



Quality of life of college students: The effects of state anxiety and academic stress with self-control as a mediator

Nadya Ariyani Hasanah Nuriyyatiningrum,^{1*} Khairani Zikrinawati,¹ Puji Lestari,²
Rach Madita¹

¹ Department of Psychology, Faculty of Psychology and Health, Universitas Islam Negeri Walisongo Semarang, Semarang – Indonesia; ² Department of Nutrition, Faculty of Psychology and Health, Universitas Islam Negeri Walisongo Semarang, Semarang – Indonesia

Abstract: College education is expected to equip students with various types of knowledge. In reality, however, the learning process is not always easy. Problems can occur and affect students' quality of life. This study aims to examine the effect of state anxiety and academic stress on the quality of life through the mediation of student self-control. A quantitative method was used involving a sample of 400 students from 24 provinces in Indonesia. The measuring instruments employed were the World Health Organization Quality of Life (WHOQOL), The State Anxiety Scale, the Academic Stress Scale, and the Brief Self-Control Scale. Path analysis was conducted using R software. It was found that self-control partially mediates the effect of state anxiety on the quality of life. State anxiety has a direct effect, with a standardized coefficient of -0.351 ($p < .01$), and an indirect one, with a standardized coefficient of -0.150 ($p < .01$) on reducing the quality of life through the mediation of self-control. Academic stress has no indirect effect on the quality of life through the mediation of self-control with a standardized coefficient of -0.000 ($p = .990$, $p > .05$). However, it was found to play a direct role in reducing the quality of life, with a standardized coefficient of -0.207 ($p < .01$). The findings indicate the multi-dynamic impacts of state anxiety and academic stress toward the quality of life of students. Therefore, the development of anxiety and stress-management skills in students need to be addressed in the higher education management system in order to maintain the quality of life of students.

Keywords: academic stress; quality of life; self-control; state anxiety

Abstrak: Pendidikan perguruan tinggi diharapkan dapat membekali mahasiswa dengan berbagai pengetahuan. Pada kenyataannya, proses pembelajaran tidak selalu mudah. Masalah dapat terjadi dan mempengaruhi kualitas hidup mahasiswa. Penelitian ini bertujuan menguji pengaruh *state anxiety* dan stres akademik terhadap kualitas hidup melalui kontrol diri mahasiswa. Penelitian ini menggunakan metode kuantitatif melibatkan sampel 400 mahasiswa dari 24 provinsi di Indonesia. Alat ukur yang digunakan adalah *World Health Organization Quality of Life (WHOQOL)*, *State Anxiety Scale*, *Academic Stress Scale*, dan *Brief Self-Control Scale*. Analisis jalur dilakukan melalui software R. Hasil dari penelitian ini adalah kontrol diri memediasi secara parsial pengaruh *state anxiety* terhadap kualitas hidup. *State anxiety* memberikan pengaruh secara langsung dengan koefisien terstandar $-0,351$ ($p < 0,01$) juga pengaruh tidak langsung menurunkan kualitas hidup melalui perantara kontrol diri dengan koefisien terstandar $-0,150$ ($p < 0,01$). Hasil berikutnya, stres akademik tidak memberikan pengaruh tidak langsung terhadap kualitas hidup melalui perantara kontrol diri dengan koefisien terstandar $-0,000$ ($p = 0,990$, $p > 0,05$). Namun stres akademik terbukti memberikan peranan langsung menurunkan kualitas hidup dengan koefisien terstandar $-0,207$ ($p < 0,01$). Temuan ini mengindikasikan bahwa *state anxiety* dan stres akademik berdampak terhadap kualitas hidup mahasiswa melalui dinamika yang berbeda. Manajemen perguruan tinggi perlu mengembangkan keterampilan mahasiswa dalam mengelola kecemasan dan stres untuk menjaga kualitas hidup mahasiswa.

Kata Kunci: stres akademik; kualitas hidup; kontrol diri; *state anxiety*

*Corresponding Author: Nadya Ariyani Hasanah Nuriyyatiningrum (nadya.ariyanihn@walisongo.ac.id). Faculty of Psychology and Health, Universitas Islam Negeri Walisongo, Jl Prof. Dr. HAMKA, Ngaliyan, Semarang 50185 – Indonesia.

Introduction

Education is essential in everyone's life. From it, individuals can gain various types of knowledge and skills. Based on the view of Human Capital Theory, education is part of human resource investment and will ultimately have monetary and non-monetary effects (Nurkholis, 1970). Considering these effects, many people strive to be able to continue their education, one way being by pursuing higher education. Individuals endeavor to learn many things, such as knowledge, relationships, experience, and recognition, and to explore the next stage of their lives. Education is also the foundation for forming individuals with character. There are four pillars of education set by UNESCO to achieve good quality education, namely learning to know, learning to do, learning to live together, and learning to be a good person (Priscilla & Yudhyarta, 2021).

In reality, however, the implementation of the education pillars faces various challenges. While students are moving towards their goal of graduating from education, life is not always easy; along the way, many problems can arise. Hidayat (2011) mapped out five areas that can become student problems, namely career and work problems, financial problems, personal problems, education and learning problems, and family problems.

