

The Correlation of Academic Stress and Academic Workload with Academic Burnout During Covid-19 Pandemic among Nursing Students in Health Polytechnic of The Ministry of Health in Yogyakarta

Maryana¹, Abiyu Naufal Susanto^{1*}

¹ Department of Nursing Poltekkes Kemenkes Yogyakarta, Indonesia

Email: abiyyunaufalsusanto@gmail.com

Abstract

Background: Nursing students have the potential to experience academic stress due to the lecture system and academic demands. Clinical assignments are the main academic workload of nursing students. The Covid-19 pandemic conditions affect academic stress and academic workloads among nursing students. Stress and workload are personal factors that are predictors of burnout. Objective: To know the correlation of academic stress and academic workload with academic burnout during covid-19 pandemic among nursing students in Health Polytechnic of the Ministry of Health in Yogyakarta. Methods: This research is non-experimental study with a cross-sectional design. This research was conducted in January 2021. The population of this research were students of Nursing Department of the Health Polytechnic of the Ministry of Health in Yogyakarta. The number of samples in this research were 228 students. Pearson product moment test and multiple linear regression test were used for data analysis. Results: The results showed that there was a positive and significant correlation between academic stress and academic burnout, the amount of r was 0.641 and the p value was 0.000. There was a positive and significant correlation between academic workload and academic burnout, the amount of r was 0.677 and the p value was 0.000. The results of the significance test obtained that the F value was 98.401, the F_{table} value for α 5% = 3.04 and for α 1% was 3.88. The amount of the effective contribution of the academic stress variable was 12.44% and the effective contribution of the academic workload variable was 34.18%. The relative contribution by the academic stress variable was 26.67% while the relative contribution by the academic workload variable was 73.33%. Conclusion: There was a significant positive correlation between academic stress and academic workload with academic burnout during the Covid-19 pandemic among students in the Nursing Department of the Health Polytechnic of the Ministry of Health in Yogyakarta.

Keywords: Academic stress Academic workload Academic burnout Nursing student Covid-19 pandemic

1. Introduction

The Covid-19 pandemic in Indonesia began in March 2020 and peaked in January 2021 with the addition of 14,000 positive Covid-19 patients in a day. The coronavirus disease 2019 (Covid-19) pandemic is a health emergency due to SARS-CoV-2 which has a direct impact on various sectors such as education, market activity, supply (production of goods and services), demand (consumption and investment), the world of work, and the world of work. health services¹. This impact will be especially felt on nursing students where the learning system which is usually done face-to-face either on campus or in practice has turned online². Given the unexpected length and severity of the outbreak, students reported concerns regarding the academic, health, and lifestyle effects of the pandemic³. The long-lasting pandemic situation and strict health

protocol rules such as regional quarantine and stay-at-home orders during the Covid-19 pandemic have had a stressful impact on college students⁴. The results of research on Universidad Autónoma de Madrid students show that there is a significant positive effect between regional quarantine rules during Covid-19 on students' academic workloads⁵.

Academic burnout is defined as a consequence of poorly managed chronic workplace stress. It is characterized by a triad of emotional exhaustion, depersonalization related to lecture activities and feelings of diminished personal achievement⁶. The results of the latest research show that students are identified as experiencing more stress due to the lecture system⁷. Nursing students are more likely to experience stress due to academic demands⁸. Clinical assignments are the heaviest academic workload for nursing students⁹. Academic stress and academic

workload have been shown to be positively related¹⁰. Personal factors that are strong predictors of burnout are stress and workload¹¹. This research was conducted by identifying the relationship between academic stress and academic workload as a strong predictor of burnout. Finding the relationship between academic burnout during the Covid-19 pandemic for nursing students who have high academic workloads and clinical workloads and are most at risk of experiencing stress. This study seeks to prove that there is a significant relationship at the level of a strong relationship with a positive direction of correlation between academic stress with academic burnout, academic workload with academic burnout, and between academic stress and academic workload simultaneously with academic burnout.

