'Agostino et al., 2019) in the literature, studies on exploring the subjective well-being of adults (Eryılmaz, 2011; Keyes & Magyar-Moe, 2003; Yıldırım & Arslan, 2022), who constitute a large part of the population, are extremely limited. Therefore, it can be said that more preventive and intervention studies are needed to support adult subjective well-being. These studies are very important for identifying the variables that support and harm subjective well-being in the adult sample and developing strategies for this.

## Hope and Subjective Well-Being

Hope, which is a cognitive-motivational concept within the field of positive psychology such as subjective well-being, functions as a variable that supports positive outcomes in the literature (Snyder et al., 2000). Indeed, many studies have shown that individuals with

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high levels of hope achieve more success in different areas of life such as sports and academic life, are physically and psychologically healthier, and experience more positive emotions (Dursun, 2021). In this context, it can be stated that hope is one of the most powerful psychosocial resources used against difficulties (Şahin et al., 2012). Therefore, in this study, it is thought that hope may be one of the important concepts that can be utilized to support the subjective well-being of adults in the face of various difficulties they experience. Hope is conceptualized in the literature as a cognitive framework that reflects an individual's perceived ability to make purposeful decisions, devise strategies to achieve these goals, and motivate oneself to implement the planned strategies (Snyder et al., 1991).

Individuals' well-being is linked to their purposeful activities and hope is one of the psychological factors that support harmonious purposeful activities (Emmons, 1986). In other words, hopeful individuals experience the happiness of the belief that they will achieve their goals and have positive emotions; in this case, the level of subjective well-being perceived by hopeful individuals is expected to increase (Şahin et al., 2012). In this context, supporting hope strengthens individuals' ability to cope with stress by increasing their positive expectations for the future, which may increase their subjective well-being levels (Pleeging et al., 2021). As a matter of fact, research also shows that supporting hope increases individuals' emotional resilience and contributes to their life satisfaction and positive emotions (Chang et al., 2019). For example, D'Souza et al. (2020) found that hope positively predicted higher subjective well-being and negatively predicted depression in their study on German adults. Similarly, Budhiraja and Midha (2015) found that hope was a stronger predictor of subjective well-being than spirituality in their study on the elderly population in India. However, although these studies have made important contributions to understanding the relationship between hope and subjective well-being in adult samples, more in-depth analyses of how hope operates within different demographic groups and cultural contexts are needed. Furthermore, the development of more comprehensive models that examine the impact of hope on subjective well-being through its interaction with other psychological variables can contribute to expanding the literature in this area.

### **Intolerance of Uncertainty and Subjective Well-Being**

In order to support adults' subjective well-being, it would be incomplete to identify only the variables that increase subjective well-being. In addition, variables that harm subjective well-being should also be investigated and preventive interventions should be planned for these variables (Arslan et al., 2024b). It is thought that one of these damaging variables is intolerance of uncertainty. Hofstede developed the Cultural Dimensions Theory through his extensive research on over 50 national cultures. This theory provides a framework for understanding how cultural values influence behaviors and why individuals within a culture behave in certain ways. According to this theory, culture is analyzed through six dimensions: power distance, individualism, masculinity, long-term orientation, indulgence, and uncertainty avoidance (Hofstede, 2011). The uncertainty avoidance dimension explains how individuals feel about and cope with uncertain situations. In Hofstede's (1980) comparative study of cultural characteristics across countries,

Türkiye was identified as one of the countries with a high level of uncertainty avoidance. This suggests that Turkish society is apprehensive about uncertainty, prefers predictability, and favors a calculable future. In other words, chaos and complexity are not conducive environments for Turkish society. The study portrays Türkiye as a culture characterized by a high need for structured frameworks, laws, and regulations due to its high score in the uncertainty avoidance dimension (Türk, 2020).

Uncertainties in issues such as economic stability, job security and political environment may increase intolerance of uncertainty in adults (Küçükkömürler, 2017; Lanz et al., 2021). Intolerance of uncertainty is a state in which an individual experiences intense anxiety and stress in the face of uncertain situations and cannot tolerate this uncertainty (Dugas et al., 2004). Intolerance of uncertainty causes individuals to feel excessive anxiety and worry about uncertain future events and negatively affects their quality of life (Barahmand & Haji, 2014). This situation makes it difficult for individuals to experience positive emotions and leads to the dominance of negative emotions, and subsequently, subjective well-being levels decrease (Arslan et al., 2021; Buyruk-Genç, 2024).

