

THE EFFECT OF INTOLERANCE TO UNCERTAINTY ON WORRY DURING THE COVID-19 PANDEMIC PERIOD

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Abstract

The new coronavirus-2019 (COVID-19) epidemic has affected many countries with the increasing number of COVID-19 cases and has become a global epidemic. It is important to investigate the factors that affect people's worries in this unique global situation. In this study, it was aimed to determine the relationship between intolerance of uncertainty and worry in the COVID-19 pandemic period. Survey data were obtained from a sample of 3869 individuals working in different companies and departments with different job types. Data were analyzed by Structure Equation Modeling (SEM) using Amos 22 statistical program to test the hypothesized model. According to the results of this study, it was revealed that the two dimensions of intolerance of uncertainty are significantly related to worry, whereas the other two dimensions of intolerance of uncertainty are not. In addition, some age generations were discussed, and it was revealed that generation Z participants experienced more worry than generation X participants.

Keywords: COVID-19, intolerance of uncertainty, worry, age generations

Özet

Yeni koronavirüs-2019 (COVID-19) salgını, artan COVID-19 vaka sayısı ile birçok ülkeyi etkisi altına almış ve küresel bir salgın haline gelmiştir. Bu eşsiz küresel durumda insanların endişelerini etkileyen faktörlerin araştırılması önemlidir. Bu çalışmada, COVID-19 pandemi döneminde belirsizliğe tahammülsüzlük ile endişe arasındaki ilişkinin belirlenmesi amaçlanmıştır. Anket verileri, farklı iş türlerine sahip farklı şirket ve departmanlarda çalışan 3869 kişiden oluşan bir örneklemden elde edilmiştir. Veriler, varsayılan modeli test etmek için Amos 22 istatistik programı kullanılarak Yapı Denklem Modellemesi (SEM) ile analiz edildi. Bu çalışmanın sonuçlarına göre, belirsizliğe tahammülsüzlüğün iki boyutunun endişe ile önemli ölçüde ilişkili olduğu, diğer iki belirsizliğe tahammülsüzlüğün ise ilişkili olmadığı ortaya çıkmıştır. Ayrıca bazı yaş kuşakları tartışılmış ve Z kuşağı katılımcılarının X kuşağı katılımcılarına göre daha fazla endişe yaşadıkları ortaya çıkmıştır.

Anahtar Kelimeler: COVID-19, belirsizliğe tahammülsüzlük, endişe, kuşaklar

1. INTRODUCTION

With the new coronavirus 2019 (COVID-19) epidemic that affected the world, a number of public health measures such as lockdowns, social distancing, mask wearing, and travel limitations were imposed on the countries by the governments to minimize the spread of the virus. Government policies are shaped by the number of Covid-19 cases day by day, and people may face different restrictions every day. In addition, since the risk of getting infected with the virus and infecting others continues, they have to live with this risk and uncertainty at any time. Increasing uncertainty environment causes serious changes in people's daily routines (Satici et. al, 2020). The environment of uncertainty that people experience can trigger their feelings of anxiety, and while some hold positive beliefs about anxiety in this uncertainty environment, others hold negative beliefs. According to Fergus (2013), intolerance to uncertainty is fear in which the unknown is perceived intensely, and emotional difficulties are experienced and more affected and sensitive to situations that result in anxiety. In this point of view, intolerance of uncertainty is considered a potential risk factor of anxiety disorders (Morris et al. 2016). We assume that inability to tolerate uncertainty may positively affect worry.

The aim of this study is to determine the relationship between intolerance in the face of uncertainty which is an important context during pandemic and the positive and negative beliefs of worry. In addition, this study aimed to investigate whether intolerance of uncertainty is a predictor of worry. Furthermore, it was aimed to determine whether there is a difference between the intolerance in the face of uncertainty and worry of participants based on the age generations.