Based on the discussion above, it is clear that many issues can become individual problems at the university level, although students should be able to function optimally in order to achieve their goals. Taylor (2006) describes the level at which individuals can maximize their physical, psychological, vocational, and social life functioning, which is called the quality of life. According to World Health Organization (1998), the quality of life of individuals is determined by several domains, namely physical and psychological health, the level of independence,

social relationships, the environment, and spiritual/religious/personal beliefs. Moreover, current students are ones who have experienced the COVID-19 pandemic in their educational journey. During the pandemic, they experienced changes in both their patterns of life and the learning system, which may have affected their quality of life (Abdullah et al., 2020; Leong Bin Abdullah et al., 2021), considering that one of the domains of the quality of life is the environmental domain (WHO, 1998). Syaputra (2021) found that the quality of life of students during the COVID-19 pandemic was classified as moderate. In addition, Ilahi et al. (2021) also found that during the pandemic, a number of students had anxiety levels classified as severe and very severe. This shows that it is necessary to pay attention to students' quality of life.

A good quality of life enjoyed by students will support the success of the educational process and their achievement. Students will find it easier to survive when facing various changes and challenges in the process. This is in line with Aprodita's (2021) opinion that students' quality of life is significantly related to academic and to individual resilience (Digdyani & Kaloeti, 2020). A good quality of life will increase individual resilience, which is the ability of individuals to overcome difficult situations and continue their life in a better way (Rutter, 2006). When students have a good quality of life, they will be better able to survive and bounce back when facing difficulties in life. In fact, research by Haryono and Kurniasari (2018) found that 50.2% of adolescents in Bogor Regency Indonesia have a poor quality of life.

Quality of life can be defined as individuals' perception of their position in life related to the culture and norms that apply where they live and are related to their goals, expectations, standards, and interests (WHO, 1997). Individuals with a good quality of life will present a healthy physical

picture, have good social relationships and a safe and supportive environment, and psychologically be able to regulate themselves well (Larasati, 2009). Students' quality of life includes life satisfaction, teacher-student relationships, student status in class, identity formation, achievement, and opportunities for negative affection (Epstein & McPartland, 1976; Williams & Roey, 1997).

Quality of life can be influenced by socioeconomic, demographic, and behavioral factors (Nur et al., 2017). Similarly, Solis and Lotufo-Neto (2019) found that the factors that affect students' quality of life were gender, educational environment, years of study, depression, and chronic diseases. In addition, Destriande et al. (2021) found that factors that can affect the quality of life of individuals include psychological/mental health conditions, together with other factors such as family support, peer support, living environment, physical health, psychological health, health services, marital status, economic level, education, and spirituality.

Dewi (2012) argues that mentally healthy individuals are those who have strong and positive characteristics, such as having the ability to restrain themselves, show intelligence, behave with attention to the feelings of others, and have a happy attitude towards life. This shows that the absence of psychological conditions that tend to be negative, such as stress and anxiety, can be characteristics that support individuals' mental health.

Stress is a demand that makes the organism adapt the organism to adapt or adjust (Nevid et al., 2018). One type of stress is academic stress, caused by students' excessive workloads, competition between them, failure, financial factors, poor relationships between students and lecturers, and family problems (Busari, 2014). According to Barseli et al. (2017), academic stress is a subjective perception of academic situations

or responses experienced by learners (students) in the form of physical reactions, behavior, thoughts, and negative emotions that arise due to educational or academic demands. Research by Putri et al. (2018) showed that stress was significantly related to the quality of life. Alkatheri et al. (2020) also demonstrated a relationship between stress levels and quality of life. Khodami et al. (2022) obtained similar results, namely that there was a relationship between perceived stress and quality of life. More specifically, Haryono and Kurniasari (2018) found that there was a significant relationship between academic stress and quality of life.

Another condition of mental health is freedom from anxiety. Anxiety is an unpleasant emotional reaction to an unreal or imaginary danger that appears with autonomous and subjective experiences and is felt as tension, fear, and anxiety (Spielberger, 2013). One type is state anxiety, which indicates a condition of personal anxiety in the present or "now" or in relation to certain conditions. Núñez-Pizarro et al. (2017) found that anxiety was freely associated with a worsening quality of life. In line with this, Çelmeçe and Menekay (2020) showed that there was an effect of stress on the quality of life of individuals. However, Dragomir and Fodoreanu (2013) found that lower quality of life scores were associated with lower state anxiety.

Academic stress and anxiety are interesting issues to study further, considering that the two variables have never been considered simultaneously with regard to their influence on the quality of life, especially in the post-pandemic period. This discussion on this study is coupled with the role of self-control as an ability that controls individuals' actions. Self-control is the ability of individuals to modify their behavior, manage desired information in addition to the undesired, and choose actions based on their beliefs (Marsela & Supriatna, 2019). This

definition focuses on a set of organizing abilities in choosing actions. Rahmawati et al. (2021) found a significant relationship between academic stress and self-control, while according to Powers et al. (2020), students who have little anxiety show better self-control. In line with this, Englert and Bertrams (2013) demonstrate an increase in state anxiety in individuals with low self-control. Furthermore, Duri and Primanita (2022) state that there is a relationship between self-control and individual quality of life. Higher self-control will give individuals a better quality of life (Wu & Yao, 2007).

Based on this background, there is an urgent need to further examine the effect of state anxiety and academic stress on the quality of life of students, as mediated by self-control. The study hypotheses are:

1. There are direct and indirect effects of state anxiety on quality of life mediated by self-control.
2. There are significant direct and indirect effects of academic stress on the quality of life mediated by self-control.

Method

This is a quantitative study involving four variables, namely the quality of life as variable Y, state anxiety and academic stress as variables X1 and X2, and self-control as a mediating variable. Mediating variables are ones that theoretically affect the relationship between the dependent and independent variables in an indirect relationship (Hayes, 2013).