Considering that daily life is full of uncertainties, it can be predicted that someone who is intolerant of uncertainty will find many aspects of life intolerable (Dugas et al., 2001). This is because people with high levels of intolerance for uncertainty want to know what they will face in the future. Therefore, in order for individuals to continue their lives, their psychological system needs to deal with uncertain situations and reach a certain level of certainty. Therefore, the need to manage or reduce uncertainty, which is a frequently encountered phenomenon in daily life, is inevitable (Kayacan & Yılmaz-Bingöl, 2024). When the results of previous studies are examined, it is seen that intolerance of uncertainty plays a destructive role on subjective well-being as suggested in this research. For example, Saleem et al. (2023) found a significant and negative relationship between intolerance of uncertainty, subjective well-being and dispositional hope in a study conducted among Kashmiri students exposed to armed conflict. The study also discovered that dispositional hope significantly influenced the relationship between intolerance of uncertainty and subjective well-being, acting as a moderating factor. This underscores the role of hope as a protective buffer against the adverse impacts of intolerance of uncertainty on subjective well-being, particularly in the context of armed conflict. Similarly, Geggın and Sahranç (2017) found a significant negative association between intolerance of uncertainty and psychological well-being in Turkish culture. Their research revealed that university students with higher levels of intolerance of uncertainty reported lower levels of psychological well-being. Previous studies show that intolerance of uncertainty can potentially harm adults' subjective well-being and emphasize the necessity of investigating this variable in adult samples for preventive and intervention studies. However, the majority of these studies were conducted in specific groups and conditions, and it is unclear whether the effect of intolerance of uncertainty on subjective well-being is similarly valid in the general population or in different social contexts. In this context, it can be said that there are gaps in the literature on the relationship between intolerance of uncertainty and subjective well-being that require the use of more detailed and different methodological approaches.

### Demographic Variables and Subjective Well-Being

It is thought that demographic variables such as gender, age and income status may also play an important role in the subjective well-being of adults, as well as continuous variables such as hope and intolerance of uncertainty (Frey & Stutzer, 2000, 2010). As a matter of fact, it is stated in the literature that demographic variables have a share in explaining adult subjective well-being (İpek, 2022; Lyubomirsky, 2001). For example, studies have concluded that demographic variables such as age, gender, education and income explain approximately 10% of subjective well-being (Diener et al., 1999). In another study conducted in Turkish culture, it was found that demographic variables such as gender, age, socioeconomic status and social class explained 6% of university students' subjective well-being (Arslan, 2024b). In this context, it can be stated that gender, age and income status can directly affect individuals' subjective well-being by shaping their life experiences, social support systems and stress sources.

In past studies examining the impact of gender on subjective well-being, it has been understood that the differences and effects on the levels of subjective well-being between female and male are not pronounced or are minor (Kasapoğlu & Kış, 2016; Şahin et al., 2012). Regarding age, initial assessments of subjective well-being suggested that youth is a strong and consistent predictor of well-being; however, contemporary studies indicate that life satisfaction generally increases with age or at least does not decrease (Diener & Ryan, 2009). Among other demographic variables, income level is known to have a stronger relationship with subjective well-being (Aysan, 2019; İpek, 2022; Tuzgöl-Dost, 2010). Although income shows stronger relationships with subjective well-being when it is low (Diener et al., 2003), the strength of the relationship begins to diminish once individuals have an income level that meets their basic physical needs (Diener et al., 1999). From this perspective, the question of how and to what extent the subjective well-being of adults is affected by various demographic variables becomes important. The answer to this question is crucial for identifying which groups are at risk in terms of subjective well-being and for increasing preventive efforts targeted at these groups.

