

The moderating effect of coping behavior on academic stress and subjective well-being in students during the Covid-19 pandemic

Dicky L. Quarta¹, Sumedi P. Nugraha²

Department of Psychology, Faculty of Psychology and Socio-Cultural Sciences,
Indonesian Islamic University

E-mail: ¹dicky.listin.dq@gmail.com, ²sumedi.nugraha@uii.ac.id

Abstract. *This study aimed to observe the correlation between academic stress and subjective well-being, with coping behavior as a moderator in students during the COVID-19 pandemic. This involved 212 students in the UII. This study used the Perceived Stress Scale (18 items, $\alpha = 0.757$), stress coping scale (44 items, $\alpha = 0.880$), and college student subjective well-being questionnaire (16 items, $\alpha = 0.893$). This study showed a significant negative correlation between academic stress and subjective well-being ($\beta = -0.562$; $p < 0.05$). Furthermore, the moderator regression analysis (MRA) results showed that the R^2 value of the interaction between academic stress and coping behavior as the moderator in the third regression model was higher than that of the other models (0.213). However, the increase was not statistically significant. The results showed that coping behavior did not have a moderating effect on the relationship between academic stress and subjective well-being.*

Keywords: *Academic stress, coping behavior, subjective well-being*

Abstrak. Penelitian ini bertujuan untuk mengeksplorasi peran perilaku coping sebagai noderator hubungan antara stres akademik dan kesejahteraan subjektif pada mahasiswa selama pandemi COVID-19. Sebanyak 212 orang mahasiswa Universitas Islam Indonesia telah terlibat dalam penelitian ini. *Perceived stress scale* (18 item, $\alpha = 0.757$), skala *coping stress* (44 aitem, $\alpha = 0.880$), dan *college student subjective well-being questionnaire* (16 item, $\alpha = 0.893$) merupakan alat ukur dalam penelitian ini. Penelitian ini menemukan hubungan antara stres akademik dan kesejahteraan subjektif yang negatif dan signifikan ($\beta = -0.562$; $p < 0.05$). Selanjutnya, hasil *moderator regression analysis* (MRA) menunjukkan bahwa nilai R^2 pada model regresi ke-3 (i.e., model interaksi antara stress akademik dan perilaku koping) meningkat sebesar 0,213 meskipun peningkatan ini tidak signifikan. Peneliti menyimpulkan bahwa perilaku coping tidak mampu menjadi moderator dalam hubungan antara stres akademik dan kesejahteraan subjektif.

Kata Kunci: Kesejahteraan subjektif, Perilaku coping, Stress akademik

During the pandemic, students who usually studied in class were forced to learn online from home (online). Therefore, both students and lecturers must adapt to this condition, even if it is difficult for them. During online lectures, students experience

some inconveniences, such as a higher number of assignments, compared to when they are studying in traditional learning formats. Students also need to be more independent when performing their tasks. Meanwhile, for lecturers, the inconveniences

include having to use online platforms such as Zoom and Google Meet, revising more assignments, and providing indirect feedback to students. These are some of the differences between online and offline lectures (conventional lectures).

One particular challenge during online lectures is the Internet network quality, especially in remote Indonesian areas. Often, they did not get the proper signal quality that they were forced to log out during online classes. Electricity is also a major problem, because there is an imbalance in the distribution of electricity across the country. This circumstance was strengthened by a survey conducted by Ghani (2020). The researcher found that students encountered some obstacles during online lectures, such as piling up assignments (22%), poor time management (16.7%), unstable networks (12.7%), lack of motivation for online learning, and financial problems. In addition, 58% of the respondents admitted that online learning did not increase their learning enthusiasm. Yunus (2020) also conducted an online lecture survey of 149 students from three universities, where 65.1% of students admitted having problems with the internet/quota network, 26.2% had problems with time, and the rest had problems with the Internet. Laptop or cell phone, lack of understanding of the material presented by the lecturer, and lack of knowledge of online lectures, such as Zoom meetings and Google

Classroom. Therefore, students must address the various challenges of online courses. Student assessments related to online learning affect subjective well-being. The inability to manage themselves in dealing with this problem impacts their subjective well-being.