Population

The study population comprised university students in Indonesia. The sampling technique used was convenience sampling through Google Forms, which was conducted for one month from July 7, 2022 to August 8, 2022. The research

inclusion criteria stipulated active students who were willing to become research respondents. Information regarding the sample selection was disseminated through various media, namely Whatsapp (chats, groups, stories), Instagram (stories, direct messages to student organizations), Facebook (posts, stories), and email list groups.

Sample

The research scale was completed by 401 people, but one was not student, so the final sample amounted to 400 students. This figure was based on Isaac and Michael (1981), who state that in an infinite population, the number of samples required for a 5% margin of error is 349, meaning the sample for this study met this standard. The overall sample, when analyzed for distribution, covered 24 provinces, 64.86% of the 37 provinces in Indonesia.

Instrument

Quality of Life

Quality of life was measured using the quality of life scale from the World Health Organization Quality of Life (WHOQOL), which was adapted by Juniastira (2018). The scale was then retested by the researchers on 100 respondents, with a reliability value of .905. The academic stress scale comprises 26 items with five answer options (Not At All, A Little, Moderately, Often, and Very Often). Several items are covered on the scale, such as: "To what extent do you enjoy your life?"; "To what extent do you feel your life is meaningful?"; and "To what extent can you concentrate?"

State Anxiety

State anxiety was measured using an anxiety scale adapted from Paramesthi (2012). The scale was then retested on 100 respondents and a reliability value of .918 obtained. The state anxiety scale consists of 20 items with four answer options (Strongly Appropriate, Appropriate, In-

appropriate, and Strongly Inappropriate). Items on the scale included "When facing lectures, I feel under pressure" and "When facing lectures, I feel tense".

Academic Stress

Academic stress was measured using the academic stress scale developed by Kasanah (2022). The scale was retested on 100 respondents and a reliability value of .758 obtained. The scale consists of 25 items with four answer options (Strongly Appropriate, Appropriate, Inappropriate, and Strongly Inappropriate). Several items are covered on the scale, such as: "I have difficulty understanding the material during lectures" and "I am not confident in my thinking in doing assignments".

Self-control

Self-control was measured using the Brief Self-Control Scale (BSCS) developed by De Ridder and adapted by Arifin and Milla (2020). The scale was retested on 100 respondents and a reliability value of .809 obtained. The scale consists of 10 items with four answer options (Strongly Appropriate, Appropriate, Inappropriate, and Strongly Inappropriate), with items including "In general, I can resist any temptation well" and "I reject things that are bad for me".

Data Analysis

Data analysis was conducted using a path analysis model. Path analysis is an extended regression model that tests two or more causal models (Garson, 2008; Sarwono, 2011). A statistical method called path analysis enables users to look at patterns of influence within a system of variables. It is one of several variations of the general linear model that looks at how a group of predictor factors affect a large number of dependent variables. Path analysis is similar to multiple regression in that it allows for the evaluation of the impact of several predictors on a criterion variable. But unlike multiple regression,

it allows for simultaneous analysis of two or more criteria variables (Hamilton, 2017).

Path analysis in this study tested the effect of intervening or mediating variables, namely self-control ones. The results of the analysis test were used to compare the extent of the influence between the direct and the indirect effects in order to establish if mediation strengthened or weakened the influence of the independent variables on the dependent variable (Ghozali, 2018).

The mediation analysis procedure analyzed the results in several paths (Baron & Kenny, 1986; Hayes, 2013). The first stage (path c) tested whether the independent variables was a significant predictor of the dependent variable. This path is also referred to as the total effect. The second stage (path a) tested whether the independent variable was a significant predictor of the mediator variable, while the third stage (path b) was a regression to prove whether the mediator variable affected the dependent variable. In addition, the fourth stage (path c') tested the effect of the independent variables on the dependent variable by controlling the mediator variable. These paths are also referred to as direct effects. Paths a, b, and c were expected to be significant, while the estimated value of path c' was expected to be insignificant. If the analysis results are in accordance with the expected value, it can be said that the mediator variable fully mediates the effect of the independent variable on the dependent variable. Moreover, if the four requirements are significant, then the mediation that occurs is referred to as partial mediation.

Results

The characteristics of the respondents can be seen in Table 1. The age of the majority was 20-21 (44.75%); the gender of the majority of respondents was female (78.25%); the majority of the respondents' education was S1 (84.25%);

the largest provincial distribution was in Central Java (58.75%).

Based on the normality test, the research data were normal, with the p-value = .200 ($p > .05$). With regard to the linearity test, state anxiety and quality of life were linear, with a p-value = .000 and a deviation from linearity of .411. Similarly, academic stress and quality of life were linear, with a linearity value of .000 and a deviation from linearity value of .096. The multicollinearity test results produced a VIF value of 1.571 (< 10) with

a tolerance value of .637 ($> .01$), indicating no multicollinearity. These results met the conditions for further hypothesis testing.

