Intolerance of Uncertainty and Psychological Flexibility Predict Worry in Young Adults

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Abstract

This research purposed to examine the relationship between worry, intolerance of uncertainty, and psychological flexibility in young adults with a university degree, as well as to explore the influence of their demographic characteristics in relation to these variables. Additionally, the study used hierarchical regression analysis to predict participants' level of worry based on these factors. The sample of this correlational research consisted of 425 young adults (339F, 86M). The data of the study were obtained using the Demographic Information Form, the Penn State Worry Questionnaire, the Intolerance of Uncertainty Scale, and the Acceptance and Action Questionnaire-II during the COVID-19 pandemic period. The results of the study revealed that there were significant high-level relationships among the research variables. While participants' worry levels showed significant differences based on gender and monthly family income, their levels of worry did not show significant differences based on age and current employment status. The hierarchical regression analysis conducted using a three-step model revealed that participants' worry levels were predicted gender, intolerance of uncertainty, and psychological flexibility. Intolerance of uncertainty was found to be the most significant predictor of worry accounting for 39.5% of the total variance in worry. Lastly, the findings of the study were discussed and interpreted, and recommendations were provided for following studies.

Keywords: COVID-19, intolerance of uncertainty, psychological flexibility, worry, young adult

Genç Yetişkinlerde Belirsizliğe Tahammülsüzlük ve Psikolojik Esnekliğin Endişeyi Yordaması
Öz

Bu araştırma üniversite mezunu genç yetişkin bireylerin endişe, belirsizliğe tahammülsüzlük ve psikolojik esneklik düzeylerinin demografik değişkenlerle olan ilişkisini incelemeyi ve katılımcıların endişe düzeylerinin değişkenler açısından yordanmasını hiyerarşik regresyon analiziyle test etmeyi amaçlamıştır. İlişkisel araştırma yöntemiyle gerçekleştirilen bu araştırmanın örneklemi toplam 425 genç yetişkin bireyden (339K, 86E) oluşmaktadır. Araştırmanın verileri COVID-19 pandemisi döneminde Demografik Bilgi Formu, Penn Eyalet Endişe Ölçeği, Belirsizliğe Tahammülsüzlük Ölçeği ve Kabul ve Eylem Formu-II kullanılarak elde edilmiştir. Araştırmanın sonucunda, araştırma değişkenlerinin arasındaki ikili ilişkiler incelendiğinde üç değişkenin de birbiriyle yüksek düzeyde anlamlı ilişkisinin olduğu; katılımcıların endişe düzeylerinin, cinsiyete ve aile aylık gelir düzeyine göre anlamlı farklılık gösterirken yaşa ve aktif çalışma durumuna göre anlamlı bir farklılık göstermediği; üç aşamalı modelle yapılan hiyerarşik regresyon analizi sonucunda ise katılımcıların endişe düzeylerini cinsiyet, belirsizliğe tahammülsüzlük ve psikolojik esneklik değişkenlerinin birlikte yordadığı ve bu değişkenlerden endişeyi en iyi açıklayan değişkenin toplam varyansa sağladığı %39,5'lik katkıyla belirsizliğe tahammülsüzlük olduğu sonuçlarına ulaşılmıştır. Son olarak araştırmadan elde edilen bulgular tartışılıp yorumlanarak sonraki çalışmalar için öneriler sunulmuştur.

Anahtar Sözcükler: COVID-19, belirsizliğe tahammülsüzlük, psikolojik esneklik, endişe, genç yetişkin

INTRODUCTION

Individuals go through several stages during their lifetimes, including childhood, adolescence, young adulthood, adulthood, and late adulthood. Each stage has certain developmental tasks that individuals need to accomplish. Havighurst (1972) stated that if individuals fail to overcome these developmental tasks, they will be unhappy in their following life stages and may even be excluded by society. Young adulthood represents the transition from adolescence to adulthood, making it a significant milestone in a person's life (Gönül, 2008; Tanner, 2006). Arnett pointed out that during this period, individuals neither fully eliminate of their dependency from childhood nor fully embrace the responsibilities required by adulthood (Arnett, 2000; Hochberg & Konner, 2020). The common developmental tasks of young adulthood can be categorized into five groups: completing education, gaining independence, getting married, becoming a parent, and obtaining full-time employment (Shanahan et al., 2002). However, nowadays, these milestones are often delayed for young adults, and alongside this, subjective interpretations of adulthood are becoming increasingly significant (Wright & Von Stumm, 2024). In addition to this, the transition to adulthood begins later for individuals today compared to the past, partly due to the extended duration of time spent in education (Atak et al., 2016).

