

Personality Trait, *Intolerance Of Uncertainty*, And Psychological Well-Being In Palembang City Students In Facing Vuca

Muhammad Oktarico Saputra, Alvient Primadana Putra, Muhamad Ichsan Nur Iman, Adhani Dhea Saputri, Cahya Saptarini, Salwa Farhanah

Fakultas Psikologi UIN Raden Fatah Palembang

Corresponding Email: oktarico.ciko29@gmail.com

ABSTRACT

The VUCA era is an era of life that is described as a situation full of change, uncertainty, complexity, and ambiguity which has a negative impact on humans psychologically by decreasing the psychological well-being of society, especially students. Previous research found that psychological well-being is affected by intolerance of uncertainty (IU) in individuals. Other studies have also found that personality traits are factors that influence IU in individuals. This study aims to examine the effect of personality traits (OCEAN) on the psychological well-being of students via intolerance of uncertainty in Palembang City students who are affected by VUCA. Data was collected from 106 students in Palembang City using Ryff's Psychological Well-Being Scale version 18 item (RPWB-18), Intolerance of Uncertainty Scale version 12 item (IU-12), and Big Five Inventory - 2 (BFI-2) version of 30 items adapted to Indonesian and tested. The results showed that IU, and the personality traits of neuroticism and conscientiousness had a significant effect on psychological well-being. Meanwhile, IU was significantly influenced by the personality traits of neuroticism and extraversion. However, the results of the study did not find any indirect influence of personality traits on psychological well-being through intolerance of uncertainty (IU).

Keywords: Big five personality trait, intolerance of uncertainty, psychological well-being, VUCA

Introduction

VUCA is an acronym for volatility (volatility), uncertainty (uncertainty), complexity (complexity), and ambiguity (ambiguity). The term was first introduced in 1987, at the end of the cold war, at an institution called The United States Army War College to describe the instability of world political conditions at the time (Murugan et al., 2020; Widia, 2021; Yoder-Wise, 2021). The term VUCA is used to describe environmental situations that change rapidly and are not easily predictable as a consequence of technological advances that cause life in the world to change rapidly (Widia, 2021). Related to that, the term VUCA is also used to describe uncertainty and fast-changing situations in several contexts, for example in the context of business and economics, health, politics, and education (Murugan et al., 2020).

The world of education, especially universities, is one of the fields that is facing VUCA due to various changes in the curriculum system, policies, and so on (LeBlanc, 2018). Recently, VUCA's challenges in higher education have become more severe due to the COVID-19 pandemic which has caused several changes in the education system, one of which is the increasing digitalization of

learning. This causes difficulties for students to adapt due to several things, such as accessibility problems to digital learning, less conducive to distance learning for students, and lack of direct teacher support in the learning process (Rashid & Yadav, 2020).

Volatility (volatility) refers to change and instability (Bennett & Lemoine, 2014). Volatility is felt by students due to sudden changes in learning schedules and assignments that cause students to feel a loss of control over learning (Hadar et al., 2020). Uncertainty (uncertainty) is a dimension of VUCA that relates to the inability of individuals to predict the future and understand the current situation well (Bennett & Lemoine, 2014; Hadar et al., 2020). Constant changes in learning make students unable to predict what will be faced next in learning which causes students to feel depressed, and experience anxiety, and experience distress (Hadar et al., 2020). Complexity (complexity) refers to a situation where reality is influenced by several factors interacting with each other that can cause chaos and stress (Bennett & Lemoine, 2014). This is felt by students because of the piled up assignments and several things that must be done simultaneously with online lectures (Hadar et al., 2020). Ambiguity (ambiguity) refers to the vagueness and inaccuracy of available information (Hadar et al., 2020). In general, ambiguity refers to vagueness regarding an idea or terminology (Bennett & Lemoine, 2014). Students feel this is because of various uncertain information about the fate of their studies (Hadar et al., 2020).