When the literature is examined, it is seen that there are limited studies on intolerance of uncertainty. Since this study examines the relationship between the dimensions of intolerance to uncertainty and worry, it can shed light on the future studies in this field. At the same time, it is different in terms of revealing the difference between the worry levels and intolerance of uncertainty experienced by age groups during the pandemic period.

2. LITERATURE REVIEW, HYPOTHESIS AND THE MODEL

2.1 Intolerance of Uncertainty

A pluralistic situation where there is insufficient information to find a solution is expressed as uncertainty. Intolerance to uncertainty is a broad construct which represents cognitive, emotional, and behavioral reactions to uncertainty in situations people experienced in daily life (Freeston et al., 1994). It is defined as “a dispositional characteristic that reflects a set of negative beliefs about uncertainty and its implications” (Birrell, Meares, Wilkinson, & Freeston, 2011). An extreme tendency for an individual to think unacceptably that a negative event may occur, or the belief that there is a small probability for this situation to be occurred defined as “intolerance to uncertainty”. From this definition it is understood that an individual who is intolerant of uncertainty will find life which is full of uncertainty and frivolousness in many ways irresistible (Buhr & Dugas, 2002). Researches state that intolerance of uncertainty may have an important role in explaining and understanding worry (Freeston et al., 1994). Intolerance to uncertainty has been gathered under four dimensions in the study conducted by Sarı and Dağ (2009). These dimensions are as follows: uncertainty is stressful and sad; negative self-assessments about uncertainty; it is disturbing not knowing the future; and uncertainty prevents me from taking action. These dimensions of intolerance of uncertainty include cognitive, affective and behavioral processes in individuals as Freeston et al. defined in 1994. Intolerance of uncertainty makes people feel negative affectivity, tendency towards negative problem orientation, and causes low flexibility while increasing coping strategies, such as anxiety, to reduce the negative impact of the individual (DeSerisy et.al, 2020).

2.2 Worry

Worry is a common experience for all people. Everyone experiences a feeling of worry at some stage of their life. Worry is defined as “talking to ourselves a lot about negative things, most often about negative events that we are afraid might happen in the future” (Borkovec, Ray, & Stöber, 1998). Another definition is that worry is a “chain of thoughts and images, negatively affect laden and relatively uncontrollable”. Worry is predominantly found in verbal thought activity, acts as a cognitive avoidance and prevents emotional processing (Britton et.al, 2019). Worry may have positive consequences and also negative consequences. If worry is considered as a coping strategy, it can be stated that worry prevents negative things from happening, prepares for the worst possibility, and distances them from more emotional issues. Fergus, Valentiner, Wu, & McGrath (2015) found in a clinical sample that

negative problem orientation explained unique variance in worry, social anxiety and depression (as cited in Groves et.al, 2019). On the other hand, it can be thought that worry will create pressure on the person, affect their problems and affect their performance negatively (Sarı & Dağ, 2009). Studies conducted by Francis & Dugas, 2004 and Hebert et al. (2014) found that positive beliefs about worry explained unique variance in worry, beyond that accounted for by anxiety and depression (as cited in Groves et.al, 2019). Those who have more positive and negative beliefs about the consequences of worry are also more prone to worry (Dugas & Ladouceur, 2000).

2.3 Relationship between intolerance of uncertainty and worry

Intolerance to uncertainty is considered an important predictor of worry and is the tendency to interpret uncertain situations negatively (Birrell, Meares, Wilkinson, & Freeston, 2011). Worry is defined as the concern experienced by individuals against future negative events surrounded by uncertainty. It can be thought of as a mental action that individuals think about the situation and possible outcomes, whereas intolerance to uncertainty can be described as a filter that individuals see their environment and can be defined as a tendency to find uncertainty unacceptable (Buhr & Dugas, 2002). Cognitive models show that worry increases too much if there is intolerance to uncertainty (Thielsch, Andor & Ehling, 2015), and intolerance to uncertainty has a causal effect on worry and the relationship has been shown experimentally in some researches (Britton et.al, 2019). Earlier studies stated that there was evidence of association between intolerance of uncertainty and worry and it is established that those who worry more have some characteristic features compared to those who do not. Worriers will have much more difficulties in tolerating uncertainty when they encounter uncertain situations and they will have a higher tendency to perceive this situation negatively. In another study it was found that on intolerance of uncertainty found that uncertainty is an important construct involved in worry. Similar to these findings another study established that intolerance of uncertainty was the most salient predictor of worry above positive beliefs about worry, cognitive avoidance and negative problem orientation (Buhr & Dugas, 2002). The existence of a strong relationship between intolerance to uncertainty and worry is supported by these studies and they shed light on future studies. In short, if a person sees uncertainty as unacceptable, anxiety level may rise excessively when he/she faced with uncertainty. In this sense, intolerance of uncertainty may be a predictor of worry.

