

# INTOLERANCE OF UNCERTAINTY AND WORRY DURING THE COVID-19 PANDEMIC

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**Abstract.** 2020 is the year when people all over the world are facing the covid 19 pandemic, during the pandemic all work activities, education and entertainment must stop to control people's movements so they don't have many activities outside the home. Lockdown requires all activities to be carried out at home, work, school as well as from home. The large number of people who died during the pandemic, and the absence of the best medicine that can cure people have added to a sense of uncertainty in society which has resulted in a level of concern for the community. This study aims to determine the impact of uncertainty intolerance on the level of anxiety that occurs during a pandemic. Worry is a logical consequence of the low ability to adapt with intolerance to uncertainty. Statistical tests show that there is a strong relationship between intolerance and uncertainty towards worry. These findings are discussed in relation to understanding the concerns.

**Keywords:** *intolerance of uncertainty, worry, pandemic, Covid-19*

## Introduction

At the start of 2020, the world faced an unprecedented global health and socioeconomic crisis triggered by the COVID-19 pandemic. Fear of infection, suffering and death for oneself and loved ones, grief after loss and worry, and certainty about when the COVID-19 pandemic will end have been cited as stressors that lead to anxiety and depression during the COVID-19 pandemic. Rising death tolls, overwhelmed health systems and catastrophic changes in the daily lives of individuals occupy the minds of billions worldwide. Since the outbreak, there has been a clear increase in anxiety and concern related to COVID-19 (Ahorsu et al., 2020). Many psychological factors play a role in the COVID-19 pandemic, including various forms of anxiety. There is no certainty about the pandemic that has hit all countries causing serious problems for physical and psychological health. The absence of certainty in situations causes individuals to tend to experience intolerance to uncertainty. Uncertainty intolerance is an individual's tendency to consider the possibility of an unacceptable negative event, regardless of the probability of its occurrence. Intolerance to uncertainty is a key component of worry, anxiety, and anxiety pathology (Carleton et al., 2007). Uncertainty intolerance (IU) has been defined as “a dispositional characteristic that results from a set of negative beliefs about uncertainty and its implications and involves a tendency to react negatively at emotional, cognitive, and behavioral levels to uncertain situations and events (Buhr and Dugas, 2009).

Society is facing a pandemic that makes people lose their jobs, and even lose their loved ones. This gripping situation has created long-term persistent fears in society. Lockdowns and school closures affect education, mental health, and access to basic health services (UNICEF Indonesia, 2023). Those who exhibit uncertainty intolerance experience uncertainty as stressful believe that situations in which uncertainty exists are

best avoided, and experience a reduction in their ability to function (Buhr and Dugas, 2002). A number of studies have examined the relationship between uncertainty intolerance (IU) and worry traits and generalized anxiety disorder (GAD) (Koerner et al., 2017). Uncertainty intolerance (IU) can be defined as a cognitive bias that affects the way a person perceives, interprets, and responds to uncertain situations (Yook et al., 2010). Uncertainty intolerance (IU) is a factor of individual differences that reflects the difficulty of tolerating emotional distress in a context of uncertainty and is a strong transdiagnostic risk factor for emotional disorders (O'Bryan et al., 2021). Worry is a fundamental human experience and is common in non-clinical and clinical individuals. Worry is defined as contemplating the possibility of negative events, and furthermore can generate anxiety (Dugas et al., 2001). Previous studies have shown that fear related to COVID-19 is more strongly associated with intrapsychic variables, Intolerance of uncertainty (IU) and a tendency to worry (Gvozden et al., 2021) and intolerance of uncertainty play an important role in the development of anxiety (Rosen et al., 2014). The purpose of this study is to clarify the effect of intolerance on uncertainty on the level of worry, concern in non-clinical samples. The focus of the current study is on the relationships among intolerance of uncertainty and worry. In short, intolerance of uncertainty should be related to worry. Specifically, the research hypotheses is Intolerance of uncertainty is significantly correlated with worry.