2. Materials and Method

2.1. Research design

This research is a correlational analytic quantitative research that aims to determine the relationship between variables. The researcher applied a non-experimental type of research with a cross-sectional research design in which the data collection process on the variables studied was carried out at one time.

2.2. Population and sample research

The population of this research is the students of the Department of Nursing, Poltekkes, Ministry of Health, Yogyakarta. Determination of the research sample using a total sampling technique on the population that meets the inclusion criteria in this study. The samples in this study were Regular Students of the Department of Nursing Poltekkes, Ministry of Health Yogyakarta in the academic year 2020/2021 for the 8th semester, 6th semester, and 4th semester of Applied Nursing Study Program as well as Regular Students of the 6th semester and 4th semester of Nursing Diploma Three Study Program with a total number of samples in this study of 228 students.

2.3. Materials and research tools

The independent variables in this study were student academic stress and student academic workload during the Covid-19 pandemic. The dependent variable in this study was academic burnout during the Covid-19 pandemic for Nursing Department Students at the Health Polytechnic of the Ministry of Health Yogyakarta. Each research variable is defined as follows: 1. Student academic stress during the Covid-19 pandemic is a condition of tension that creates a physical and psychological imbalance that affects the emotions, thought processes, and condition of a student during the Covid-19 pandemic. The parameter used is academic stress score with interval data scale. 2. Student academic workloads during the Covid-19 pandemic are a

number of activities or learning processes that must be completed by students such as exams, assignments, clinical competencies, as well as the gap in expectations between theory and clinical practice within a certain period of time during the Covid-19 pandemic. The parameter used is academic workload score with interval data scale. 3. Student academic burnout during the Covid-19 pandemic is fatigue in three dimensions which include physical, emotional, and mental for students who are undergoing lectures during the Covid-19 pandemic at the Nursing Department of the Health Polytechnic of the Yogyakarta Ministry of Health. The parameter used is the academic burnout score with interval data scale.

Academic stress score data was obtained through the Student Nurse Stress Index (SNSI) questionnaire modified from Rakhmawati's research¹². The modified SNSI questionnaire was tested for validity using the Pearson Correlation Product Moment formula with an error rate (α) of 0.05 with r_{table} value = 0.4575. The validity test shows that the r_{count} value of 22 statement items is in the range of 0.571-0.912 so that the modification of the SNSI questionnaire is declared valid. Academic workload score data was obtained through a modified nursing student academic workload questionnaire from Wijaya's research¹³. The validity of the modified nursing student academic workload questionnaire was tested using the Pearson Correlation Product Moment formula with an error rate (α) of 0.05 with a value of r_{table} = 0.3738. The validity test showed the results of the r_{count} value of the 16 statement items in the range of 0.495-0.865 so that the modification of the academic workload questionnaire was declared valid. Academic burnout score data was obtained through the Maslach Burnout Inventory-Student Survey (MBI-SS) questionnaire modified from Latifatul Laili's research¹⁴. The modified MBI-SS questionnaire was tested for validity using the Pearson Correlation Product Moment formula with an error level (α) of 0.05 with a value of r_{table} = 0.2638. The validity test showed that the r_{count} value of the 24 statement items was in the range of 0.538-0.882 so that the modification of the MBI-SS questionnaire was declared valid. After the modification of the research questionnaire was tested using the Cronbach's Alpha (α) formula, the SNSI questionnaire, nursing student academic workload questionnaire, and MBI-SS questionnaire were each declared reliable with Cronbach's Alpha values of 0.761, 0.756, and 0.761.

2.4. Collection / research stages

Data collection was carried out by researchers by distributing a google form link containing a demographic questionnaire, modifying the Student Nurse Stress Index (SNSI) questionnaire, modifying the nursing student academic

workload questionnaire, and modifying the Maslach Burnout Inventory-Student Survey (MBI-SS) questionnaire via the Whatsapp (WA) short message application. Then the respondent will fill out the research instrument in the form of a questionnaire that has been provided according to the time determined by the researcher. Documentation studies on student academic documents were carried out to obtain secondary data needed by researchers.