Hypotheses and the Model

Based on the literature review, the hypotheses of the current study are listed below:

- Hypothesis 1. There is a significant positive relationship between “uncertainty is stressful and sad” dimension of intolerance to uncertainty and worry.
- Hypothesis 2. There is a significant positive relationship between “negative self-assessments about uncertainty” dimension of intolerance to uncertainty and worry.
- Hypothesis 3. There is a significant positive relationship between “disturbing not knowing the future” dimension of intolerance to uncertainty and worry.
- Hypothesis 4. There is a significant positive relationship between “uncertainty prevents me from taking action” dimension of intolerance to uncertainty and worry.

The current study was designed to investigate the impact of intolerance to uncertainty on worry. The conceptual model of the study is shown in the Figure 1.

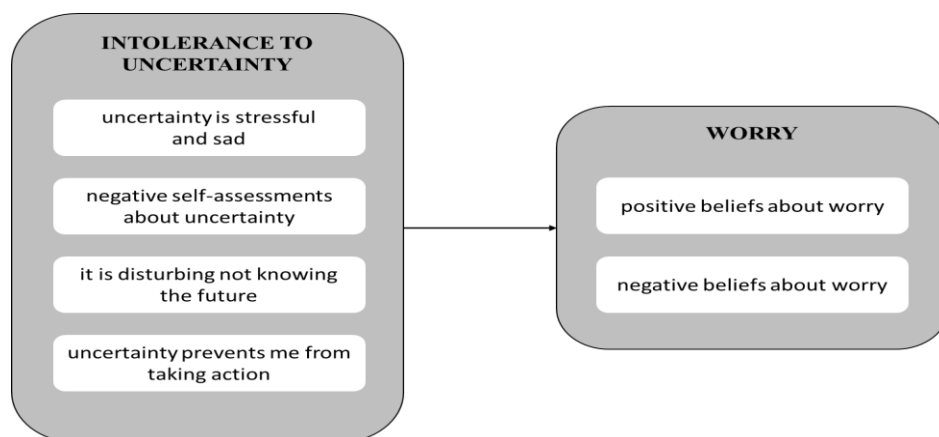


Figure 1: Conceptual Model

As can be seen, Figure 1 presents the conceptual model specifying the impact of intolerance to uncertainty dimensions on worry.

3.METHODOLOGY

3.1 Sample and Procedure

The population of the study consists of people over the age of 18 in the city of Kocaeli in Turkey. The total number of people over the age of 18 in Kocaeli is 1 385 646. (TUIK, 2019). The sample of the study consisted of 3869 people who were randomly selected and volunteered to participate in the research. In the sample selection, when the number of individuals in the universe is known, the formula used to determine the frequency of the event was used and the number of samples was determined as 384 (Balci, 2015). However, a sample group of 3869 was reached in order to increase the validity of the sample. In this context, a total of 3869 people were surveyed. Snowball sampling method, one of the non-random sampling methods, was used in the research. In this method, one of the units belonging to the universe was contacted and the second unit was visited with the help of the first unit contacted, and the third unit with the help of the second unit (Yazıcıoğlu and Erdoğan, 2004). Data collected and analyzed using SPSS version 21 and IBM AMOS 22. During statistical analysis, frequencies, means, standard deviations, One Way ANOVA, Post Hoc Tukey HSD, Chronbach's Alpha Reliability Coefficient, Pearson Moment Correlation Coefficient and Structural Equation Modeling analyzes were used. The percentage frequency distribution of the demographic information of the research group is presented in Table 1.