## Materials and Methods

The participants for the study were recruited from the office ministry in Jakarta; with background of education are senior high school, degree, and master, married and unmarried. The current research uses a cross sectional, descriptive and analytical approach. The population consists of 112 full-time working adults. 53 men and 59 women, 58 respondents were married and 54 respondents were not married with an age range of 18 to 63 years. The study was conducted from March to May 2021. The Intolerance of Uncertainty Scale-12 (Carleton et al., 2007), this measure consists of 12 items (e.g., “It frustrates me not having all the information I need”) and utilizes a 4-point Likert scale from 1 (“strongly disagree”) to 4 (“strongly agree”) to evaluate two sub-scales of IU (prospective anxiety and inhibitory anxiety). To measure the level of worry, study using Penn State Worry Questionnaire (Meyer et al., 1990). This questionnaire consists of 16 self-report items. Items are directed at the excessiveness, duration and uncontrollability of worry, each item is rated on a 1-4 scale, with anchors at 1 (strongly disagree), 2 (disagree), 3 (agree) and 4 (strongly agree). Previous studies have shown that PSWQ has high internal consistency.

### *Instruments reliability and worry scale*

The results of the reliability test on the intolerance scale for uncertainty using 12 statement items obtained the Cronbach's alpha reliability value of  $\alpha=0.887$ , which means that the measuring instrument for intolerance to uncertainty is reliable and can be used. The worry scale also shows that this measuring instrument has high reliability, Cronbach's alpha is  $\alpha=0.898$  (Table 1).

**Table 1.** *The Cronbach's alpha for IU and worry.*

Reliability statistics for IU		Reliability statistics for worry	
Cronbach's alpha	N of items	Cronbach's alpha	N of items

**Results and Discussion**

The results of the reliability test of the worry measuring instrument obtained Cronbach's alpha value of  $\alpha=0.898$ , which means that this measuring instrument is feasible and reliable to be used to measure the level of worry. Regression test results intolerance to uncertainty to worry (worry) shows IU can predict Worry. The results of the regression show that the  $R^2$  value shows a value of .221, which means that IU has an effective contribution of 22.1% with a correlation value of  $r=0.470$ ,  $p=0.00$  to the level of worry (worry) (Table 2). Based on a different test of the level of uncertainty intolerance (IU) based on gender, there was no significant difference between men and women, Equal variances assumed showed sig. (2-tailed) $>.05$ , Levene's Test for Equality of Variances= $.544$  (Table 3). Based on the test of different levels of worry (worry) based on gender, there was no significant difference between men and women, Equal variances assumed showed sig. (2-tailed) $>.05$  Levene's Test for Equality of Variances= $.0.010$ ) (Table 4). Another descriptive test is to test the difference in IU based on the marry and not marry categories. The results show that the group that does not marry has more tolerance for uncertainty compared to the group that is married (Table 5). Furthermore, a different test was also carried out to test whether there were differences in the level of worry based on the marriage category. There is a difference between married and unmarried people, unmarried people experience more worry than married people (Table 6). A different test was also carried out to see differences in the level of IU based on education. There are differences in IU levels, where senior high school respondents have higher IU levels compared to degrees and masters (Table 7). The difference in the level of worry based on education shows that there is a difference in the level of worry, senior high school has a higher worry level compared to degrees and masters. There is no significant difference in the level of worry for degrees and masters (Table 8).