The condition of VUCA in the world of education makes students feel significant difficulties in dealing with existing situations (Hadar et al., 2020). Students are often faced with various pressures that come from changing roles, coursework, interpersonal relationships, and so on (Hunt & Eisenberg, 2010; Kessler et al., 1995). The existing VUCA conditions have a negative impact on students psychologically, for example the emergence of various negative emotions, anxiety, worry, feelings of pressure, and stress. Aristovnik et al. (2020) It found that during the pandemic, students around the world experienced relatively higher negative emotions than positive emotions.

Negative emotions experienced by students can affect physical health, academic performance, efficiency in learning, and lifestyle, and can even lead to social isolation and misbehaviour on college students (Wang et al., 2007; Weitzman, 2004). This shows that negative emotions experienced by students can interfere with psychological well-being in students. Psychological well-being in college students can be significantly linked to social life (Abdel Wahed & Hassan, 2017; Teh et al., 2015; Zhou et al., 2013), academic performance (Beiter et al., 2015), pressure to succeed (Beiter et al., 2015), and plans after graduation (Tao et al., 2002) which are common problems faced by students in the VUCA world.

Thus, the VUCA conditions faced by students in the world of lectures have a negative impact on the psychological well-being of students. As Ebrahim et al. (2021) through a meta-analysis of various studies from various countries found that the COVID-19 pandemic, which is included in VUCA conditions, has a significant influence on psychological well-being in students. Ebrahim et al. (2021) found the prevalence of anxiety symptoms at 29.1% and depressive symptoms at 23.2% from the overall sample in the study from various countries.

However, on the other hand, the condition of students' psychological well-being in the face of VUCA cannot be generalized. The fact that not all students are psychologically affected by VUCA

provides space for researchers to uncover things that affect psychological well-being in students in the face of VUCA. Several studies have found a significant link between personality traits and psychological well-being (Anglim et al., 2020; Anglim & Grant, 2016; Grant et al., 2009). The research found that all domains of Big Five Personality Trait (openness, conscientiousness, extraversion, agreeableness, neuroticism) has a significant relationship with dimensions of psychological well-being (positive relation, environmental mastery, autonomy, personal growth, purpose in life, self acceptance), which is a personality trait neuroticism, followed by Extraversion and conscientiousness, has the strongest association with dimensions of psychological well-being (Anglim et al., 2020; Anglim & Grant, 2016; Grant et al., 2009).

In addition, several studies have also found a relationship between several variables and psychological well-being, one of which is Intolerance of uncertainty (IU). Previous research has revealed a significant negative relationship between IU and psychological well-being (Arslan & Bilgisi Öz, 2021; Çevik & Yağmur, 2018; GEÇGİN & SAHRANÇ, 2017; Satici et al., 2022). Thus, so far researchers have found that personality traits and IU are variables that have a significant relationship with psychological well-being. Through further investigation, researchers found that IU variables are related to personality traits. Bongelli et al. (2021) found that personality traits have a significant relationship with psychological well-being. Of the five personality traits, neuroticism have a significant positive relationship with psychological well-being; While conscientiousness, agreeableness and Open mindedness has a significant negative relationship with psychological well-being (Bongelli et al., 2021).

From the above, researchers concluded that intolerance of uncertainty (IU) may mediate the relationship between personality traits and psychological well-being. Therefore, this study aims to find the influence between personality traits and psychological well-being through intolerance of uncertainty (IU) mediator variables in students in Palembang City in the VUCA era. This research is expected to provide theoretical contributions for psychological science to explain fully about how personality traits can relate to psychological well-being. This research is also expected to be used as a reference in designing appropriate interventions by considering individual personality traits to improve psychological well-being by reducing the level of intolerance of uncertainty (IU) in students, especially for students who experience psychological difficulties in dealing with VUCA.

Method

The method we use is quantitative correlational

Research Participants

This study involved 106 participants who were students in Palembang. The majority of participants were female (78%), while a small percentage were male (22%). Study participants ranged in age from 17 to 23 years with the majority of participants being individuals aged 18 and 19 years (34%). As many as 70% of participants were 2nd semester students, while around 8-11% were 4-8 semester students.