### Other Psychological Variables and Subjective Well-Being

Finally, it is important to note that variables such as psychological trauma history, physical trauma history, smoking and having a chronic illness may also have an impact on the subjective well-being of adults. Having a history of psychological trauma may negatively affect individuals' subjective well-being by increasing their susceptibility to mental health problems such as anxiety and depression (Hogg et al., 2023). Individuals with a history of physical trauma may experience problems such as chronic pain and mobility limitations, which may harm their life satisfaction (Bussi eres et al., 2023; Sacchi et al., 2020). In addition, smoking can negatively affect individuals' general health and energy levels, leading to low life satisfaction and high stress levels (Arslan, 2022, 2023; Atak, 2011;  n bol et al., 2020). In addition, having a chronic condition may negatively affect subjective well-being by limiting individuals' daily life activities, creating a constant need for care and health concerns (Shabani et al., 2023). In order to better understand adult subjective well-being, it is important to understand the impact of these variables on subjective well-being. Examining how factors such as a history

of psychological and physical trauma, smoking and chronic disorders are related to subjective well-being will contribute to the development of more comprehensive and effective intervention strategies. Addressing adult subjective well-being in a holistic manner will provide great benefits in terms of improving individuals' quality of life and subjective well-being.

### The Present Study

Hope is crucial for enhancing subjective well-being and serves as a psychosocial asset that fosters positive future expectations (Genç & Arslan, 2021; Snyder et al., 1991; Şahin et al., 2012). Conversely, intolerance of uncertainty is a significant factor that undermines psychological health and reduces life satisfaction (Barahmand & Haji, 2014; Buyruk-Genç, 2024). Despite their importance, hope and intolerance of uncertainty have yet to be formally incorporated into models of subjective well-being. Subjective well-being revolves around how individuals assess their lives through emotional and cognitive lenses (Diener, 2000). Embracing these experiences as inherent aspects of the human condition allows individuals to adopt a more open and accepting attitude towards themselves and their experiences.

Despite the recognized impact of hope and intolerance of uncertainty on subjective well-being, findings across studies have not always been uniform. Some research has demonstrated that hope accounts for a substantial portion of the variance in subjective well-being (D'Souza et al., 2020), while other studies have highlighted the significant role of intolerance of uncertainty in these outcomes (Saleem et al., 2023). Furthermore, there is a lack of empirical research exploring how hope and intolerance of uncertainty jointly influence the subjective well-being of adults. Consequently, more research is needed to understand the interplay between these factors in relation to subjective well-being.

The aim of this cross-sectional study was to explore how intolerance of uncertainty and hope might serve as predictors of subjective well-being in adults. This investigation was conducted while controlling for various demographic factors such as gender, age, and income, as well as mental health outcomes that are well-documented to affect well-being (e.g., Bussi eres et al., 2023; Hogg et al., 2023; Shabani et al., 2023). The study sought to evaluate the specific contributions of intolerance of uncertainty and hope to subjective well-being. Based on the theoretical frameworks discussed, it was anticipated that hope would emerge as a significant predictor of subjective well-being, even when controlling for intolerance of uncertainty and other pertinent variables.

## Method

### Participants

In this study, 834 adults living in T rkiye participated. Convenient sampling, one of the non-random sampling methods, was used to determine the participants. In convenient sampling method, researchers continue to collect data starting from the most accessible participants until they reach the size of the study group they need (B y k zt rk et al., 2016). First, an online survey consisting of scales and demographic items was created by the researchers. The online survey was shared on social media platforms that are widely used by adults in T rkiye (Instagram, Facebook,

Twitter, WhatsApp). In the introduction part of the online survey, the purpose of the study and information about who could participate in this study were clearly written. In addition, adults who agreed to participate in the study provided electronic consent prior to the data collection process. Participants were required to complete all questions in the survey to successfully submit their responses, ensuring no missing data. Therefore, there was no missing data in the online surveys submitted by the participants. After the data collection process was completed, the surveys completed by the participants were analyzed by the researchers. Online surveys that were outside the targeted age range and whose data expressed extreme values were excluded from the study. Participants' gender, age, income, history of psychological and physical trauma, cigarette use, and chronic illness were also collected using a demographic information form. At the end of this process, the study group consisted of 822 adults, 58.60% ( $n = 482$ ) female and 31.40% ( $n = 340$ ) male, aged between 18 and 65 ( $M = 36.21$ ,  $SD = 12.76$ ). Of the participants, 12.30% ( $n = 101$ ) reported a low socioeconomic status, 50.10% ( $n = 412$ ) a middle status, 35.50% ( $n = 292$ ) a good status, and 2.10% ( $n = 17$ ) a very good status. Additionally, 21.00% ( $n = 173$ ) of the participants reported a history of psychological trauma, and 10.30% ( $n = 85$ ) reported a history of physical trauma. Moreover, 24.00% ( $n = 197$ ) of the participants indicated that they smoked, and 20.20% ( $n = 166$ ) reported having a chronic illness. This research was approved by the Burdur Mehmet Akif Ersoy University Non-Interventional Clinical Research Ethics Committee with the decision number GO 2020/313 at the meeting numbered 2020/12 held on 02/12/2020.