**Table 2. The reliability test.**

R	R square	Adjusted R square	F	Sig.	Beta	t
.470	.221	.213	31.121	.000	.470	.000

**Table 3. Differences in IU related to gender.**

Levene's test for equality of variances	Equal variances assumed	IU (Mean)		
F	Sig.	Sig. (2-tailed)	Male	Female
.371	.544	.381	31.60	32.59

**Table 4. Differences in worry related to gender.**

Levene's test for equality of variances	Equal variances assumed	Worry (Mean)		
F	Sig.	Sig. (2-tailed)	Male	Female
6.837	.010	.699	40.21	40.76

**Table 5. Differences in IU levels related to marital status.**

Levene's test for equality of variances	Equal variances assumed	IU (Mean)		
F	Sig.	Sig. (2-tailed)	Marry	No marry
3.958	.049	.003	30.52	33.85

**Table 6. Differences worry related to marital status.**

Levene's test for equality of variances		Equal variances assumed	IU (Mean)	
F	Sig.	Sig. (2-tailed)	Marry	No marry
.004	.950	.013	38.81	42.31

**Table 7.** Differences in IU levels related to educational background.

Levene's test for equality of variances		Equal variances assumed	IU (Mean)		
F	Sig.	Sig. (2-tailed)	Senior high school	Degree	Master
.004	.543	.204	35.21	30.72	32.00

**Table 8.** Differences in worry related to educational background.

Levene's test for equality of variances		Equal variances assumed	IU (Mean)		
F	Sig.	Sig. (2-tailed)	Senior high school	Degree	Master
.004	.543	.204	35.21	30.72	32.00

The goal of the present study was to investigate the specificity of the relationship between intolerance of uncertainty and worry in a nonclinical sample. The approach in this study uses qualitative research by looking at the direct effect of intolerance on uncertainty impacting on the level of worry (worry) in non-clinical environments. Theoretical benefits can also be developed by introducing theories related to intolerance to uncertainty and worry. Studies observe that individuals who are intolerant of uncertainty see more sources of danger in their daily lives and have more hypervigilant reactions when they are faced with uncertain or ambiguous situations (Nelson and Shankman, 2011; Dugas et al., 2004). The results showed that there was a strong correlation ( $R=.470$ ). IU's effective contribution to Worry,  $r^2=.221$  or 22.1%,  $p<0.00$ , IU is able to predict the level of worry. In line with Amici (2021) intolerance to uncertainty is a transdiagnostic process that imagines future events as threatening and unwanted, where the individual has little or no ability to overcome them, thus making the individual more vulnerable to worry.

The pandemic stimulates fear of contagion, but also misinformation, uncertainty, and a lack of clarity about how to react, a concern, has been found to be related to trust in information and media related to disease perceptions of the openness and reliability of governments and health organizations (Lieberoth et al., 2021). Worrying about the consequences of a pandemic contributes negatively to an individual's mental health during a pandemic, higher levels of COVID-related worry are significantly associated with higher levels of psychological distress, and lower levels of life satisfaction (Blix et al., 2021). Morriss dan McSorley (2019) views intolerance of uncertainty as an individual tendency to judge uncertain and ambiguous situations as negative, unpleasant, unacceptable and threatening, regardless of whether they may occur or not, which makes individuals react to uncertainty negatively on emotional, cognitive, and behavior. Uncertainty about future events can lead to worry, anxiety, even an inability to function, which in turn develops into a transdiagnostic risk factor in various forms of anxiety disorders (Gu et al., 2020).

People who worry about future uncertainties, work activities and finances should be systematically assessed for their levels of anxiety, depression and stress, and they can learn to deal with recurring negative thoughts as a way to reduce their psychological suffering during a pandemic (Manão et al., 2022). The COVID-19 pandemic has resulted in many individuals experiencing an increase in anxiety symptoms, that this increase may be supported by worries related to the pandemic (Brown et al., 2023). Actually worry is a central feature of Generalized anxiety disorder, if worry occurs consistently and excessively, it is unlikely that it will cause Generalized anxiety

disorder (GAD) in the uncertain conditions of the Covid 19 pandemic. Uncertain conditions that occur in society cause critical situation evaluation and think about money, health, family, work and several other issues (Porter et al., 2021). Collectively, individuals are forced to tolerate the all-encompassing ambiguity regarding when the pandemic will end and life will return to normal (Cordaro et al., 2021). People with Generalized anxiety disorder (GAD) have a potentially difficult time stopping the cycle of worrying and worrying beyond their control, and Generalized Anxiety Disorder (GAD) is a common but urgent mental health problem during the Covid 19 pandemic, the prevalence of GAD during the Pandemic period was much higher than that found by a recent report in a national sample (Chen et al., 2021). Abdalla et al. (2021) also of the same opinion that the prevalence of possible anxiety disorders when the COVID-19 pandemic and the policies implemented to deal with it came to light, was higher than estimates reported before the pandemic and estimates reported after other mass traumatic events.