The main developmental task for individuals in young adulthood is typically entering the workforce and securing employment (Eryılmaz & Mutlu, 2017). However, unemployment has become an increasingly significant problem both in Türkiye and worldwide. The group most affected by this problem is undoubtedly young people (Bedel, 2014). According to the Turkish Statistical Institute (TÜİK, 2024), the youth unemployment rate among the 15-24 age group in June 2024 was 14.8% for males and 23.2% for females, making a total of 17.6% in the overall youth population. In relation to the youth unemployment problem, each year, over 2.5 million students in Türkiye take university entrance exams, aiming to pursue higher education for specialized qualifications and to enhance their competitiveness in the job market (Kıçır, 2017; ÖSYM, 2024). According to current data, a total of 208 universities are conducting educational activities in Türkiye (Higher Education Information Management System [YBYS], 2024). A total of 961,194 students graduated from undergraduate and associate degree programs in the 2022-2023 academic year (YBYS, 2024). However, statistical data shows that unemployment rates among young adult individuals with higher education degrees are notably high (Surat & Ceran, 2020).

People facing various challenges often need to understand their circumstances, explore potential actions they can take, and consider the possible outcomes of their choices (Karataş & Uzun, 2018). Uncertainty, can be defined as the inability to predict the outcomes of an event, situation, or behavior, which can be especially challenging for individuals who have difficulty tolerating ambiguity (Sarı, 2007). Intolerance of uncertainty has been specified as a predisposition to perceive uncertain situations, information, or events negatively, without taking into account possibilities and outcomes (Ladouceur et al., 1998; Ladouceur et al., 2000). Individuals who have high intolerance of uncertainty are more vulnerable to a range of psychological disorders such as depression, anxiety, stress, and worry (Andrews et al., 2023; Grupe & Nitschke, 2013; Lin et al., 2024; Mantzios et al., 2014), and high levels of worry are particularly closely related to this condition (Adamis et al., 2024; Koerner & Dugas, 2006). Individuals who cannot tolerate the uncertainty, perceive uncertainty as stressful, distressing, and worry-provoking, and they have a strong belief that uncertainty is an unfavorable thing and should absolutely be avoided (Buhr & Dugas, 2006). Individuals with such negative thoughts and intolerance of uncertainty tend to avoid situations that may create uncertainty and motivate themselves by avoiding such situations (Bavolar et al., 2021; Mantzios et al., 2014; Newman & Llera, 2011). When faced with situations involving uncertainty, these individuals tend to respond with negative emotional, cognitive, and behavioral reactions and exhibit experiential avoidance (Newman & Llera, 2011; Roemer et al., 2005; Sahib, 2023).

Experiential avoidance can be specified as an individual's effort to avoid or distance themselves from internal experiences such as emotions, thoughts, memories, and images (Hayes et al., 2012). Given that experiential avoidance is a key aspect of psychological flexibility, central to Acceptance and Commitment Therapy (ACT) (Harris, 2019; Hayes et al., 2012), it can be inferred that avoidance behaviors are associated with low psychological flexibility. There are also studies indicating that experiential avoidance increases the severity of worry and transforms worry from a pervasive cognitive activity into a pathological experience (Roemer et al., 2005). The fundamental aim of ACT is to help individuals accept their internal experiences and personal values without disconnecting from the present moment and to act in accordance with what is important to them (Harris, 2019). In light of this information, individuals with high psychological flexibility are able to tolerate uncertainty, and they are more resilient against psychological disorders such as high levels of worry, anxiety and depression. In this regard, particularly for young adult individuals who have completed their university education, fulfilling

developmental tasks such as completing their education, getting married, becoming parents, and having a full-time job (Atak et al., 2016) will make their lives more meaningful and valuable.