Diener (2000) reveals that subjective well-being is an individual's experience, either in the form of a negative or positive assessment involving the assessment of all aspects of an individual's life. However, according to Sudjarwadi (as quoted in Fitriana, 2018), students must have a high level of subjective well-being to overcome their problems and perform their roles and responsibilities satisfactorily. Students with a high level of subjective well-being perform well academically (Fitriana 2018). Renshaw and Bolognino (2016) suggest that student subjective well-being is an assessment of four main aspects of student life, which include belief in (a) academic achievement, (b) satisfaction with academic achievement, (c) connectedness with educational institutions, and (d) gratitude for the education that is being undertaken. According to Myers and Diener (Tyas & Savina, 2017), individuals who can evaluate their life satisfaction can better control their emotions and deal with various life events. Meanwhile, individuals who are not able to assess their lives will look down on their

lives and consider the possibilities that occur as unpleasant.

Early research on subjective well-being suggests that students have lower subjective well-being than adults (O'Connor 2005). Furthermore, the pandemic urged students to encounter uncertainties, ranging from fear of contracting COVID-19 to online lectures and confusion about how students complete their studies (Rajkumar, 2020). In addition, online lectures cause students to lose the opportunity for direct contact, which can cause various unpleasant experiences such as boredom, uncertainty, feeling separated from others, and worsening subjective well-being (Brooks et al., 2020; Chatterjee & Chauhan, 2020).

Health crises and conditions of large-scale social restrictions (PSBB) negatively affect students' subjective well-being (Novo et al., 2020). Similar results were found in a survey by Martinez, Valencia, and Trofimoff (2020), which revealed that the level of subjective well-being in students was 5.9 out of 10. During this pandemic, students' subjective well-being tended to be even lower due to academic stress in online learning. Similar trends have been reported in previous research, such as a strong relationship between subjective well-being and academic stress (Zhong, 2009), subjective well-being and stress (Serrano & Andreu, 2016), psychological well-being and stress (Aulia & Panjaitan, 2019), and

academic stress and emotional well-being (Amalia, 2019).

Academic stress is an emotional tension that arises from life events on campus and students' feelings of low self-esteem, which create physical, psychological, and behavioral reactions (Desmita, 2009). Bedewy and Gabriel (2015) revealed that academic stress is a source of academic self-perception, including personality, past achievements, intelligence, and other psychosocial characteristics. In addition, Bedewy and Gabriel (2015) revealed that academic stress is the main factor causing stress in students.

Every student studying online has a different level of academic stress. Students who experience academic stress experience both positive and negative outcomes depending on their coping behaviors (Cohen & Lazarus, 1984; Sarafino, 2002; Agolla & Ongori, 2009). According to Haber and Runyon (1984), coping is a form of behavior that minimizes an individual's burden while confronting stressful situations. Coping behaviors were found to moderate distress (Prado et al., 2004) and mental health (Honglin et al., 2009) related to stress. Holz (2016) also found that coping behaviors can be positive by reducing stress and being harmful when increasing stress. Coping behavior refers to specific behavioral and psychological efforts to control and relieve stress. There is an association between

positive coping behaviors and subjective well-being. In the other hand, negative coping is also associated with psychological stress (Simoni, 2000).

Coping is a behavior management strategy for solving exact and realistic problems in the form of problem-focused coping (PFC) and emotion-focused coping (EFC) (Lazarus & Folkman, 1984). In this pandemic condition, students who use problem-focused coping when facing problems related to online learning will immediately look for ways to continue studying or collecting assignments. Meanwhile, when experiencing problems related to online learning, students who use emotion-focused coping will not look for a way out but only focus on their emotions such as anger, upset, and sadness. Management of threatening conditions by using appropriate coping can give individuals adaptive responses so that they can survive and obtain positive results in the form of increasing efforts to maintain their health and well-being (Agolla & Ongori, 2009).

Subjective well-being is related to stress coping. Current research (Wang et al., 2020; Rajkumar et al., 2020; Torales et al., 2020) suggests that pandemic-related coping behaviors can adversely affect mental health. Tyas and Savira (2017) found a positive relationship between coping with stress and subjective well-being. Positive perceptions

of coping with stress affect subjective well-being in students outside Java and vice versa. Wati (2015) also found that coping with stress is a factor that can increase subjective well-being in disaster-prone areas. Likewise, according to Cohen and Lazarus (as quoted in Wati, 2015), the effectiveness of coping depends on the success of the coping task that an individual must fulfill. The ability to fulfill this task will lead to a positive evaluation of life. For example, the individual can accept and assess his environment and the conditions of the disorder he receives positively, which will affect his subjective well-being and life satisfaction.

Based on the description above, the researcher wanted to study whether academic stress can better predict students' pandemic-related subjective well-being if coping behavior is treated as a moderator. However, this moderating effect has rarely been examined. Therefore, researchers assessed the relationship between subjective well-being and academic stress with coping behavior as a moderator variable.