The COVID-19 pandemic is a public health crisis that continues to impact individuals around the world, these situations are vulnerable to the stress and anxiety associated with the pandemic (Korte et al., 2021). The COVID-19 pandemic makes people feel mortal fear and makes their hearts flutter with worry, the pandemic is a strong predictor of people becoming intolerant of uncertainty and further causes a strong sense of fear (Millroth and Frey, 2021). Fear of COVID-19 explains the relationship between IU and larger worry symptoms and behaviors in society (Jiwani et al., 2021). Uncertainty intolerance (IU) predicts distress during the COVID-19 pandemic and impacts worry and behavior especially among individuals with high IU (Saulnier et al., 2022). The results of the study also showed that there were no differences based on gender regarding IU and worry, both men and women were the same. Worry about pandemics are actually more vulnerable to women and low-income people (Kindred and Bates, 2023), but this study found no significant difference. Differences in worry and IU levels can be found based on differences in education levels, where people with high school education have higher IU and worry compared to degree and masters education. Respondents with higher levels of education had a better quality of life during a pandemic (Purba et al., 2021).

Individuals with higher education only have about half the prevalence of GAD than those with less education. Given the difficulty of distinguishing valid and correct information which is a source of public anxiety, a more educated community can more easily find, distinguish, and receive correct information (Chen et al., 2021). Unmarried people also have higher IU and worry levels compared to married individuals. Research by Jace and Makridis (2021) shows that the combination of substitution within the family and the psychological benefits of marriage helped to account for unforeseen fluctuations in employment and loss of income during the COVID-19 pandemic, of married respondents having a smaller percentage likelihood, relative to their unmarried counterparts. married, to experience mental health problems following a decline in work-related income since the start of the COVID-19 pandemic. This is also in line with research Purba et al. (2021) that married men have a good quality of life during a pandemic. In line with research by Nkire et al. (2022), the average score on perceived stress (Perceived Stress Scale), Generalized Anxiety Disorder (GAD) and depression (PHQ-9) is highest among those who are single and lowest among those who is a widow. Overall, the mean score on the PHQ-9 was higher in the group that identified as

separated or divorced when compared to the group that identified as having a partner, including the category of being married or living together.

## **Conclusion**

This study provided psychometric assessment of the IU-12 among a non-clinical sample of Jakarta worker in pandemic situation in 2021. A validity and reliability both instrument analysis supported that the structure of the translated IU-12 scale analysis of its measurement properties found evidence of good psychometric properties. This measure can be served as an efficacious tool in assessing IU among Indonesia people. There is a strong relationship and IU's influence on the Worry level during the COVID-19 pandemic. The study also found that married groups tended to be less prone to worrying, and groups with higher educational backgrounds were also not prone to worrying compared to groups with lower educational backgrounds. There are no significant differences related to gender in the level of anxiety and intolerance to uncertainty.

This study was conducted on a sample of non-clinical university students with limited respondents. This study also has limitations; the generalization of research results is very limited, because it uses a non-probabilistic sample. Future research should evaluate the strength of this scale in measuring IU among clinical samples. Future studies should also compare clinical and non-clinical. In order to clarify the transdiagnostic nature of IU, future research should use other measures to explore the relationship between IU and other psychopathologies, such as anxiety disorder.

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## **Conflict of interest**

The authors whose names are listed declare that the authors have no conflict of interest to declare. All co-authors have read and agree with the contents of the manuscript and there is no financial interest to report. We certify that this research is original work and is not being reviewed elsewhere or published in another journal.

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