### Measures

**Subjective well-being.** Participants' general quality of life was measured using the Satisfaction with Life Scale, which evaluates life satisfaction according to self-defined standards (Diener et al., 1985). Life satisfaction encompasses a cognitive aspect of subjective well-being and involves cognitive judgments about one's life (Diener, 1984). The scale comprises five items and utilizes a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The Turkish adaptation of the scale has demonstrated good data-model fit and strong internal reliability (Dağlı & Baysal, 2016). In this study, the internal reliability coefficient was .87.

**Hope.** The Dispositional Hope Scale (DHS) was employed to evaluate individuals' levels of trait hope (Snyder et al., 1991). This scale includes 12 items, with 4 being filler items, and responses are rated on an 8-point Likert scale from 1 (absolutely false) to 8 (absolutely true). Research has demonstrated that the DHS is a reliable and valid instrument for measuring hope among Turkish populations (Tarhan & Bacanlı, 2015). In the current study, the internal reliability coefficient was .89.

**Intolerance of Uncertainty.** The Intolerance of Uncertainty Scale (IUS-12) was utilized to measure individuals' adverse reactions to uncertain events and situations (Carleton et al., 2007). The IUS-12 is rated on a 5-point Likert scale, with responses ranging from 1 (not at all applicable to me) to 5 (entirely applicable to me). The Turkish adaptation of this scale shows strong data-model fit and high internal reliability (Sarçam et al., 2014). In this study, the internal consistency estimate was .88.

### Data Analyses

Initially, we examined descriptive statistics to ensure that specific assumptions were satisfied. Normality was assessed using established values and thresholds (Field, 2009; Tabachnick & Fidell, 2013). To examine the strength and direction of relationships among the study variables, Pearson correlation analysis was employed. This analysis was necessary to identify potential multicollinearity issues and to provide an initial understanding of how intolerance of uncertainty, hope, and subjective well-being were related before conducting more complex regression analyses. Pearson correlation coefficients were used to assess the linear associations between the independent variables (intolerance of uncertainty and hope) and the dependent variable (subjective well-being), as well as among all the study variables.

Subsequently, hierarchical multiple regression analyses were conducted to investigate the predictive roles of intolerance of uncertainty and hope on subjective well-being, while controlling for sociodemographic variables. The hierarchical regression approach was chosen because it allows for the sequential entry of variables into the model, thereby enabling us to examine the unique contribution of each set of predictors (e.g., demographic variables, intolerance of uncertainty, and hope) to the variance in subjective well-being. This method was particularly useful for determining whether hope would remain a significant predictor of subjective well-being even after accounting for the effects of intolerance of uncertainty and other sociodemographic factors. By entering the variables in blocks, we were able to assess the incremental variance explained by each block, which helped to clarify the relative importance of each predictor in the model. Before proceeding with these analyses, we ensured that all necessary assumptions were met. All analyses were performed using SPSS version 22.

## Results

### Descriptive Statistics and Correlation Results

The descriptive statistics indicated that the skewness and kurtosis values for all variables ranged from -.58 to .48, suggesting a relatively normal distribution. The correlation analysis revealed that subjective well-being was positively and moderately correlated with hope ( $r = .49$ ), while it had a negative and relatively low correlation with intolerance of uncertainty ( $r = -.16$ ). Additionally, there was a negative and low correlation between hope and intolerance of uncertainty ( $r = -.19$ ). Detailed descriptive statistics and correlation results can be found in Table 1 and Table 2.