Method

Research Participants

The participants of this study were 212 undergraduate students (33% male and 67% female) actively studying online at the Islamic University of Indonesia. The average

age of the participants in this study was 17 to 23 years.

Method of collecting data

This study uses a scale presented in Google form and then distributed online via WhatsApp, Instagram, and Twitter. Three variables were used: academic stress, coping behavior, and subjective well-being.

Academic Stress

Bedewy and Gabriel's (2015) academic stress scale was adapted and modified. This scale measures three components: academic expectations, coursework and exams, and students' academic self-perceptions. It consists of 18 items, ranging from 1 (strongly disagree) to 5 (strongly agree). The reliability coefficient was 0.757, which was sufficient (Ghozali, 2009).

Coping Behavior

Coping behavior was measured using the students' coping behavior scale developed by Quarta (2015) to determine the two types of coping: emotional and problem-focused. This scale consists of 44 items ranging from 1 (never), 2 (sometimes), 3 (often), and 4 (always). This scale is highly reliable ($R = 0.88$) (Ghozali, 2009).

Subjective Well-being

Subjective well-being was measured using Renshaw's (2020) College Student Subjective Wellbeing Questionnaire (CSSWQ) scale. The CSSWQ measures academic satisfaction, academic efficacy,

connectedness to campus, and gratitude for studying. This scale consists of 16 items, with answer choices ranging from 1 (strongly disagree) to 7 (strongly agree). The questionnaire also had a high reliability coefficient ($R = 0.893$).

Data analysis techniques

Assumption test

Prior to the hypothetical analysis, the researcher ensured that the data met these assumptions.

Moderated Regression Analysis (MRA)

MRA was employed to unearth the moderating effects of coping behavior on academic stress and subjective well-being. Moderation effect testing can be conducted in several ways. The first step in testing the moderating effect is whether the increase in R^2 (R^2 change) is significantly greater than zero. Suppose that the increase from R^2 in equation (2) to R^2 in equation (3) is more significant than zero. Using SPSS software, this analysis can be performed quickly with the F test of the R-squared change. The second method can be performed using the t-test of the regression coefficient in Equation (3). Suppose the regression coefficient (independent*moderate) is significant, meaning that a significant moderator effect exists. The third method was to perform a partial correlation between the interaction variables (independent*moderate) and the dependent variable when the independent and moderator variables were controlled. The

p-values of the three statistical tests for the interaction are the same (Whisman & McClelland, 2005).

Results

The result of the MRA analysis are as follows :

Table 1
Moderated Regression Analysis (MRA)

Regression models	R	R ²	F	t	Sig
Academic stress	0.219	0.048	10.623	6.714	0.001
Coping behavior	0.457	0.209	27.589	-5.329	0.000
Interaction (academic stress* coping)	0.462	0.213	18.782	6.516	0.288

Dependent Variable: Subjective well-being

Independent Variable: Stres*coping, coping, academic stress

From Table 1, it can be seen that academic stress affected subjective well-being by $0.00 < \text{sig. } 0.05$. Likewise, coping behavior affects subjective well-being by $0.00 < \text{sig. } 0.05$. Furthermore, the calculation of the t-test was also carried out based on the comparison of the value of the t count $> t$ table. Based on the results of the study, academic stress had a negative effect on subjective well-being, with a t-count value ($-5.329 > t$ table (1.971)), and coping behavior had a positive effect on subjective well-being, with a t-count value ($6.516 > t$ table (1.971)).

Table 1 shows that the value of R² (0.213) in regression model 3 is higher when including the interaction between academic stress and coping behavior (as a moderator

variable). Based on Table 2, it can be seen that there is a 21.3% relationship between academic stress and subjective well-being after being moderated by coping behavior. However, the increase in the second regression model to the third regression model did not differ significantly from zero, so it can be concluded that there was no moderation effect. Coping behavior cannot be a moderator variable between academic stress and subjective well-being.