The results of the path analysis of Model 1 (path a) are shown in Table 2. The role of state anxiety on self-control shows a significance value of .000. Therefore, it can be concluded that state anxiety influences self-control with a standardized coefficient of -.577. This shows that the presence of state anxiety exerts a negative influence on self-control. On the other hand, the results show that

Table 1
Subject Characteristics

No	Subject Characteristic	Category	N	%
1	Age (Years)	18-19	104	26,00
		20-21	179	44,75
		22-23	78	19,5
		24-25	15	3,75
		≥ 26	24	6
2	Sex	Male	87	21,75
		Female	313	78,25
3	Education	D3	20	5,00
		D4	13	3,25
		S1	337	84,25
		S2	28	7,00
		S3	2	5,00
4	Province	Jawa Tengah	235	58,75
		Jawa Barat	27	6,75
		Jawa Timur	45	11,25
		DKI Jakarta	10	2,5
		Banten	4	1,00
		DI Yogyakarta	7	1,75
		Aceh	5	1,25
		Sumatera Utara	4	1,00
		Sumatera Selatan	12	3,00
		Jambi	2	0,50
		Sulawesi Tenggara	6	1,50
		Sulawesi Selatan	24	6,00
		Sulawesi Utara	2	0,50
		Maluku	6	1,50
Kalimantan Timur	2	0,50		
Other Province in Indonesia	9	2,25		

academic stress does not have a significant effect on self-control, with a significance value of .990 ($p > .05$).

The effect of self-control on quality of life (path b) can be seen in Table 3, which shows that self-control plays a significant role in improving quality of life, with a coefficient of .260 ($p < .001$).

The direct effect of each independent variable on the dependent variable can be seen in Table 3. The direct effect is the effect of the independent variables (state anxiety and academic stress) on the dependent variable (quality of life) without going through the mediator variable (self-control). In mediation analysis, this path is

denoted by path c'. In the table, it can be seen that state anxiety significantly reduces the quality of life, with a coefficient of -.351 ($p < .001$). Similarly, academic stress is demonstrated to have a significant effect on reducing the quality of life, with a coefficient of -.207 ($p < .001$).

To test the hypothesis regarding the role of the self control variable as a mediator, it is also necessary to observe the indirect effect of each independent variable on the dependent variable through the mediator variable. The role of the indirect effects of variables X and M on Y can be seen in Table 4, while, the overall mediation analysis results can be seen in Figure 1.

Table 2

Regression Analysis Path a

	Path	Est	Std. Err	P(> z)	ci. lower	ci.upper	Std.all
State anxiety	(a1)	-.282	.031	.000	-.339	-.216	-.577
Academic Stress	(a2)	-.001	.058	.990	-.120	.108	-.001

Table 3

Regression Analysis Paths b and c'

	Pathway	Est	Std.Err	P(> z)	ci.lower	ci.upper	Std.all
Self Control	(b)	.823	.166	.000	.494	1.147	.260
State anxiety	(c'1)	-.543	.092	.000	-.720	-.369	-.351
Academic Stress	(c'2)	-.552	.152	.000	-.850	-.244	-.207

Dependent variable: Quality of Life

Table 4

Indirect Effects of Independent Variables on Dependent Variable

	Est	Std.Err	P(> z)	ci.lower	ci.upper	Std.all
State anxiety	-.232	.050	.000	-.328	-.137	-.150
Academic Stress	-.001	.048	.990	-.104	.088	-.000

Mediator variable: Self Control

Figure 1
Mediation Diagram of All Variables

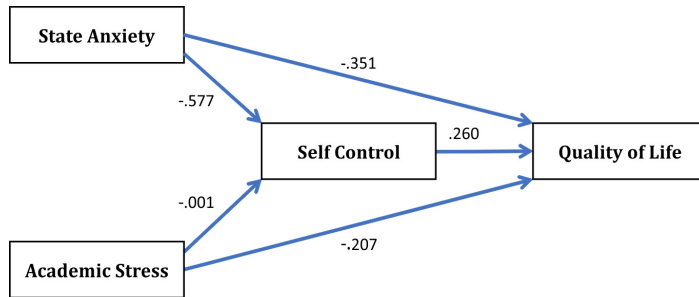


Figure 2
Direct and Indirect Effects of State Anxiety on Quality of Life

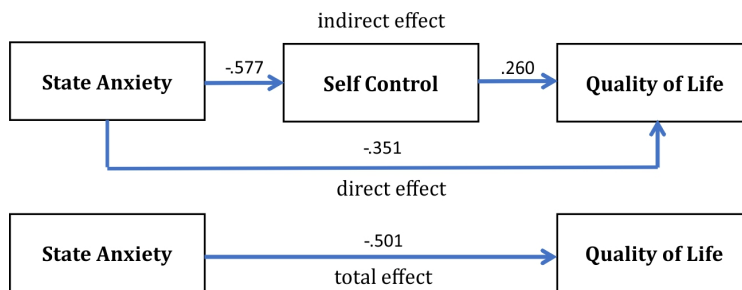
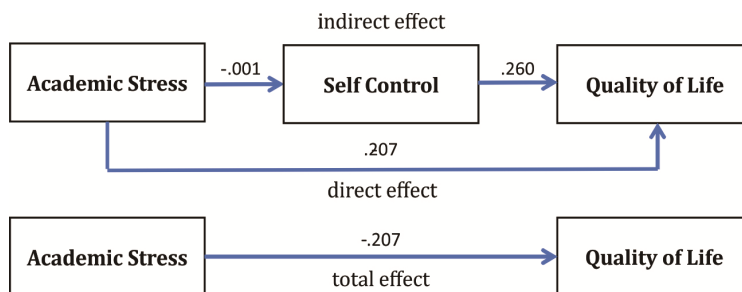


Figure 3
Direct and Indirect Effects of Academic Stress on Quality of Life



The result of this study would be explained in 2 parts.

- 1) Direct and indirect effects of state anxiety on quality of life.

The results show that state anxiety has an indirect effect on the quality of life through the mediation of self-control, with a standardized coefficient of $-.150$ ($p < .01$). State anxiety is proven to reduce the quality of life through the mediation of self-control. In addition, state anxiety is also proven to have a direct effect on improving the quality of life, with a standardized coefficient of $-.351$ ($p < .01$). These results indicate that self-control partially mediates the relationship between state anxiety and quality of life.