Table 1: Percentage of frequency distribution of demographic information of the research group

Variable	Value	Number	Percentage of Frequency
Gender	Male	1723	45%
	Female	2146	55%
Marital status	Single	2620	68%
	Married	1249	32%
Age Generation	20 years and under (Generation Z)	748	19%
	20-40 years (Generation Y)	2512	65%
	41-55 years (Generation X)	561	14%
	56-74 years (Baby Boomers)	48	1%
The Way You Work	At the workplace	1768	46%
	Not working	1476	38%
	Sometimes from home, sometimes at the workplace	315	8%
	From home (Home office)	310	8%
How was your income affected during the pandemic?	Unchanged	1839	48%
	Decreased	1543	40%
	Dropped so much	392	10%
	Increased	95	2%
Professional Group	Education Sector Employee	510	13%
	Service Industry Employee	537	14%
	Logistics Sector Employee	431	11%
	Students and Unemployed	1076	28%
	Health Sector Employee	377	10%
	Production Industry Factory Employee	938	24%

According to the respondents' profile, 45% of the participants are male and 55% are female. Regarding their marital status 68% of the participants are single, whereas 32% of the participants are married. Regarding their age generation, 19% of them are in generation Z, 65% of them are in generation Y, 14% of them are in generation X and 1% of them are Baby Boomers. It is seen that 46% of the participants work in the workplace, 38% of the participants do not work, 8% of the participants sometimes work at home, sometimes at their workplace, and 8% of the participants work from home. During the pandemic, 48% of the participants' income level remained unchanged, 40% of the participants' income level decreased, 10% of the participants' income level dropped so much whereas 2% of the participants' income level increased. Finally, regarding the professional group of participants, 13% of them are education sector employees, 14% of them are service industry employees, 11% of them are logistics sector employees, 28% of them are students and unemployed, 10% of them are health sector employees and 24% of them are production industry factory employees.

3.2 Measures

The research consists of two groups of questionnaires as a data collection tool. Intolerance of Uncertainty Scale was developed by Buhr & Dugas (2002) and adapted in Turkish by Sari & Dag (2009). The scale has a total of 26 items and a 5-point Likert type (1-Strongly Disagree and 5- Strongly Agree). The scale has four sub-dimensions and the total score can be obtained from the scale. The scale explains 49 % of the total variance. The overall internal consistency coefficient of this scale is .79. Internal consistency coefficients of the sub-dimensions are as follows: uncertainty is stressful and sad is 0,88; negative self-assessments about uncertainty is 0,79; It is disturbing not knowing the future is 0,79 and uncertainty prevents me from taking action is 0,79 (Sari & Dağ, 2009). Consequences of worrying scale was developed by Davey, Tallis and Capuzzo (1996) to measure positive and negative beliefs about worry. The scale was adapted to Turkish by Sari and Dağ (2009). The 5-point Likert type scale (1- Strongly Disagree and 5- Strongly Agree) has a total of 28 items. The scale has two sub-dimensions and total score is obtained for each sub-dimension. The scale explains 66% of the total variance. Internal consistency of negative beliefs about the worry is .95. The internal sub-dimension of positive beliefs about worry is .93 (Sari & Dağ, 2009). The personal information form was developed and used to determine the demographic characteristics of the participants.