Studies considering the relationship between worry, intolerance of uncertainty, and psychological flexibility in young adults have mostly emerged during the COVID-19 pandemic. This can be attributed to the uncertainty experienced by most individuals during the pandemic (Adamis et al., 2024; Smith et al., 2020). Demographic factors, including age, gender, socioeconomic status, and education level have been examined in relation to their responses to the pandemic (Bayhan & Bozkurt, 2021). The uncertainties arising from the pandemic have led to increased levels of worry among individuals. Research indicates that young adults are more negatively affected by the pandemic compared to other age groups (Acar, 2020; Bayhan & Bozkurt, 2021; Tarhan, 2020). Furthermore, individuals with lower income and education levels, often categorized as disadvantaged groups, along with women, are considered to be at higher risk during this period. (Bozkurt, 2020). Moreover, the mandatory restrictions implemented during the pandemic have slowed down countries' economic growth, resulting in increased unemployment rates and consequently exacerbating youth unemployment. This, in turn, has led to increased levels of depression and worry among young adult individuals regarding their future (Bayhan & Bozkurt, 2021). Psychological flexibility is positively associated with individuals' well-being, and research on psychological flexibility during the COVID-19 pandemic demonstrates that individuals' psychological flexibility skills play a critical role in coping with depression, worry, and other challenges brought by the pandemic (Dawson & Golijani-Moghaddam, 2020; Prudenzi et al., 2022; Tolan & Uğur, 2021). A review of the relevant literature reveals that while young adults' demographic characteristics, worry, intolerance of uncertainty, and psychological flexibility levels have been investigated individually or in pairs, no study has been identified that examines these factors collectively. In this respect, examining the relationship between demographic variables, worry, intolerance of uncertainty, and psychological flexibility in university-educated young adults is important, particularly given that they are in a significant stage in their lives. In this regard, this study focuses on data obtained from university graduate young adults during the COVID-19 pandemic, providing valuable insights into these relationships under unique and stressful conditions. The findings of this study will contribute to research as well as mental health services for young adults both from developmental and preventive perspectives. The research questions in this study, which examine the relationships among intolerance of uncertainty, psychological flexibility, and worry in university-educated young adults, are as follows:

1. Is there a significant relationship among worry, intolerance of uncertainty, and psychological flexibility levels in university-educated young adults?
2. Do the worry levels of university-educated young adults show significant differences based on demographic variables?
3. Does the combination of demographic variables, intolerance of uncertainty levels, and psychological flexibility levels significantly predict the university-educated young adults' worry levels?

METHOD

Research Design and Sample

This correlational study, designed to investigate the relationships among intolerance of uncertainty, psychological flexibility, and worry, employed convenience sampling method. Convenience sampling involves starting the sample selection with the most accessible participants until the desired sample size is reached (Cohen et al., 2007). The sample of this study consists of young adult individuals who graduated from a state university in 2019 and 2020 (N=411). Out of the participants, 328 (80%) are female, and 83 (20%) are male. The ages of the participants range from 20 to 50 (M=24.12, SD=3.09). Among the participants, 90 (21.9%) hold an associate degree, and 321 (78.1%) hold a bachelor's degree, representing 15 different faculties and 8 different vocational schools of the respective university. Of the participants, 123 (29.9%) graduated in 2019, 288 (70.1%) in 2020, with 389 (94.6%) identifying as single and 22 (5.4%) as married.

Data Collection Process and Data Collection Tools

The data gathered during the COVID-19 pandemic, a period when individuals experienced intense feelings of uncertainty and worry that deeply affected the world. Prior to commencing the data collection, ethical approval was obtained from the Ethics Committee for Human Research in Social Sciences of related university, then an online data collection package, including a demographic information form and scale items, was created. The package was disseminated to individuals who graduated in 2019-2020 through the university's distance education center and information technology center via email and messages, and data were collected from voluntary

participants in the first and second weeks of April 2021. It took approximately 10 minutes for each participant to respond to the questions in the data package. Four different tools for data collection were used in this research.