- 2) Direct and indirect effects of academic stress on the quality of life.

The results show that academic stress does not have an indirect effect on the quality of life through the mediation of self-control, with a standardized coefficient of $-.000$ ($p = .990$, $p > .05$). Academic stress is not proven to affect the quality of life through the mediation of self-control. However, academic stress is shown to have a direct effect on reducing the quality of life, with a standardized coefficient of $-.207$ ($p < .01$).

Discussion

This discussion will be presented in two parts: first, the direct and indirect effects of state anxiety on quality of life through self-control; and second, the direct effect of academic stress on the quality of life, and its lack of effect on the quality of life through self-control.

- 1) State anxiety directly and indirectly affects the quality of life through self-control.

The results indicate that state anxiety affects the quality of life directly and indirectly through self-control; those on its direct effect are in line with several previous studies. Utami (2014)

showed that there was a relationship between anxiety and quality of life, while Shalsabila et al. (2022) demonstrated a significant relationship between anxiety level and quality of life, which indicates the opposite direction of correlation. Wilmer et al. (2021) found that there was an effect of anxiety disorders on the condition of individual quality of life. More specifically, research by Potas et al. (2021) indicated that state anxiety influences self-control.

In terms of theoretical views, Destriande et al. (2021) explained that one of the factors that can affect the quality of life of individuals is psychological/mental health conditions. These indicate that individuals are free from negative psychological conditions, such as tension, anxiety, worry, fear, nervousness, and rejection, which are a form of nervousness. In addition, the state of individual psychological health can be described as a state of experiencing security, tranquility, satisfaction, comfort, prosperity, and happiness, which are forms of well-being. Nervousness and well-being are aspects that can affect state anxiety in two different ways (Paramesthi, 2012). State anxiety in this study refers to students' subjective appreciation of feelings of tension, anxiety, worry, and fear when attending lectures. Therefore, it can be said student anxiety related to lectures influences the level of students' quality of life.

Based on the results of the analysis, state anxiety not only directly affects the quality of life, but also indirectly affects it through self-control. These findings indicate that state anxiety affects self-control, which in turn affects the quality of life.

Previous research by Fachrozie et al. (2021) shows that there is a strong relationship between self-control and anxiety. Likewise, Bertrams et al. (2016) found that there was also a relationship between self-control and students' test anxiety, while Kim and Park (2015) found that the level of self-control was an important indicator of the quality of individual daily activities. These show

how individuals perceive their position in society and indicate their quality of life (WHO, 1997).

In theoretical terms, the text below describes how state anxiety indirectly affects the quality of life through self-control. The condition of nervousness as an aspect of state anxiety shows that individuals' ability to restrain and control themselves in order to achieve certain goals plays a role in achieving a good quality of life. Psychological conditions that tend to be negative, when juxtaposed with the ability to resist temptation and the ability to control oneself, will allow individuals to achieve a better life. The ability of individuals to resist temptation is called inhibition, while their ability to control themselves in order to stay focused on achieving goals is termed initiation (Zakiyyah & Latifah, 2022). Inhibition and initiation are aspects of self-control, and can be seen to affect the condition of individual psychological health, which is a factor of quality of life (Destriande et al., 2021).

2) Academic stress has a direct effect on the quality of life, while there is no effect of such stress on the quality of life through self-control.

The results indicate that academic stress directly affects the quality of life, which is in line with several previous studies. According to research conducted by Putri et al. (2018), stress is significantly related to the quality of life. Ribeiro et al. (2018) found a negative relationship between stress and quality of life in college students, as shown by a decrease in physical and mental health functions. In addition, Haryono and Kurniasari (2018) demonstrated that there was a significant relationship between academic stress and quality of life, while Pangalo (2021) indicated that the stress experienced by students had little effect on the level of their quality of life.

In terms of theoretical views, Destriande et al. (2021) explain that the factors that can affect the quality of life of individuals are psychological

health conditions and the educational situation being experienced. The situation of student education is full of dynamics. Hidayat (2011) explains that students can experience problems in the education and learning area, such as not understanding foreign terms; not understanding lecturers' explanations; having difficulty studying in groups; not being able to understand books; or worrying about obtaining low grades. Lack of understanding of foreign terms, lecturer explanations, and reading books are forms of individual cognitive aspect conditions. At the same time, worries about achieving low grades is a type of condition related to individual emotional aspects. In addition, the difficulty some individuals face in taking part in group work shows their behavioral aspects. According to Busari (2014), the cognitive, emotional, and behavioral aspects of individuals mentioned above are aspects of academic stress. Therefore, it can be said that aspects of academic stress influence the quality of life of individuals.

Based on the results of the analysis, academic stress has a direct effect on the quality of life, but does not have an indirect effect through self-control. The findings suggest that academic stress has no effect on self-control, although self-control itself has an influence on the quality of life.

The study findings show differences from those of another research. Hashem et al. (2019) found a negative relationship between academic stress and self-control in college students. In another study by Juhendra (2022), as a mediator variable, self-control is seen to perfectly mediate between academic stress and smartphone addiction. This shows that there is an influence of academic stress on self-control. In terms of academic stress factors, Barseli et al. (2017) identified internal ones, such as people's mindset, which relates to individuals who think they cannot control the situation, so tend to experience greater academic stress. Compared to the time of

data collection, most students who are no longer in lecture time have been different from the lecture situation. It means that individuals are more likely to be able to control their situation than when they are in a lecture situation controlled by the campus, lecturers, and existing assignments. It also aligns with the external factors described, namely more intensive lessons. The holiday break left students no longer preoccupied with their course schedules.