Table 1. Participant Demographics

Age	Frequency	Percentage
17 years old	5	5%
18 years old	36	34%
19 years old	36	34%
20 years	10	9%
21 years old	16	15%
22 years old	2	2%
23 years old	1	1%
N	106	100%
Gender		
Man	23	22%
Woman	83	78%
N	106	100%
Semester		
2 (two)	74	70%
4 (four)	11	10%
6 (six)	12	11%
8 (eight)	9	8%
N	106	100%

Measurement

Demographic Data

Demographic data was collected using demographic surveys to obtain information about the age, gender, university origin, and college semester of study participants.

Personality traits

Personality traits are measured using the Big Five Inventory (BFI)-2 measurement tool developed by Soto and John (2017) and has been adapted into Indonesian by Ahya and Siaputra (2021). This scale consists of 30 items with Likert scale types that have five response options in the form of 1 (strongly disagree) to 5 (strongly agree). Testing of measuring instruments on research samples was carried out to determine the validity and reliability of measuring instruments. After deleting as many as 10 items (items 4, 5, 6, 7, 10, 14, 19, 20, 22, 29), the test results showed fairly good reliability and validity ($\alpha > 0.7$; Rit > 0.25).

Intolerance of Uncertainty

Intolerance of Uncertainty measured using measuring instruments *Intolerance of Uncertainty Scale Short Version* (IUS-12) developed by Carleton et al. (2007) and adapted into Bahasa Indonesia by Nur Istiqomah et al. (2022). This measuring instrument consists of 12 items using the Likert scale type which has five response options in the form of 1 (very inappropriate) to 5 (very appropriate). After testing on research samples, the Indonesian version of IUS-12 has good reliability and validity of measuring instruments ($\alpha > 0.8$; Rit > 0.3) after deleting some three items (items 3, 5, 7).

Psychological well-being

Psychological well-being is measured using Ryff's Psychological Well-Being (RPWB) Scale developed by Ryff and Keyes (1995). In this study, RPWB Scale version 18 was used which was adapted by researchers into Indonesian. The adaptation of RPWB version 18 into Indonesian is carried out according to the procedure according to *International Test Commission* (ITC; 2017). After testing on research samples, the results of the adaptation of RPWB version 18 items in Indonesian have fairly good reliability and validity ($\alpha > 0.8$; $The > 0.25$) although three items must be aborted (items 11, 13, 18). This measuring instrument uses a Likert scale type with seven response options in the form of 1 (very inappropriate) to 5 (very appropriate).

Research Procedure

Online research questionnaires were distributed using social media to various students in Palembang City. Before filling out the research questionnaire, respondents were given written information about the criteria required respondents, namely (1) are active students who are studying in Palembang City, (2) are students domiciled in Palembang City. *Informed consent* is given to respondents at the beginning of filling out the questionnaire to request a statement of willingness of respondents. Then, filling out the questionnaire followed by filling out a demographic survey to find out information about the age, gender, and origin of the respondent's university. After that, respondents were directed to fill out three research scales consisting of BFI-2, RPWB-18, and IUS-12 on the next page.

Data Analysis

Before starting the research, measuring instruments were tested by testing the validity and reliability of measuring instruments. The validity test is carried out by analyzing *the corrected item-total correlation value* to see the validity of the measuring instrument item. Reliability tests were conducted with *Cronbach's Alpha value*. Normality, multicollinearity, heteroscedasticity, linearity, and autocorrelation tests are carried out to determine whether the variable data that has been collected meets the assumptions to be processed in a hypothesis test using linear regression analysis. The hypothesis test was carried out by path analysis with multiple linear regression to analyze the relationship between personality traits and psychological well-being through *intolerance of uncertainty*. Data analysis in this study was carried out using the help of *IBM SPSS Statistic 25* software.