Demographic Information Form. It is a form that includes information such as age, gender, marital status, faculty, department, graduation year, income level, and information related to work life. This form has been created by the researchers.

Penn State Worry Questionnaire (PSWQ). This questionnaire was developed by Meyer et al. (1990), reevaluated by Molina and Borkovec (1994), and translated and adapted into Turkish by Yılmaz et al. (2008). Permission was obtained from the researchers to use the scale. The scale is a 5-point Likert-type scale (1=never true for me and 5=always true for me), consisting of 16 items. Eleven items (2, 4, 5, 6, 7, 9, 12, 13, 14, 15, and 16) are positively scored, while five items (1, 3, 8, 10, and 11) are negatively scored, representing higher levels of pathological worry (Boysan et al., 2008). The minimum score that can be gathered from this scale is 16, while the maximum score is 80. The translation and adaptation of the scale into Turkish were tested with a non-clinical sample of 561 participants. During the process of adapting the scale into Turkish, the researchers found a two-factor structure. The first factor (excessive worry) consists of the positively scored 11 items, while the second factor (absence of worry) consists of the reverse-coded five items. The Cronbach's alpha coefficient for the entire Turkish version of the scale was found to be .91, while it was .92 for the excessive worry subscale and .68 for the absence of worry subscale. In the analysis conducted using the data obtained from the research sample, the Cronbach's alpha coefficient for the entire scale was found to be .94.

Intolerance of Uncertainty Scale Short Form (IUS-12). The original form of the scale, consisting of 27 items, was developed by Freeston et al. (1994). However, a short form consisting of 12 items (IUS-12) was later developed by Carleton et al. (2007) and the short form of this scale adapted into Turkish by Sarıçam et al. (2014). Permission was obtained from the researchers for the use of the scale. The scale comprises 12 items and 2 subscales (Prospective Anxiety and Inhibitory Anxiety) and is a 5-point Likert-type scale (1=Not suitable for me at all, 5=Completely suitable for me). There are no reverse-coded items in the scale. The Cronbach's alpha coefficient for internal consistency was found to be .88 for the entire scale, .84 for the Prospective Anxiety subscale, and .77 for the Inhibitory Anxiety subscale. The test-retest correlation coefficient was .74. A low score on the scale indicates low intolerance of uncertainty, while a high score points out high intolerance of uncertainty (Sarıçam et al., 2014). In the analysis conducted based on the data obtained from the research sample, the Cronbach's alpha coefficient for the entire form was found to be .91

Acceptance Action Questionnaire-II (AAQ-II). This questionnaire developed by Bond et al. (2011) and adapted into Turkish by Yavuz et al. (2016), was used. Permission was obtained from the researchers for the use of the scale. The scale consists of 7 items and a single dimension and is a 7-point Likert-type scale (1: Never true, 7: Always true). The scale measures individuals' level of psychological flexibility, and a high score indicates high psychological inflexibility, while a low score points out high psychological flexibility. The internal consistency coefficient of the scale was .84, and the test-retest reliability coefficient was .85 (Yavuz et al., 2016). In the analysis conducted based on the data obtained from the research sample, the Cronbach's alpha coefficient for the entire form was found to be .90.

Data Analysis

After the application of the scales, the data sets were analyzed using the IBM SPSS 26.00 software package. Prior to data analysis, data entries were checked, reverse items in the scales were identified and recoded, missing data and outliers in the obtained data sets were examined, and the normality of the data distribution was tested. Based on the assumption tests conducted, no missing data were found, allowing the analysis to proceed with the available data. Subsequently, outlier analysis was conducted, and outliers were identified in items 1 and 2 of IUS-12 and items 9 and 10 of PSWQ. As a result, 14 participants (218, 241, 289, 294, 372, 374, 376, 381, 395, 406, 410, 418, 419, 422) with outlier values were excluded from the sample among 425 participants (N=411). After removing the outliers, the skewness and kurtosis values were examined in the normality analysis. The values were found to be within the appropriate reference ranges, indicating that the data exhibited a normal distribution and met the assumption of normality. Therefore, the decision was made to use parametric tests.