The findings indicate the multi-dynamic impacts of state anxiety and academic stress toward the quality of life of students. State anxiety experienced by the students can either directly disrupt their quality of life or after lowering their self control. On the other hand, academic stress can predict students' quality of life directly, regardless of the moderating effect of self-control. This study implies that the anxiety and stress-management skill development program on students should be taken into consideration in the higher education management system. Students' quality of life should be maintained during their academic years, not only for the well-being of individuals but also for the better academic

culture and environment in the higher education system.

Conclusion

This study concludes the effect of anxiety and academic stress on students' quality of life. Anxiety and academic stress experienced by students tend to lower their perceived level of life quality. However, state anxiety and academic stress influenced quality of life in different dynamic ways. Students who feel anxious under certain conditions tend to show their inability to control themselves, so they have negative perceptions of their lives. On the other hand, stressful academic situations do not affect students' self-control abilities. Nonetheless, both state anxiety and academic stress contribute directly to students' quality of life. Therefore, the development of anxiety and stress-management skills on student need to be addressed in the higher education management system. Students' life quality should be maintained during their academic years, not only for the individuals' well-being but also for better academic culture and environment in the higher education system.[]

Author Contribution Statement

Nadya Ariyani Hasanah Nuriyyatiningrum: Conceptualization; Data Curation; Formal Analysis; Funding Acquisition; Investigation; Methodology; Project Administration; Resources; Validation; Writing Original Draft; Writing, Review & Editing. **Khairani Zikrinawati:** Data Curation; Formal Analysis; Funding Acquisition; Investigation; Project Administration; Resources; Validation; Visualization; Writing, Review & Editing. **Puji Lestari:** Formal Analysis; Funding Acquisition; Investigation; Resources; Validation; Writing, Review & Editing. **Rach Madita:** Data Curation; Project Administration.

References

- Abdullah, M., Murad, N. S., Teoh, S. H., & Mohamad, M. A. (2020). Quality of life of university students during the COVID-19 pandemic: age, history of medical illness, religious coping, COVID-19 related stressors, psychological factors and social support were predictive of quality of life. *Research Square*, 1–33. <https://doi.org/10.21203/rs.3.rs-104496/v2>

- Alkatheri, A. M., Bustami, R. T., Albekairy, A. M., Alanizi, A. H., Alnafesah, R., Almodaimegh, H., Alzahem, A., Aljamaan, K., Zurnuq, S., & Qandil, A. M. (2020). Quality of life and stress level among health professions students. *Health Professions Education, 6*(2), 201–210. <https://doi.org/10.1016/j.hpe.2019.11.004>
- Aprodita, N. P. (2021). The relationship between quality of college life and academic hardiness among college students. *Jurnal Psikologi Pendidikan & Konseling, 7*(1), 1–9. <https://doi.org/10.26858/jppk.v7i1.15963>
- Arifin, H. H., & Milla, M. N. (2020). Adaptasi dan properti psikometrik skala kontrol diri ringkas versi Indonesia. *Jurnal Psikologi Sosial, 18*(2), 179–195. <https://doi.org/10.7454/jps.2020.18>
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173–1182. <https://doi.org/10.1037/0022-3514.51.6.1173>
- Barseli, M., Ifdil, I., & Nikmarijal, N. (2017). Konsep stres akademik siswa. *Jurnal Konseling dan Pendidikan, 5*(3), 143–148. <https://doi.org/10.29210/119800>
- Bertrams, A., Baumeister, R. F., & Englert, C. (2016). Higher self-control capacity predicts lower anxiety-impaired cognition during Math examinations. *Frontiers in Psychology, 7*, 485. <https://doi.org/10.3389/fpsyg.2016.00485>
- Busari, A. O. (2014). Academic stress among undergraduate students: Measuring the effects of stress inoculation techniques. *Mediterranean Journal of Social Sciences, 5*(27 P2), 599. <https://doi.org/10.5901/mjss.2014.v5n27p599>
- Çelmeçe, N., & Menekay, M. (2020). The effect of stress, anxiety and burnout levels of healthcare professionals caring for COVID-19 patients on their quality of life. *Frontiers in Psychology, 11*, 597–624. <https://doi.org/10.3389/fpsyg.2020.597624>
- Destriande, I. M., Faridah, I., Oktania, K., & Rahman, S. (2021). Faktor yang mempengaruhi kualitas hidup pada lanjut usia. *Psikowipa (Psikologi Wijaya Putra), 2*(1), 1–9. <https://doi.org/10.38156/psikowipa.v2i1.41>
- Dewi, K. S. (2012). *Kesehatan mental*. UPT Undip Press.
- Digdyani, N., & Kaloeti, D. V. S. (2020). Hubungan antara regulasi diri dan resiliensi dengan kualitas hidup pada perawat rumah sakit swasta X di kota Semarang. *Jurnal Empati, 7*(3), 1013–1019. <https://doi.org/10.14710/empati.2018.21848>
- Dragomir, B.-I., & Fodoreanu, L. (2013). Correlations between state anxiety and quality of life in metastatic breast cancer patients. *Revista Medico-Chirurgicala a Societatii de Medici Si Naturalisti Din Iasi, 117*(3), 610–615.
- Duri, B. S., & Primanita, R. Y. (2022). Hubungan antara self control dengan quality of life pada mantan pengguna napza di Sumatera Barat. *Jurnal Riset Psikologi, 1*, 1–12. <https://doi.org/10.24036/jrp.v2022i1.12750>
- Englert, C., & Bertrams, A. (2013). The role of self-control strength in the development of state anxiety in test situations. *Psychological Reports, 112*(3), 976–991. <https://doi.org/10.2466/15.10.PR0.112.3.976-991>
- Epstein, J. L., & McPartland, J. M. (1976). The concept and measurement of the quality of school life. *American Educational Research Journal, 13*(1), 15. <https://doi.org/10.2307/1162551>
- Fachrozie, R., Sofia, L., & Ramadhani, A. (2021). Hubungan kontrol diri dengan kecemasan pada mahasiswa tingkat akhir dalam menyelesaikan skripsi. *Psikoborneo: Jurnal Ilmiah Psikologi, 9*(3), 509. <https://doi.org/10.30872/psikoborneo.v9i3.6495>