Results

Personality trait and intolerance of uncertainty

The results of the pathway analysis that have been carried out show that simultaneously, the five personality traits (*open mindedness*, conscientiousness, *extraversion*, agreeableness, *negative emotionality*) are significant predictors of IU with values ($R^2 = 0.271$; $p < 0.001$) which means that about $> 25\%$ of IU in students in Palembang City is predicted by all five personality traits simultaneously, while about $> 70\%$ are predicted by variables other than the five personality traits. Partially, the personality traits of *open mindedness*, conscientiousness, and agreeableness did not have a significant effect on IU. However, it was found that *neuroticism / negative emotionality* personality trait had a significant positive effect on IU ($\beta = 0.198$; $p < 0.05$). In addition, it was also found that

extraversion personality trait significantly negatively affected IU ($\beta = -0.252$; $p < 0.05$). Thus, in path A, it was found that there was an influence of variable X, namely *extraversion (X3) and neuroticism or negative emotionality (X5) on the mediator variable, namely intolerance of uncertainty (M)*.

Personality traits and psychological well-being

It found a significant direct influence on personality traits *conscientiousness* and *neuroticism/negative emotionality* on psychological well-being. *Conscientiousness* had a significantly positive effect on psychological well-being ($\beta = 0.278$; $p < 0.05$), while *neuroticism/negative emotionality had a very significant negative influence on psychological well-being* ($\beta = -0.414$; $p < 0.001$). Thus, in pathway C there was a significant direct influence on *personality traits conscientiousness (X2) and neuroticism / negative emotionality (X5) on psychological well-being (Y)*.

Intolerance of uncertainty and psychological well-being

Based on the results of the pathway analysis that has been carried out, it can be seen that intolerance of uncertainty (IU) is a significant predictor of psychological well-being. IU exerts a significant negative influence on psychological well-being ($\beta = -0.198$; $p < 0.05$). Thus, in path B it was found that there was a significant influence of the mediator variable, namely *intolerance of uncertainty (M) on psychological well-being (Y)*.

Intolerance of uncertainty as a mediator

The influence of personality trait variables *open mindedness, conscientiousness, extraversion, agreeableness, negative emotionality, neuroticism / negative emotionality* and intolerance of uncertainty (IU) variables simultaneously on psychological well-being is a significant influence ($R^2 = 0.609$; $p < 0.001$). It shows that around 60% of psychological well-being in students in Palembang City is predicted by *open mindedness, conscientiousness, extraversion, agreeableness, neuroticism / negative emotionality* and IU personality traits, *while the other 40% is predicted by other variables*.

Of the five personality traits (*open mindedness, conscientiousness, extraversion, agreeableness, negative emotionality*), *only neuroticism / negative emotionality* personality traits have a significant influence on IU, so that mediator variable analysis is only possible on the influence between *neuroticism / negative personality traits emotionality* to psychological well-being.

It is known that trait kepribadian *neuroticism / negative emotionality* affects IU significantly with value (Std. $\beta = 0.216$). On the other hand, IU significantly affects psychological well-being with value (Std. $\beta = -0.189$). The multiplication of the two *standardized beta values is -0.04 which is smaller than the standardized beta value on the direct effect of neuroticism / negative emotionality on psychological well-being with the value (Std. $\beta = -0.430$)*. Thus, it can be concluded that there is no indirect influence on trait kepribadian *neuroticism / negative emotionality (X5) on psychological well-being (Y) through intolerance of uncertainty (M)*. Thus, the *variable intolerance of uncertainty (M) does not mediate the influence of neuroticism/negative emotionality (X5) on psychological well-being (Y)*.