In the study, descriptive statistical tables were used. Descriptive statistics were conducted for the dependent variable of worry and its relationship with demographic variables, using independent samples t-test and one-way analysis of variance (ANOVA), and the obtained values were interpreted. The relationships among the variables of the study were examined using Pearson correlation analysis. To investigate the predictive effect of demographic variables and independent variables on the dependent variable, a hierarchical regression analysis was

conducted, which allows for a multidimensional examination of the relationship between variables based on the theoretical framework (Büyüköztürk, 2020; Tabachnick & Fidell, 2019). Prior to the hierarchical regression analysis, the suitability of the data set for analysis was evaluated. According to Tabachnick and Fidell (2019), the assumptions required for hierarchical regression analysis are the same as other forms of regression analysis. After testing the necessary assumptions and confirming that the data set is suitable for hierarchical regression analysis, the analysis was conducted. During the hierarchical regression analysis, conducted in three models, demographic variables and independent variables were included in the analysis in a theoretically appropriate order. In the first model, demographic variables, which are the fundamental variables predicting worry, were included in the model. In the second model, uncertainty intolerance variable, which was predicted to have a high contribution to the explained variance since it is closely related to worry, was included while keeping the demographic variables constant. In the final model, the first two groups of variables were held constant, and the psychological flexibility variable, which was hypothesized to be less related to worry than uncertainty intolerance, was added to the model to complete the hierarchical regression analysis.

FINDINGS

Findings Regarding Descriptive Statistics and Correlations of Variables

The relationship between scores obtained by young adult individuals with university education in PSWQ, IUS-12, and AAQ-II was tested using the Pearson Correlation Analysis method. Independent samples t-test analysis was aimed to explore whether there is a significant difference in the worry levels of university graduate young adult individuals between male and female individuals, among individuals in the age ranges of 20-23 and 23+ (since the average age of graduation from university in our country is generally 23, the age groups were grouped as 20-23 and 23+ based on the data gathered from the demographic information form), and between actively employed and unemployed individuals (although the data gathered from the demographic information form was categorized into three categories as "Yes/Full-time" (N=88), "Yes/Part-time" (N=25), and "No" (N=298) for the ANOVA analysis, the first two groups were combined due to insufficient sample size in the first two groups for ANOVA analysis, resulting in two groups as "Yes (Employed)" and the last group remained the same as "No (Unemployed)").

The findings related to the Pearson Correlation analysis and analysis of the t-test for independent samples are presented in Table 1, indicating whether there is a significant difference in the worry levels of university-educated young adults according to monthly income level of their families. The findings of the ANOVA (One-way) test analysis are showed in Table 2.

Table 1. Descriptive Statistics and Correlations of Variables

Variable		N	X̄	S	sd	t	p	1	2	3
1.PSWQ								1	.647**	.632**
2.IUS-12								.647**	1	.519**
3.AAQ-II								.632**	.519**	1
Gender	Female	328	52.17	13.98						
	Male	83	46.34	14.62	409	3.270	.001**			
Age	20-23	187	51.36	14.63						
	23+	224	50.69	14.03	409	.487	.633			
Working Status	Yes	113	3.07	.90						
	No	298	3.22	.88	409	-1.52	.128			
Family Monthly Income	0-1 (MMW)	92	52.54	13.08						
	1-2(MMW)	204	51.43	14.14	409					
	2-3(MMW)	74	51.12	15.04						
	4+ (MMW)	36	44.36	15.32						

**p<0.01, MMW: Minimum monthly wage

When Table 1 is examined, there are significant positive relationships at a high level between all three variables. Also, there is a significant difference in the levels of worry of young adult individuals with university education is observed based on gender, t (409) = 3.270, p <.05. The worry levels of young adult women with university education (M = 52.17) are higher than the worry levels of young adult men with university education (M = 46.34). Furthermore, when Table 1 is examined, it is noticed that there is no significant difference in the worry levels of young adult individuals with university education based on age, t (409) = .487, p> .05, and employment status, t (409) =-1.52, p > .05.