4.RESULTS

4.1 Confirmatory factor analysis

Out of 26 items of intolerance to uncertainty scale, six of them were eliminated due to low factor loads. Other items' factor loads are in the range of 0,58 and 0,84. In the confirmatory factor (CFA) analysis, CFA was found to be significant and results of the CFA were as follows: CMIN/DF (Chi-square/ Degree of freedom) = 23,048; CFI (comparative fit index) = 0,93; TLI (Tucker- Lewis Index) = 0,91; NFI (Normed Fit Index) = 0,92; RMSEA (Root mean square error of approximation) = 0,077; SRMR (Standardized Root Mean Square Residual) = 0,0482. Cronbach's α coefficient for this scale was 0,95. CFA results were acceptable. All the items of consequences of worrying scale have factor loadings between 0,64 and 0,84 and none of the items were eliminated from the scale. CFA results of the consequences of worrying scale were as follows: CMIN/DF = 24,015; CFI = 0,91; NFI = 0,91; TLI = 0,90; RMSEA = 0,077; SRMR = 0,047. Cronbach's α coefficient for this scale was 0,96. It was observed that the others supported the model data fit except for the value obtained by dividing the chi-square value by the degree of freedom. CMIN / df value is strongly influenced by the number of samples and it is accepted that almost all of the studies with high participants have results greater than 5, which is accepted as the acceptance limit (Vardar, 2018; Hooper et al, 2008).

4.2.Means, standart deviations and correlations

Table 2 represents the descriptive statistics of the participants' intolerance of uncertainty and worry and the intercorrelations among the latent variables. All the latent variables were significantly intercorrelated ($p < 0,01$).

Table 2: Means, standard deviations, and correlations of the main research measures

	M	SD	1	2	3	4	5	6	7	8
1.iu_mean	2,98	0,93	1	,278**	,924**	,835**	,908**	,899**	,696**	-,495**
2.w_mean	3,07	0,47	,278**	1	,337**	,179**	,244**	,228**	,543**	,379**
3.iu_1	3,12	1,06	,924**	,337**	1	,655**	,825**	,807**	,691**	-,432**
4.iu_2	2,66	0,99	,835**	,179**	,655**	1	,681**	,663**	,549**	-,429**
5.iu_3	2,93	1,05	,908**	,244**	,825**	,681**	1	,729**	,613**	-,437**
6.iu_4	3,20	1,06	,899**	,228**	,807**	,663**	,729**	1	,627**	-,468**
7.w_1	2,98	1,06	,696**	,543**	,691**	,549**	,613**	,627**	1	-,571**
8.w_2	3,17	0,96	-,495**	,379**	-,432**	-,429**	-,437**	-,468**	-,571**	1

Note: iu: intolerance of uncertainty; w: worry

According to Table 2, the mean of the participants' intolerance to uncertainty is 2,98 and standard deviation is 0,93. The dimension in which the participants get the highest score in the intolerance of uncertainty scale is "uncertainty prevents me from taking action", which is a behavioral concept. The mean of the participants' worry is 3,07 and standard deviation is 0,47. The dimension in which the participants get the highest score from the worry is the negative beliefs about worry. Moreover, there is a positive relationship between their intolerance to uncertainty and worry ($r = .278$, $p < .01$).

4.3 Tests for Differences

At first participants were classified into four generational cohorts. These are generation Z (20 years and under), generation Y (20-40 years), generation X (41-55 years) and Baby Boomers (56-74 years). A one-way ANOVA was computed to compare the mean differences of intolerance of uncertainty and worry among the four age generations (X, Y, Z and Baby Boomers). Based on the analysis the results are given in Table 3.

Table 3: ANOVA results for the age generations

		Sum of Squares	df	Mean Square	F	Sig.
iu_mean	Between Groups	1,322	3	,441	,557	,644
	Within Groups	3054,986	3858	,792		
	Total	3056,308	3861			
cw_mean	Between Groups	2,639	3	,880	3,963	,008**
	Within Groups	856,588	3858	,222		
	Total	859,228	3861			

**Correlation is significant at the 0.01 level.

As seen in Table 3, while the scores of the participants' intolerance of uncertainty do not differ significantly according to age generations ($p > 0.05$), worry scores differ significantly according to age generations ($p < 0.01$). Post Hoc Tukey HSD analysis conducted to determine which groups differentiate from each other. The results are shown in Table 4.