- Garson, G. D. (2008). *Path analysis*. Statistical Associates Publishing.
- Ghozali, I. (2018). *Aplikasi analisis multivariate dengan program IBM SPSS 25*. Badan Penerbit Universitas Diponegoro.
- Hamilton, M. (2017). Path analysis. In *The SAGE encyclopedia of communication research methods*. SAGE Publications, Inc. <https://doi.org/10.4135/9781483381411>
- Haryono, R. H. S., & Kurniasari, K. (2018). Stres akademis berhubungan dengan kualitas hidup pada remaja. *Jurnal Biomedika dan Kesehatan*, 1(1), 75–84. <https://doi.org/10.18051/JBiomedKes.2018.v1.75-84>
- Hashem, S. R., Nagar, M. A. E.-R. Al, Eita, L. H., & Alam, F. H. (2019). The relationship between academic stress and self-control among faculty of nursing students. *Journal of Nursing*, 2(1), 51–63. <https://doi.org/10.22259/2639-1783.0201007>
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. The Guilford Press.
- Hidayat, D. R. (2011). *Psikologi kepribadian dalam konseling*. Ghalia Indonesia.
- Ilahi, A. D. W., Rachma, V., Janastri, W., & Karyani, U. (2021). The level of anxiety of students during the COVID-19 pandemic. *Proceeding of Inter-Islamic University Conference on Psychology*. <https://doi.org/10.21070/iiucp.v1i1.599>
- Isaac, S., & Michael, W. B. (1981). *Handbook in research and evaluation*. EdITS Publishers.
- Juhendra, J. (2022). *Kontrol diri sebagai mediator antara stres akademik dengan kecanduan terhadap smartphone pada siswa* [Unpublished master thesis]. Universitas Negeri Yogyakarta.
- Juniastira, S. (2018). *Hubungan antara dukungan sosial dan kualitas hidup pada pasien stroke* [Undergraduate thesis]. Universitas Islam Indonesia.
- Kasanah, S. U. (2022). *Pengaruh hardiness dan dukungan keluarga terhadap stres akademik mahasiswa psikologi 2019 Fakultas Psikologi dan Kesehatan UIN Walisongo* [Undergraduate thesis]. Universitas Islam Negeri Walisongo Semarang.
- Khodami, M. A., Seif, M. H., Koochakzadeh, R. S., Fathi, R., & Kaur, H. (2022). Perceived stress, emotion regulation and quality of life during the COVID-19 outbreak: A multi-cultural online survey. *Annales Médico-Psychologiques, Revue Psychiatrique*, 180(6), 514–518. <https://doi.org/10.1016/j.amp.2021.02.005>
- Kim, J.-H., & Park, E.-Y. (2015). Mediating effect of self-control in relation to depression, stress, and activities of daily living in community residents with stroke. *Journal of Physical Therapy Science*, 27(8), 2585–2589. <https://doi.org/10.1589/jpts.27.2585>
- Larasati, T. (2009). Kualitas hidup pada wanita yang sudah memasuki masa menopause. *Jurnal Fakultas Psikologi Universitas Gunadarma*, 1(1), 1–19.
- Leong Bin Abdullah, M. F. I., Mansor, N. S., Mohamad, M. A., & Teoh, S. H. (2021). Quality of life and associated factors among university students during the COVID-19 pandemic: A cross-sectional study. *BMJ Open*, 11(10), e048446. <https://doi.org/10.1136/bmjopen-2020-048446>
- Marsela, R. D., & Supriatna, M. (2019). Kontrol diri: Definisi dan faktor. *Journal of Innovative Counseling: Theory, Practice & Research*, 3(2), 65–69.
- Nevid, J. S., Rathus, S. A., & Greene, B. (2018). *Abnormal psychology in a changing world*. Pearson.
- Núñez-Pizarro, J. L., González-Luna, A., Mezones-Holguín, E., Blümel, J. E., Barón, G., Bencosme, A., Benítez, Z., Bravo, L. M., Calle, A., Flores, D., Espinoza, M. T., Gómez, G., Hernández-Bueno, J. A.,