### Regression Analyses

Prior to performing the hierarchical multiple regression analysis, we ensured that the necessary assumptions were met. Categorical variables, such as gender, were converted into dummy variables before proceeding with the regression analysis (Field, 2009; Tabachnick & Fidell, 2013). Multicollinearity was evaluated using Tolerance and Variance Inflation Factor (VIF) values, which fell within acceptable limits, indicating that this assumption was satisfied (Field, 2009; Hair et al., 2014). The Mahalanobis distance was checked to detect any multivariate outliers, and none were identified. Scatter plots and residual analyses confirmed the assumptions of normality, linearity, and homoscedasticity (Hair et al., 2014). Guided by theoretical and empirical evidence, a four-

**Table 1.** Descriptive statistics

	Min.	Max.	<i>M</i>	<i>SD</i>	Skew.	Kurt.
Gender	.00	1.00	.59	.49	-.35	-1.88
Age	18.00	65.00	36.21	12.76	.35	-1.02
Income	1.00	4.00	2.27	.70	-.064	-.42
Psychological trauma	.00	1.00	.21	.41	1.42	.02
Physical trauma	.00	1.00	.10	.30	2.61	4.82
Cigarette use	.00	1.00	.24	.43	1.22	-.51
Chronic illness	.00	1.00	.20	.40	1.49	.21
Intolerance of uncertainty	12.00	60.00	37.31	8.81	.14	-.29
Hope	16.00	64.00	50.47	7.61	-.58	.48
Subjective well-being	5.00	25.00	15.96	3.87	-.38	.01

stage hierarchical regression analysis was conducted, with subjective well-being as the dependent variable.

The hierarchical regression analysis results indicated that sociodemographic variables (age, gender, income) in the first stage significantly contributed to the model, explaining 17% of the variance in subjective well-being ( $R = .41, R^2 = .17, F_{(3-818)} = 53.78, p < .01$ ). When the results obtained in the first stage are analyzed, it is understood that gender is not a significant predictor of subjective well-being ( $t = .90, p > .05$ ), whereas growth in age ( $t = 3.58, p < .01$ ) and increase in income ( $t = 11.13, p < .01$ ) positively predict adults' subjective well-being in a significant way. In the second stage, adding variables such as history of psychological and physical trauma, smoking, and having a chronic illness accounted for an additional 2% of the variance in subjective well-being, with these changes in  $R^2$  being significant ( $R = .43, R^2 = .19, F_{(7-814)} = 26.93, p < .01$ ). When the results obtained in the second stage are examined, it is seen that cigarette use ( $t = -1.01, p > .05$ ) and chronic illness ( $t = -.77, p > .05$ ) are not significant predictors of subjective well-being, whereas psychological ( $t = -3.03, p < .01$ ) and physical ( $t = -2.12, p < .05$ ) trauma history predicts adults' subjective well-being in a negative and significant way. Intolerance of uncertainty was introduced in the third stage, which explained an extra 2% of the variance in subjective well-being ( $R = .45, R^2 = .21, F_{(8-813)} = 26.03, p < .01$ ). In the final stage, incorporating hope into the regression model contributed an additional 15% to the variance in subjective well-being, with all changes in  $R^2$  remaining significant ( $R = .60, R^2 =$

$.36, F_{(9-812)} = 50.15, p < .01$ ). Collectively, all variables explained 36% of the variance in subjective well-being, as shown in Table 3. Even after accounting for intolerance of uncertainty and other independent variables in the final stage, hope continued to be a significant predictor of subjective well-being.

### Discussion

The objective of this cross-sectional study was to assess how intolerance of uncertainty and hope predict subjective well-being in adults, taking into account various demographic and psychological factors. Hierarchical regression analysis was employed to evaluate the influence of different variable sets on subjective well-being. Initial results indicated that income had a significant positive effect on subjective well-being, with individuals possessing higher income generally having better access to resources, healthcare, and opportunities, which enhances their well-being (Diener et al., 2008). Additionally, age emerged as a positive predictor of subjective well-being, with older individuals often focusing on what truly matters to them, leading to increased satisfaction and a sense of fulfillment, thereby improving their well-being (Arslan, 2024b; Gana et al., 2013). In the subsequent stage, a history of psychological and physical trauma was shown to significantly impact subjective well-being negatively. Exposure to stressful events, whether daily challenges or traumatic occurrences, can diminish individuals' happiness and reduce their overall well-being. This finding aligns with previous research on well-being and posttraumatic stress.