Table 4: Post Hoc Tukey HSD Analysis for age generations

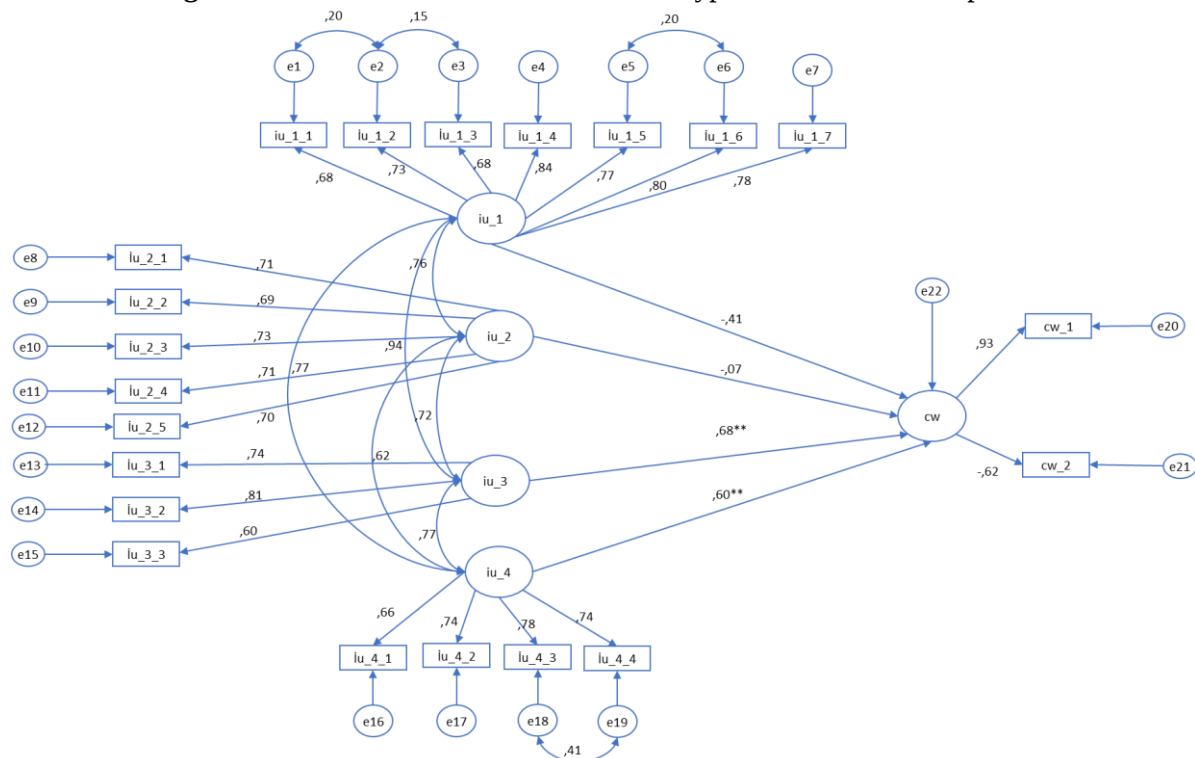
Age Generation		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Z	Y	,04927	,01965	,059	-,0012	,0998
	X	,08893*	,02637	,004	,0212	,1567
	BB	,03353	,07017	,964	-,1468	,2139
Y	Z	-,04927	,01965	,059	-,0998	,0012
	X	,03966	,02205	,274	-,0170	,0963
	BB	-,01574	,06866	,996	-,1922	,1607
X	Z	-,08893*	,02637	,004	-,1567	-,0212
	Y	-,03966	,02205	,274	-,0963	,0170
	BB	-,05540	,07088	,863	-,2376	,1268
BB	Z	-,03353	,07017	,964	-,2139	,1468
	Y	,01574	,06866	,996	-,1607	,1922
	X	,05540	,07088	,863	-,1268	,2376

According to Post Hoc Test results, participants' worry scores differ between the generation Z and generation X. Participants who are in generation Z (under the age of 20) had a higher score in consequences of worry scale than participants who are in generation X (age between 41-55).