Table 2. ANOVA and Gabriel Test Results of PSWQ Scores by Individual's Family Income Level

Source of Variance	Sum of Squares	Degree of Freedom (dF)	Mean of Squares	F	p	Gabriel Test
Between the Groups	1844.016	3	614.672	3.053	.028*	.017 (1-4) .018 (2-4)
within the Groups	81949.984	407	201.351			
Total	83794.000	410				

*p<.05

When Tables 1 and 2 are examined, a significant difference is observed in the worry levels of university-educated young adult individuals based on their families' income levels (F (3,407) = 3.053, p < .05). To determine the source of this difference between groups, the Gabriel Test was conducted. The results showed that individuals from the lowest family income (0-1) have higher levels of worry (M = 52.54) compared to individuals from the highest family income (4+) (M = 44.36). Similarly, individuals from lower income family (1-2) also have higher levels of worry (M= 51.42) compared to individuals from the highest family income (4+) (M = 44.36).

Findings on Whether the Demographic Characteristics, Intolerance of Uncertainty, and Psychological Flexibility Significantly Predict the Worry Levels of Young Adults

Hierarchical regression analysis was conducted to examine the multidimensional relationship between the variables that predict the worry levels of young adult individuals who have graduated from university, based on a theoretical framework. The findings of the hierarchical regression analysis, which were conducted in three stages, are presented in Table 3.

Table 3. Hierarchical Regression Analysis Results Regarding the Prediction of University Graduate Young Adult Individuals' Worry Levels

Variables	B	β	t	p	F	p	R^2	Adjusted R^2
Model 1					3.59	.004*	.042	.030
Constant	60.09		10.87	.000**				
Gender	-5.26	-.148	-2.99	.003*				
Marital Status	-2.17	-.034	-.669	.504				
Age	.263	.009	.185	.854				
Family Monthly Income	-1.42	-.086	-1.64	.100				
Active Working	.864	.050	.959	.338				
Model 2					52.30	.000**	.437	.429
Constant	22.25		4.63	.000**				
Gender	-3.89	-.109	-2.88	.004*				
Marital Status	-1.95	-.031	-.783	.434				
Age	.048	.002	.044	.965				
Family Monthly Income	-.317	-.019	-.475	.635				

Active Working	.708	.041	1.02	.307				
IUS-12	.868	.634	16.84	.000**				
Model 3					70.55	.000**	.551	.543
Constant	16.77		3.87	.000**				
Gender	-3.22	-.091	-2.66	.008*				
Marital Status	-1.74	-.027	-.780	.436				
Age	.537	.019	.549	.583				
Family Monthly Income	.177	.011	.296	.768				
Active Working	.755	.044	1.22	.223				
IUS-12	.592	.433	11.05	.000**				
AAQ-II	.561	.397	10.08	.000**				

* p<01   **p<.001

When Table 3 is examined, it can be seen that the F and p values of Model 1 are statistically significant (F (5,410) = 3.55; p < .01). In explaining the worry levels of young adult individuals with a university degree, it was concluded that only gender (β = -.148; p < .01) had a significant contribution among demographic variables, explaining 3% of the total variance (R^2 = .030). Model 2, created by adding the intolerance of uncertainty variable to Model 1, is statistically significant (F (6,410) = 52.30; p < .001). When the variables in Model 1 are controlled, it can be observed that the intolerance of uncertainty variable added to Model 2 contributes to 39.5% of the previously explained variance in individuals' worry levels, thus increasing the total explained variance to 43% (R^2 = .429). When the variables in Model 2 are examined, it can be seen that the intolerance of uncertainty variable added in the 2nd Model has a significant predictive effect on worry (β = .634; p < .001), and the gender variable continues to have a significant predictive effect in Model 2 (β = -.109; p < .01). Model 3, created by adding the psychological flexibility/rigidity variable to Model 2, is statistically significant (F (7,410) = 70.55; p < .001). When the effects of demographic variables and the intolerance of uncertainty variable on worry in Model 2 are controlled, it can be observed that the psychological flexibility/rigidity variable added to Model 3 contributes 7.2% to the total variance of worry, increasing the explained total variance to 54% (R^2 = .543). When the variables in Model 3 are examined, it can be seen that the gender (β = -.091; p < .01) and intolerance of uncertainty (β = .433; p < .001) variables continue to have a significant predictive effect in Model 3. In Analysis 3, it is observed that the psychological flexibility/rigidity variable added to the analysis also has a significant predictive effect on worry (β = .397; p < .001). When the three models are examined together, a positive and significant relationship is found between individuals' worry levels, their intolerance of uncertainty, and their level of psychological flexibility/rigidity. Among the variables, intolerance of uncertainty makes the best contribution to explaining worry, accounting for 39.5% of the total variance.