Discussion

This study was conducted to determine the relationship between academic stress and subjective well-being when coping behavior is treated as a moderating variable in Indonesian Islamic University students

during the COVID-19 pandemic. The results showed a negative relationship between academic stress and subjective well-being of Indonesian Islamic University students during the COVID-19 pandemic. This negative relationship indicates that the lower the perceived academic stress, the higher the subjective well-being of students, and vice versa. Stress is the relationship between the individual and the environment in which a person judges as demanding or unable to deal with threatening or dangerous situations (Lazarus & Folkman, 1984). When students cannot deal with stress, their academic well-being tends to be poor (Serrano & Andreu, 2016). The results of this study align with those of Zarbova and Karabeliova (2018), who found a negative relationship between stress and subjective well-being. Then the research of Nezek, Krentz, Rusanowska, and Holas (2018) also found that when individuals feel less stress, the level of individual subjective well-being will be higher. Wijaya (2017) also found that stress plays a negative and significant role in subjective well-being, where if subjective well-being is high, stress will be low, and vice versa. Octaviani, Herawati, and Tyas (2018), in their research results, show that there is a negative effect of stress on subjective well-being. The higher the stress level, the lower the subjective well-being.

Stress occurs when students cannot cope with problems caused by the pressure

they experience. To avoid this pressure, students must have the ability to manage stress (coping behavior). Individual coping behaviors can vary depending on the problems they face. Suppose that the coping used by the individual for a problem is successful. It is possible to repeat coping behavior when faced with the same problem, because appropriate coping can increase an individual's subjective well-being (Agolla & Ongori, 2009; Diponegoro, 2006; Por et al., 2011; Tyas & Savira, 2017). Individuals who use appropriate coping behaviors to deal with academic stress experience various positive effects expressed through thoughts, feelings, and behaviors in their academic activities. A positive effect signifies an individual's subjective well-being (Faqih 2019).

Therefore, a Moderated Regression Analysis (MRA) was carried out to determine whether there was a relationship between academic stress and subjective well-being when coping behaviors were included as moderators in college students during the COVID-19 pandemic. The study showed no solid negative relationship between academic stress and subjective well-being when coping behavior was included as a moderator. Coping behavior cannot be a moderator of the relationship between academic stress and subjective well-being, which is based on the results of research by Coiro, Bettis, and Compas (2017), who also found that coping behavior could not be a moderator between

stress and mental health disorders. Furman, Joseph, and Perrin (2018) also found that maladaptive and adaptive coping could not moderate the relationship between stress and health indicators. Rzeszutek, Gruszczyńska, and Burkacka (2017) also found that coping behavior with good use intensity resulted in lower subjective well-being. At the same time, there is a general assumption in the literature that more intense adaptive coping improves individual well-being in stressful situations.

The results of this study indicate that there is no strong negative relationship between academic stress and subjective well-being when coping behavior is included as a moderator. Coping behavior cannot moderate the relationship between academic stress and subjective well-being. In this study, coping behavior as a moderator served to explore the role of coping in the relationship between academic stress and subjective well-being in college students during the COVID-19 period. The coping behaviors used by students are categorized into two types: adaptive coping behavior and maladaptive coping behavior. However, this categorization method can also be problematic. A study by Palmer and Rodger (2009) on stress and coping in college students concluded that maladaptive coping styles do not always lead to adverse outcomes and adaptive styles do not consistently lead to positive outcomes.

Consequently, the role of coping behavior is uncertain in its context as a moderating variable. In addition, theoretically, coping behavior is influenced by one's coping resources (Maryam, 2017). The first is stress level (Lukito & Nur'aeni, 2018). The role of coping behavior as a moderator is less visible because coping behavior can also be a predictor or independent variable.

Subjective well-being can be determined by how students experience academic stress. If academic stress is high, subjective well-being is low, and vice versa. Coping behavior can also determine high or low levels of academic stress and subjective well-being. However, coping behavior did not strengthen or weaken the relationship between academic stress and subjective well-being. Consistent with the results of this study, other moderating variables, such as gratitude and social support, can be considered to strengthen the relationship between academic stress and subjective well-being (Manita et al., 2016; Putri, 2016, 2019).

Conclusion

The researcher concluded that there was a negative relationship between academic stress and subjective well-being of Indonesian Islamic University students during the COVID-19 pandemic. When students' academic stress is low, their subjective well-being tends to be high.

Furthermore, there is no stronger negative relationship between academic stress and subjective well-being than if coping behavior is included as a moderator for Indonesian Islamic University students during the COVID-19 pandemic.

Based on the discussion and conclusions, it is suggested that future researchers use other variables as moderators between academic stress and subjective well-being. In addition, future researchers can also reconsider the measuring instrument used, especially the subjective well-being scale, which has seven answer choices. It is feared that these seven answer choices may need to be clarified for participants to fill out the scale.

Further, researchers who want to conduct research with moderating variables, namely coping behavior, can connect it with other variables because there is no moderation associated with academic stress variables and subjective well-being.

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