**Table 2.** Correlation results

	1	2	3	4	5	6	7	8	9	10
1. Gender	1	-.30**	-.09**	.16**	-.01	-.12**	-.05	.12**	-.13**	-.04
2. Age		1	.22**	-.14**	.05	.06	.22**	-.12**	.18**	.19**
3. Income			1	-.06	-.01	-.04	.03	-.05	.23**	.39**
4. Psychological trauma				1	.28**	.09*	.16**	.05	-.03	-.16**
5. Physical trauma					1	.04	.10**	.04	.00	-.10**
6. Cigarette use						1	.04	-.04	.08*	-.06
7. Chronic illness							1	.03	.04	-.01
8. Intolerance of uncertainty								1	-.19**	-.16**
9. Hope									1	.49**
10. Subjective well-being										1

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

**Table 3.** Hierarchical regression analysis results for subjective well-being

	<i>B</i>	$\beta$	<i>t</i>	<i>p</i>	<i>R</i> <sup>2</sup>	<i>R</i> <sup>2</sup> change	<i>F</i> change
Gender	.24	.03	.90	.366	.17	.17	53.78
Age	.04	.12	3.58	.000			
Income	2.02	.36	11.13	.000			
Gender	.32	.04	1.21	.225	.19	.02	5.84
Age	.04	.12	3.53	.000			
Income	1.99	.36	11.03	.000			
Psychological trauma	-.99	-.10	-3.03	.002			
Physical trauma	-.89	-.07	-2.12	.034			
Cigarette use	-.29	-.03	-1.01	.313			
Chronic illness	-.24	-.02	-.77	.442			
Gender	.41	.05	1.56	.120	.21	.02	16.18
Age	.03	.11	3.16	.002			
Income	1.98	.36	11.07	.000			
Psychological trauma	-.98	-.10	-3.04	.002			
Physical trauma	-.82	-.06	-1.97	.049			
Cigarette use	-.33	-.04	-1.15	.251			
Chronic illness	-.18	-.02	-.57	.567			
Intolerance of uncertainty	-.06	-.13	-4.02	.000			
Gender	.60	.08	2.52	.012	.36	.15	193.77
Age	.02	.07	2.30	.022			
Income	1.52	.27	9.29	.000			
Psychological trauma	-1.00	-.10	-3.45	.001			
Physical trauma	-.82	-.06	-2.19	.029			
Cigarette use	-.59	-.07	-2.29	.022			
Chronic illness	-.23	-.02	-.81	.419			
Intolerance of uncertainty	-.03	-.06	-2.11	.035			
Hope	.21	.41	13.92	.000			

For instance, Karabacak-Çelik (2023) reported that trauma from the February 6, 2023, earthquake in Kahramanmaraş severely affected survivors' well-being. Similarly, Uchida et al. (2014) found negative associations between well-being and posttraumatic stress disorders. Similarly, Ellis (1962) argues that low subjective well-being is caused by the activation of experiences such as family problems, difficulties encountered at work, self-defeating beliefs as well as trauma.

Additionally, hope and intolerance of uncertainty account for a notable portion of the unique variance in subjective well-being, even when other variables are included in the model. Specifically, the inclusion of intolerance of uncertainty in the regression analysis clarified 2% of the variance in subjective well-being. This indicates that intolerance of uncertainty continues to significantly influence subjective well-being after considering other psychological factors such as sociodemographic variables and experiences of physical and psychological trauma. Given the context of adults, it is evident that the persistent uncertainty in both personal and professional aspects of their lives may contribute to decreased quality of life and diminished subjective well-being over time. There is a limited