Table 2. Path Analysis Results

	Variable	β	Std. β	Std. Error	p-value
Path A	Open Mindedness (X1)	-0,056	-0,052	0,118	0,633
	Conscientiousness (X2)	-0,093	-0,082	0,133	0,484

	Extraversion (X3)	-0,252	-0,246	0,107	0,021
	Agreeableness (X4)	-0,113	-0,093	0,132	0,392
	Negative Emotionality (X5)	0,198	0,216	0,096	0,041
R² = 0.271; p < 0.001					
Path C	Open Mindedness (X1)	-0,106	-0,093	0,091	0,248
	Conscientiousness (X2)	0,278	0,232	0,103	0,008
	Extraversion (X3)	0,151	0,141	0,085	0,079
	Agreeableness (X4)	0,148	0,115	0,102	0,151
	Negative Emotionality (X5)	-0,414	-0,430	0,076	0,000
Path B	Intolerance of Uncertainty (M)	-0,198	-0,189	0,077	0,012
R² = 0.609; p < 0.001					

Discussion

From the description of the results of previous studies, it was found that *conscientiousness* personality trait has a significant positive effect on psychological well-being. *Conscientiousness* is the level of prudence, thoroughness, and discipline of individuals in carrying out an action. Meanwhile, psychological well-being is a condition where individuals are able to accept themselves, have positive relationships with others, have autonomy, control of the environment, life goals, and self-development. This indicates that the higher the level of caution, thoroughness, and discipline of the individual, the higher the psychologic well-being of the individual.

It was also found that personality traits *neuroticism / negative emotionality* significant negative effect on psychological well-being. *Neuroticism / negative emotionality* is a personality trait related to emotional instability. Individuals with levels *neuroticism / negative emotionality* will have difficulty managing emotions, filled with negative emotions, and easily stressed. Negative influence of personality traits *neuroticism / negative emotionality* Psychological well-being can be interpreted that the higher the level of emotional instability in an individual, the lower the level of psychological well-being in the individual. The influence of personality traits *conscientiousness* and *neuroticism / negative emotionality* The approach to psychological well-being is in line with previous research that found that personality traits *neuroticism / negative emotionality* and *conscientiousness*, has the strongest association with dimensions of psychological well-being (Anglim et al., 2020; Anglim & Grant, 2016; Grant et al., 2009).

On the other hand, *Intolerance of uncertainty* (IU) also significantly negatively affects psychological well-being. *Intolerance of uncertainty* (IU) is a character possessed by individuals who tend to have negative views and have negative responses to uncertain situations and events. In simple terms, *Intolerance of uncertainty* (IU) describes an individual's difficulty in accepting and dealing with uncertainty. Thus, the results show that the more difficult it is for individuals to accept and deal with uncertainty, the worse psychological well-being in these individuals. IU's effect on psychological well-being is in line with previous research that revealed a negative relationship a significant link between

IU and psychological well-being (Arslan & Bilgisi Öz, 2021; Çevik & Yağmur, 2018; GEÇGİN & SAHRANÇ, 2017; Satici et al., 2022).

This study also revealed the influence of personality traits on IU. It was found that personality traits *Extraversion* and *neuroticism / negative emotionality* significant effect on IU. Personality traits *Extraversion* significantly negatively affects IU. *Extraversion* is a personality trait related to an individual's ability to interact socially with their environment. Thus, the results indicate that individuals who have a good level of social skills will be better at accepting and dealing with uncertainty. *Neuroticism / negative emotionality* significant positive effect on IU. This means that the higher the emotional instability an individual has, the more difficult it will be for the individual to deal with and accept uncertainty. The influence of personality traits *neuroticism / negative emotionality* significant effect on IU in line with findings Bongelli et al. (2021) who found that *neuroticism / negative emotionality* has a significant positive relationship with IU. Meanwhile, so far more in-depth literature studies need to be conducted to explain the negative influence of trait kepribadian extraversion on IU.

Conclusion

From the previous description, it can be concluded that *conscientiousness* personality traits and *neuroticism / negative emotionality* are variables that affect IU and psychological well-being. Psychological well-being is also influenced by IU, while on the other hand IU is also influenced by personality traits of *extraversion* and *neuroticism / negative emotionality*. The significant influence of *neuroticism / negative emotionality* personality trait on IU and the significant influence of IU on psychological well-being, makes researchers believe that IU can be a variable that mediates the influence of *neuroticism / negative emotionality* personality trait on psychological well-being. However, the results showed that not IU variables did not mediate the influence of *neuroticism / negative emotionality* personality traits on psychological well-being.

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