DISCUSSION

This study aimed to explore the relationship among worry, intolerance of uncertainty, and psychological flexibility levels of university-educated young adult individuals with demographic variables, and to test the prediction of participants' worry levels in terms of these variables through hierarchical regression analysis. The results of the study show that worry, intolerance of uncertainty, and psychological flexibility levels of young adults significantly predict each other and demonstrate the presence of strong relationships among these variables. According to the analyses, there is a high level of positive and significant relationship between intolerance of uncertainty levels and worry levels of university graduate young adults, and intolerance of uncertainty is found to be a significant predictor of individuals' worry levels. In other words, participants with high intolerance of uncertainty also have high levels of worry. Similarly, there is a high level of positive and significant relationship between intolerance of uncertainty levels and psychological inflexibility levels of participants, and psychological flexibility is found to be a significant predictor of individuals' worry levels. In other words, university graduate young adult individuals with high intolerance of uncertainty have high levels of psychological inflexibility and low levels of psychological flexibility. Lastly, there is a high level of positive and significant relationship between

psychological inflexibility levels and worry levels of participants, and psychological flexibility is found to be a significant predictor of individuals' worry levels. In other words, university graduate young adult individuals with high psychological inflexibility also have high levels of worry. Finally, the outcomes of the current study are consistent with the findings in the literature.

In addition, when examining the relationship between worry levels and demographic characteristics of university-educated young adult individuals, research results show that there is a significant difference in worry levels between male and female individuals among university graduates. The study found that worry levels were higher in women who were compared to men. These findings are largely consistent with the information presented in the literature. For example, a study examining the worry levels of young adult individuals in terms of various variables stated that women experience more worry than men (Hunt et al., 2003). Similar results can be observed in other studies that examine worry in individuals in terms of various variables and gender (Gonçalves & Byrne, 2013; Gould & Edelstein, 2010; Lindesay et al., 2006; Schoeps et al., 2022), which are like the findings of the current study. Furthermore, another study indicated that young adult women experience more worry than men, and even more than older adult women (Gould & Edelstein, 2010).

The results of this study demonstrate that worry levels of university-educated young adult individuals do not significantly differ according to age. The reason for this may be due to the relatively narrow sample of the current study, consisting of individuals whose ages are relatively close to each other, contrary to the findings of most similar studies in the literature that focus on this relationship. As with the age variable, it has been found that the worry levels of young adult individuals with a university degree do not significantly differ based on their active employment status. Considering that the research data were collected during the COVID-19 pandemic, this result becomes even more interesting. This is because the mandatory restrictions applied during the COVID-19 pandemic have led to a contraction in the labor market, an increase in unemployment rates, and consequently an increase in youth unemployment. This situation has resulted in an increase in depression and worry levels related to the future for young adult individuals (Bayhan & Bozkurt, 2021; Prime et al., 2020). Another reason for the lack of significant differentiation in worry levels of participants' employment status may be the composition of the research sample. The sample consists of young adults who have graduated from university and have been unemployed for a relatively short period. Additionally, although there are studies in the literature that indicate individuals experience worry and uncertainty because of the unemployment during the COVID-19 pandemic (Bayhan & Bozkurt, 2021; Godinic et al., 2020), it should be kept in mind that individuals experienced more worry and uncertainty regarding health issues during this process (Puci et al., 2020). Lastly, regarding demographic variables, it is observed that the worry levels of the participants significantly differ based on the monthly income level of their families. Numerous studies in the literature that support the notion that individuals with lower income are more anxious compared to those with higher income (Bracke et al., 2013; Drentea, 2000; Patler & Laster Pirtle, 2018; Wolbers, 2003), which is also in accordance with the findings of this study.