amount of research directly examining the effect of intolerance of uncertainty on subjective well-being, particularly with different populations such as high school and graduate students (Buyruk-Genç, 2024; Korobka, 2024; Turan, 2019). In addition, studies on this subject have been conducted between various derivatives of subjective well-being (happiness, psychological well-being, well-being, etc.) and intolerance of uncertainty. When the results of these recent studies are examined, it is understood that there are negative and significant relationships between intolerance of uncertainty and happiness and psychological well-being (Dutta et al., 2023; Kayacan & Yılmaz-Bingöl, 2024; Sarıçam, 2014) and intolerance of uncertainty is a negative predictor in this relationship (Arslan et al., 2021; Khodarahimi et al., 2021; Özalp & Ümmet, 2022). The findings of this study align with these previous results, reinforcing the negative association between intolerance of uncertainty and subjective well-being and confirming that intolerance of uncertainty is a negative predictor of well-being. Therefore, it is essential not only to focus on enhancing positive factors but also to develop strategies for managing negative influences such as intolerance of uncertainty to support adult subjective well-being.

Additional findings indicated that hope is positively correlated with higher levels of subjective well-being among adults. Specifically, when hope was included in the regression analysis, it accounted for 15% of the variance in subjective well-being, even after controlling for other relevant factors and intolerance of uncertainty. Our outlook on the future significantly impacts our current emotional state; a grim view of the future can overshadow even positive present experiences. Previous studies have demonstrated that individuals with greater hope tend to experience more happiness (Pleeging et al., 2021). Those with high hope levels possess the resilience to navigate challenges and overcome difficulties, often finding alternative solutions when faced with setbacks. Rather than succumbing to negative emotions when encountering obstacles, hopeful individuals remain focused on their goals and pursue different strategies to achieve them. Thus, hope is considered a crucial personality trait that enhances well-being (Demirtaş et al., 2018). According to Snyder (2002), hope plays a significant role in boosting subjective well-being by facilitating goal-setting and persistence despite potential barriers. Theoretical and empirical research supports the notion that hope is integral to subjective well-being (Bailey et al., 2007; D'Souza et al., 2020; Yıldırım & Arslan, 2022). Variations in hope are recognized as vital to the development of well-being (Ciarrochi et al., 2007). Hope is regarded as both a fundamental aspect of human existence (Kylma, 2005) and a beneficial force that supports well-being (Holdcraft & Williamson, 1991). In this study, hope's impact on subjective well-being was found to be more pronounced compared to other variables. These results suggest that fostering hope could be a key strategy for enhancing subjective well-being among adults.

Further hierarchical regression analyses revealed that both hope and intolerance of uncertainty were significant predictors of subjective well-being, even after controlling for other relevant factors. However, their contributions varied in magnitude. Specifically, hope accounted for 15% of the variance in subjective well-being, whereas intolerance of uncertainty explained only 2%. Notably, hope remained a significant predictor even when accounting for intolerance of uncertainty and other related variables. These findings indicate that both constructs are crucial for understanding subjective well-being, but their impacts differ. Hope appears to be more closely associated with enhancing subjective well-being, while intolerance of uncertainty is linked to diminishing it. Previous research supports these results, highlighting a positive relationship between hope and well-being, suggesting that hope could be a valuable factor in improving well-being (D'Souza et al., 2020; Şahin et al., 2012). Conversely, literature indicates that intolerance of uncertainty negatively impacts well-being and may be detrimental (Arslan et al., 2021; Özalp & Ümmet, 2022). Furthermore, analyses demonstrated that hope uniquely predicts significant variance in subjective well-being beyond the influence of intolerance of uncertainty. Bolelli (2020) found that hope had a substantial and distinctive effect on subjective well-being among Turkish adults, even more so than other positive psychology factors such as optimism, self-efficacy, and psychological resilience. Intolerance of uncertainty was a weaker predictor of subjective well-being compared to hope. Kayacan and Yılmaz-Bingöl (2024) showed that hope had a much greater impact on psychological well-being than intolerance of uncertainty and income. Additionally,

hopefulness in the face of life's uncertainties is frequently linked to enhanced well-being and happiness (Caprara et al., 2010; Yalçın & Malkoç, 2015). In essence, hope serves as a countermeasure to intolerance of uncertainty and significantly boosts well-being (Saleem et al., 2023). These results underscore the importance of fostering hope as a distinct and influential factor in promoting subjective well-being, even after accounting for intolerance of uncertainty and other related elements.