4.4 Results of Path Analysis

In this study to establish the research model and judge the hypotheses, we tested a path model for five latent traits (intolerance to uncertainty sub-dimensions, worry) by means of structural equation modeling analysis with the AMOS 22 program. Structural equation modeling was conducted to determine whether uncertainty predicts worry, and it is revealed that the data fits the model at a significance level. In the structural model the predicted variable is the intolerance to uncertainty sub-dimensions and the dependent variable is worry. Path diagram of the model is given in Figure 2. AMOS SEM (Structural Equation Modeling) program gives the standardized and unstandardized coefficients separately. Standardized coefficients were indicated in Figure 2 and unstandardized coefficients were indicated in Table 5.

Figure 2: The standardized estimates of the hypothesized model, ** p < 0.01.



The measurement model included five latent variables and twenty-one observed variables. Fit indices revealed good model fit: $\chi^2/df=22,127$, $p < 0.001$, RMSEA= 0.074, CFI = 0.93, TLI= 0.91; SRMR=0,047 (Hooper et al, 2008; Vardar, 2018). Table 3 shows the path analysis of the structural model.

Table 5: Path analysis of structural model

	Measurement Path	Estimate	S.E.	C.R.	p- Value	Result
Worry	← uncertainty is stressful and sad	-0,43	0,236	-1,823	0,068	Not Significant
Worry	← negative self-assessments about uncertainty	-0,076	0,055	-1,377	0,169	Not Significant
Worry	← It is disturbing not knowing the future	0,674	0,179	3,756	**	Significant
Worry	← uncertainty prevents me from taking action	0,687	0,128	5,359	**	Significant

Note: ** indicates 1% level of significance

In Table 5, the third dimension of intolerance of uncertainty which is stated as “it is disturbing not knowing the future” was proven to be significantly associated with worry ($\beta= 0,674$; $p=0,000$) and the fourth dimension of intolerance of uncertainty which is called as “uncertainty prevents me from taking action” was proven to be significantly associated with worry ($\beta= 0,687$; $p=0,000$). On the other hand, the first and second dimensions of intolerance of uncertainty were proven to be not significantly associated with worry ($p>0,05$). Based on the path results “it is disturbing not knowing the future” and “uncertainty prevents me from taking action” have both direct effects to worry.

DISCUSSION AND CONCLUSION

The general aim of the study was to explore the effect of intolerance of uncertainty dimensions on worry in the pandemic period. Our study is unique because it provides information about the impact of intolerance of uncertainty dimensions on worry during the COVID-19 pandemic and lockdown period. During the Covid-19 pandemic, people experienced more uncertainty and worry. Everyone's level of intolerance of uncertainty and the dimensions of It may be different and these dimensions may affect the overall worry in some way. In this period the differences in intolerance of uncertainty of people may have an important effect on their worries. The study gains an importance because it deals with the dimensions of the intolerance of uncertainty as independent variables and it is conducted in the COVID-19 pandemic period. To date, no studies have examined the impact of intolerance of uncertainty dimensions on worry in the pandemic period.

According to our research results it was determined that intolerance of uncertainty does not differ significantly according to age generations, whereas worry scores differ significantly according to age generations. Generation Z participants had a higher score in worry than generation X participants. One possible reason for these findings was that during the pandemic period, generation Z may have experienced more worry than generation X due to lack of work experience and financial accumulation.

Furthermore, according to SEM analysis “it is disturbing not knowing the future” and “uncertainty prevents me from taking action” were significantly associated with worry. Besides this “uncertainty is stressful and sad” and “negative self-assessments about uncertainty” were not significantly associated with worry dimension. While expressions involving the cognitive and behavioral dimension of the intolerance of ambiguity cause people to experience anxiety, expressions that include the affective (dimension did not emerge as the precursor of anxiety). One of the reasons for this is that people feel anxious when they feel cognitively and behaviorally restricted during the pandemic period. It has a similarity with one of the studies which has found that feeling of “not knowing”

has been shown to intensify positive and negative emotional experiences (Bar-Anan, Wilson, & Gilbert, 2009).