The study found that worry levels among young adults with university education were significantly influenced by demographic factors, intolerance of uncertainty, and psychological flexibility. The hierarchical regression analysis revealed that among the demographic variables including gender, age, family income status, and current employment, only gender had a significant contribution (3%) in explaining the worry levels of young adult individuals with university education. There was a significant positive relationship among individuals' worry levels and their intolerance of uncertainty as well as their levels of psychological flexibility/rigidity. Intolerance of uncertainty was found to be the most significant predictor (39.5%) contributing to the explained total variance and worry levels. The findings of the conducted hierarchical regression analysis largely align with the literature and expected results. Also, it was unexpected that the participants' worry levels did not significantly differ based on their current employment status, as stated in both the t- test results and the hierarchical regression analysis, even when considering other demographic variables.

In conclusion, it was observed that the three variables included in this study (worry, intolerance of uncertainty, and psychological flexibility/rigidity) have a high significant relationship with each other. While participants' worry levels showed significant differences based on gender and monthly family income level, they did not show significant differences based on age and current employment status. Participants' worry levels were collectively predicted by gender, intolerance of uncertainty, and psychological flexibility variables, with intolerance of uncertainty being the best predictor among these variables.

This study should not be considered without its limitations and some recommendations. The limitations of the study include the limited age variations due to the sample consisting of 411 young adults who graduated from a state university only in the years of 2019-2020. Therefore, the results cannot be generalized to all young

adult university graduates. Additionally, the study was based on a correlational design using only the variables included in the research, and the data were collected during the COVID-19 period. Considering these limitations, it should be noted that more generalizable results can be obtained in future studies. Furthermore, a quantitative method was employed in the current research, which examined the relationship among demographic variables, worry, intolerance of uncertainty, and psychological flexibility. In this context, qualitative research could be focused to examine the emotions, thoughts, and experiences of university graduate young adults in detail during the data collection process. Alternatively, experimental studies could be conducted with a sample group characterized by high levels of worry and intolerance of uncertainty, in which a psycho-educational program aimed at enhancing psychological flexibility skills is implemented and its effectiveness is tested. Finally, based on the results of this study, professionals working with young adults can conduct studies, particularly targeting the reduction of worry levels in women. Specifically, psycho-educational programs based on Cognitive-Behavioral Therapy (CBT) and Acceptance and Commitment Therapy (ACT) that focus on coping strategies, which have been proven effective in previous research, can be developed and implemented. Mental health professionals can utilize CBT-based intervention approaches that have been proven effective in this field to increase individuals' tolerance of uncertainty and reduce worry levels, both during and after the COVID-19 pandemic or in the event of any future global outbreak.

Last but not the least in a broader context, institutions should aim to develop individuals with clear values, greater psychological flexibility, higher tolerance for uncertainty, and effective coping skills for worry as they graduate from the university and enter the workforce. To achieve this, systematic preventive and empowering activities can be implemented throughout the entire education life, starting from the preschool. These educational activities should continue during primary, secondary and higher education systems with the support of school counselors and counseling centers at universities.

Researchers' Contribution Rate

Authors	Literature review	Method	Data Collection	Data Analysis	Results	Conclusion
Author 1's name	☒	☒	☒	☒	☒	☒
Author 2's name	☐	☒	☒	☐	☒	☒

Statements of Publication Ethics

Ethical Committee Approval Letter was given by Bolu Abant Izzet Baysal University Ethics Committee On Human Research in Social Sciences issued with 2020/320 on the date of 24.12.2020.

Conflict of Interest

The authors have no conflicts of interest to disclose.

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