- Martino, M., Lima, S., Monterrosa, A., Mostajo, D., Ojeda, E., Onatra, W., ... Chedraui, P. (2017). Association between anxiety and severe quality-of-life impairment in postmenopausal women: Analysis of a multicenter Latin American cross-sectional study. *Menopause*, 24(6), 645–652. <https://doi.org/10.1097/GME.0000000000000813>
- Nur, N., Kibık, A., Kılıç, E., & Sümer, H. (2017). Health-related quality of life and associated factors among undergraduate university students. *Oman Medical Journal*, 32(4), 329–334. <https://doi.org/10.5001/omj.2017.62>
- Nurkholis, N. (1970). Pendidikan dalam upaya memajukan teknologi. *Jurnal Kependidikan*, 1(1), 24–44. <https://doi.org/10.24090/jkv1i1.530>
- Pangalo, L. H. (2021). *Tingkat stres dan kualitas hidup pada mahasiswa kedokteran* [Undergraduate thesis]. Universitas Surabaya.
- Paramesthi, G. S. (2012). *Kecemasan dan harga diri* [Master thesis]. Universitas Padjadjaran.
- Potas, N., Koçtürk, N., & Toygar, S. A. (2021). Anxiety effects on quality of life during the COVID-19 outbreak: A parallel-serial mediation model among nurses in Turkey. *Work*, 69(1), 37–45. <https://doi.org/10.3233/WOR-205050>
- Powers, J. P., Moshontz, H., & Hoyle, R. H. (2020). Self-control and affect regulation styles predict anxiety longitudinally in university students. *Collabra: Psychology*, 6(1). <https://doi.org/10.1525/collabra.280>
- Priscilla, C., & Yudhyarta, D. Y. (2021). Implementasi pilar-pilar pendidikan UNESCO. *Asatiza: Jurnal Pendidikan*, 2(1), 64–76. <https://doi.org/10.46963/asatiza.v2i1.258>
- Putri, N. E., Kholis, F. N., & Ngestiningsih, D. (2018). Hubungan tingkat stres dengan kualitas hidup pada pasien tuberkulosis di RSUP dr. Kariadi Semarang. *Jurnal Kedokteran Diponegoro (Diponegoro Medical Journal)*, 7(2), 499–506. <https://doi.org/10.14710/dmj.v7i2.20693>
- Rahmawati, D., Fahrudin, A., & Abdillah, R. (2021). Hubungan kontrol diri dengan stres akademik akibat pembelajaran hybrid dalam masa pandemi COVID-19 di SMK X Kota Bekasi. *Khidmat Sosial: Journal of Social Work and Social Services*, 2(2), 93–101.
- Ribeiro, Í. J. S., Pereira, R., Freire, I. V., de Oliveira, B. G., Casotti, C. A., & Boery, E. N. (2018). Stress and quality of life among university students: A systematic literature review. *Health Professions Education*, 4(2), 70–77. <https://doi.org/10.1016/j.hpe.2017.03.002>
- Rutter, M. (2006). Implications of resilience concepts for scientific understanding. *Annals of the New York Academy of Sciences*, 1094(1), 1–12. <https://doi.org/10.1196/annals.1376.002>
- Sarwono, J. (2011). Mengenal path analysis: Sejarah, pengertian dan aplikasi. *Jurnal Ilmiah Manajemen Bisnis*, 11(2), 285–296.
- Shalsabila, Z. R., Putri, T. H., & Fauzan, S. (2022). Hubungan tingkat kecemasan dengan kualitas hidup masyarakat selama pandemi COVID-19 di Kota Pontianak. *Tanjungpura Journal of Nursing Practice and Education*, 4(1), 1–9. <https://doi.org/10.26418/tjnpe.v4i1.54682>
- Solis, A. C., & Lotufo-Neto, F. (2019). Predictors of quality of life in Brazilian medical students: A systematic review and meta-analysis. *Brazilian Journal of Psychiatry*, 41(6), 556–567. <https://doi.org/10.1590/1516-4446-2018-0116>
- Spielberger, C. D. (2013). *Anxiety and behavior*. Academic Press Inc.
- Syaputra, Y. (2021). *Hubungan antara kesehatan mental dan kualitas hidup mahasiswa pada masa pandemic COVID-19* [Undergraduate thesis]. Universitas Islam Negeri Sultan Syarif Kasim Riau.

- Taylor, E. S. (2006). *Health psychology* (6th ed.). McGraw-Hill.
- Utami, D. T., Karim, D., & Agrina, A. (2014). Faktor-faktor yang mempengaruhi kualitas hidup pasien diabetes mellitus dengan Ulkus diabetikum. *Jurnal Online Mahasiswa (JOM) Bidang Ilmu Keperawatan*, 1(2), 1-7.
- WHO. (1997). *WHOQOL: Measuring quality of life*. World Health Organization (Division of Mental Health and Prevention of Substance).
- WHO. (1998). *WHOQOL: User manual*. World Health Organization.
- Williams, T., & Roey, S. (1997). Consistencies in the quality of school life. In M. Binkley, K. Rust, & T. Williams (Eds.), *Reading literacy in an international perspective: Collected papers from the IEA reading literacy study* (pp. 193-202). U.S. Department of Education and National Center for Education Statistics. <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=97875>
- Wilmer, M. T., Anderson, K., & Reynolds, M. (2021). Correlates of quality of life in anxiety disorders: Review of recent research. *Current Psychiatry Reports*, 23(11), 77. <https://doi.org/10.1007/s11920-021-01290-4>
- Wu, C., & Yao, G. (2007). Relations among self-certainty, sense of control and quality of life. *International Journal of Psychology*, 42(5), 342-352. <https://doi.org/10.1080/00207590701264831>
- Zakiyyah, A., & Latifah, M. (2022). Pengaruh kelekatan remaja-orangtua, harga diri, dan kontrol diri terhadap penggunaan internet bermasalah pada remaja. *Jurnal Ilmu Keluarga dan Konsumen*, 15(3), 264-275. <https://doi.org/10.24156/jikk.2022.15.3.264>

This page has been intentionally left blank.