In the study, when the scores of the participants' intolerance to uncertainty were examined, it was seen that the dimension of "uncertainty prevents me from taking action" which is in the behavioral process has the highest mean). On the other hand, the participants' worry is higher than the intolerance to uncertainty scores and the negative beliefs about worry has a higher mean than the positive beliefs about worry.

The results of this study are consistent with other researches which investigate the relationship between intolerance of uncertainty and worry. However, some researchers determined the impact of intolerance of uncertainty on worry whereas determined the impact of worry on intolerance of uncertainty. In other words as worry predicts uncertainty, uncertainty can also predict worry. Dugas, Freeston and Ladouceur (1997); Dugas, Schwartz and Francis (2004); Dugas et al. (2005); Buhr and Dugas (2006) found in their research that there is a strong relationship between intolerance to uncertainty and worry and that intolerance to uncertainty is a strong predictor of worry. In a study by Laugesen, Dugas and Bukowski (2003), it was found that intolerance to uncertainty, positive beliefs about worry, and negative problem orientation were associated with worry (Karataş & Uzun, 2018: 1274). On the other hand, Ladouceur et al. (2000) observed in their study that intolerance to uncertainty is a cognitive component of widespread anxiety disorder, and after treatment, intolerance to uncertainty decreases in parallel with anxiety. Thielsch, Andor, & Ehrling (2015) indicated that IU (intolerance to uncertainty.) and positive metacognitions initiate worry and worry increases distress and dysfunctional attempts at thought control. Carleton et. Al., (2012) also suggest that IU may have an important transdiagnostic feature on depression and anxiety disorders. According to Koerner & Dugas (2008), getting high scores on IU made people perceive situations more ambiguous than getting low scores on IU. The meta-analysis conducted by Osmanağaoğlu, Creswell & Dodd (2018) showed that IU accounted for 36% of the variance in anxiety whereas accounted for 39.69% in worry. Some researchers considered IU as a mediator or a moderator. For example, Yang, et.al. (2015) found that IU can be considered as a partial mediator of the relationship between personality and worry. Zlomke & Jeter (2014) found that IU can be considered as a moderator effect in the relation between daily stress and worry. Dar, Iqbal, & Mushtaq (2017) revealed that the high level of worry enhanced the relationship between IU and anxiety. Ranney, Behar & Bartoszek (2019).found that individuals with high intolerance to uncertainty stated that they would feel more comfortable when they were informed about the upcoming stress factor, but in reality, their anxiety or stress did not decrease. Rucker, West & Roemer (2010) conducted a study in a sample of adults who are racially identified as Black. According to the results of the study it is found that perceived racial stress and intolerance of uncertainty were significantly correlated with chronic worry. In addition, there was found a mediation effect. Perceived racial stress and worry have been mediated by intolerance of uncertainty for these Black individuals.

This research has some limitations. Since the COVID-19 pandemic is still ongoing, these findings need to be confirmed and investigated in different sectors, cities or even cultures in the future. While interpreting the results, it should be taken into consideration that the study was carried out during the pandemic period and the lockdown. Although this study was conducted among a relatively large sample, cross-sectional data collection is used and this is one of the limitations of the present study. With a longitudinal research design more valid findings would be generated. In addition, this study is a quantitative study. Beyond the theoretical assumptions, using qualitative study patterns to discover real experiences of people can increase efficiency.

In conclusion, the cognitive and behavioral dimensions of intolerance to uncertainty have a major impact on worry in the COVID-19 pandemic and it is revealed that especially generation Z felt worry in this period. In the light of these findings, counselors could develop programs to reduce intolerance to uncertainty and worry by implementing them online (Satici et.al, 2020).

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