### Limitations and Implications

This study has several limitations that should be considered in future research. Firstly, the data were solely based on self-reported measures, which may introduce bias despite the high reliability and validity of the instruments used. To mitigate this issue, future studies should employ multiple assessment methods to examine the relationships among the variables. Secondly, the cross-sectional design of the study limits the ability to establish causal relationships among the variables. Longitudinal and experimental studies in the future could offer further insights into these associations. Lastly, this study focused only on the cognitive dimension of subjective well-being, specifically life satisfaction, and did not address the emotional dimensions, such as positive and negative emotions. Future research should encompass all dimensions of subjective well-being to provide a more comprehensive understanding.

Beyond these limitations, the study's findings have significant implications for both research and practical applications. The results suggest that intolerance of uncertainty and hope are important predictors of subjective well-being among adults, even after accounting for other relevant factors. Reducing intolerance of uncertainty could be a valuable strategy for enhancing subjective well-being (Dugas et al., 2022; Hebert & Dugas, 2019). It is essential to develop immediate intervention strategies aimed at increasing tolerance for uncertainty to subsequently improve well-being. Additionally, the study found that hope was linked to higher levels of subjective well-being in adults, even when controlling for intolerance of uncertainty and other factors. This indicates that hope is a unique and independent factor contributing to well-being. Interventions designed to boost hope may be particularly beneficial for adults experiencing low subjective well-being (Booker et al., 2021; Murphy, 2023; Pleeging et al., 2021). Moreover, fostering hope can be integral to the therapeutic process for improving mental health and well-being. Further research in this area could provide deeper insights into the mechanisms through which hope affects well-being, thereby informing the development of more targeted interventions. Understanding these mechanisms can lead to more effective and tailored approaches for supporting individuals' mental health and overall well-being.

In terms of research implications, this study highlights several areas that warrant further investigation. First, the distinct roles of cognitive (e.g., hope) and emotional factors (e.g., positive and negative emotions) in predicting subjective well-being should be explored in greater detail. Future studies could examine how these factors interact over time to influence well-being, using longitudinal designs that allow for the exploration of causal relationships. Additionally, while this study controlled for sociodemographic variables, future research could delve deeper into how these variables may moderate the relationships between intolerance of

uncertainty, hope, and subjective well-being. This could involve exploring potential differences across various age groups, cultural contexts, or socioeconomic statuses. Furthermore, the mechanisms through which hope contributes to well-being, such as through resilience or coping strategies, remain underexplored and represent a fertile area for future research. Investigating these mechanisms could lead to more nuanced understandings of how psychological interventions can be tailored to enhance specific components of well-being. Finally, the potential bidirectional relationship between intolerance of uncertainty and subjective well-being could be examined in future studies, as this might provide additional insights into the development of more effective preventive and therapeutic strategies.

The novelty of this study lies in its comprehensive approach to understanding the interplay between hope and intolerance of uncertainty as predictors of subjective well-being, while controlling for a wide range of sociodemographic and psychological variables. Unlike previous studies that have often focused on either hope or intolerance of uncertainty in isolation, this research provides new insights into their relative contributions and interactions in predicting well-being. Moreover, the finding that hope contributes significantly to subjective well-being even when accounting for intolerance of uncertainty and other variables highlights its unique and independent role, which has not been fully explored in earlier studies. This study's results also suggest practical implications for designing interventions that specifically target hope as a key factor in enhancing subjective well-being, particularly in contexts where uncertainty is prevalent.

### Compliance with Ethical Standards

**Disclosure of Potential Conflicts of Interest.** The author declares no conflicts of interest related to the research, authorship and/or publication of this article.

**Funding.** The author has received no financial support for the research, authorship and/or publication of this article.

**Ethical Approval.** All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This research was approved by the Burdur Mehmet Akif Ersoy University Non-Interventional Clinical Research Ethics Committee with the decision number GO 2020/313 at the meeting numbered 2020/12 held on 02/12/2020, in terms of its rationale, purpose, approach and method, and was found to be in accordance with ethical principles and human rights in terms of scope and application.

**Informed Consent.** Consent was obtained from all participants included in the study.

**Data Sharing Statement.** Data is available upon reasonable request.

Received: July 31, 2024

Accepted: October 1, 2024

Published Online: October 2, 2024

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