2.5. Data analysis

The data analysis technique used is multiple linear regression analysis, t test, F test, R² test, as well as relative and effective contribution. Normality test of academic stress data and academic burnout as well as normality test of academic workload and academic burnout data with Kolmogorov Smirnov analysis obtained that all data has a value of more than 0.05 so that the data is normally distributed. In this study, the Pearson Product Moment test (t test) was used to determine the relationship between academic stress (X₁) and academic workload (X₂) with academic burnout (Y). If the value of $t_{\text{statistic}} > t_{\text{table}}$ value (p-value more than 0.05) it means that there is a relationship between the independent variable and the dependent variable. Academic stress data and academic workload with academic burnout are normally distributed with nilai value more than 0.05. The general equation of multiple linear regression is: $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2$. The F test is used to determine the significance of the influence of academic stress variables (X₁) and academic workload (X₂) together on academic burnout (Y). If the value of $F_{\text{statistic}} > F_{\text{table}}$, it means that there is a joint influence between the independent variables (academic stress and academic workload) on the dependent variable (academic burnout).

Analysis of the coefficient of determination (R square) is used to determine how much influence the independent variable has on the frontal variable shown in percentage. The relative contribution is to find out how much each predictor contributes to the Y criteria. The effective contribution is the contribution to find out how much each predictor contributes to the criteria.

3. Results and Discussion

Based on the research data, it is known that the majority of respondents are female or equivalent to 92.54% with the most age belonging to the late teens at 72.37%. Respondents who came from the three nursing diploma study programs mostly came from the 4th semester, which was 21.93%, while the highest proportion of students from the applied nursing undergraduate study program came from the 4th semester, which was

20.18%. As many as 82.46% of the respondents chose to study in the nursing department because of their own interest/desire. The following is the level of academic stress, level of academic workload, and level of respondent's academic burnout:

Table 1. Respondents Distribution Frequency by Academic Stress, Academic Workload, and Academic Burnout During the Covid-19 Pandemic

No	Variable	Frequency (n)	Percent (%)
1	Academic Stress Category		
a.	Light	60	26,32
b.	Medium	168	73,68
c.	Heavy	0	0,00
	Total	228	100,00
2	Academic Workload Category		
a.	Low	77	33,77
b.	Moderate	125	54,82
c.	High	26	11,40
	Total	228	100,00
3	Academic Burnout Category		
	Not experiencing academic burnout	0	0,00
a.	Light	11	4,82
b.	Medium	197	86,40
c.	Heavy	20	8,77
d.	Total	228	100,00

Source: Primary data

The distribution frequencies of academic stress shows that the majority of respondents experienced moderate stress during the Covid-19 pandemic, namely 168 people (73.68%). The respondent's academic workload during the Covid-19 period in table 1 was mostly at the medium workload level, which was 125 people (54.82%). A total of 197 respondents or equivalent to 86.40% of the entire sample in this study experienced moderate academic burnout.

The results of the study between age and academic stress in table 2 show that 14.88% of respondents who experience moderate stress levels are in the young adult age range of 21-40 years. Meanwhile, the late adolescent respondents aged 18-21 years contributed 85.12% of the number of respondents who experienced moderate academic stress. This is in accordance with a study on three nursing diploma students which showed that the higher the age level, the lower the academic stress level¹⁵. According to the research data in table 2, 3.57% of respondents who experience moderate stress are male while the remaining 96.43% are female. There is no relationship between gender and stress levels in nursing diploma students¹⁵.

Table 2. Description of Academic Stress, Academic Workload, and Academic Burnout Based on Characteristics of Respondents

No	Respondent's Characteristics	Academic Stress Category (X1)						Academic Workload Category (X2)						Academic Burnout Category (Y)					
		Light		Medium		Heavy		Low		Moderate		High		Light		Medium		Heavy	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
1	Gender																		
a.	Male	11	18,33	74	96,11	120	96,00	3	3,89	5	4,00	9	65,38	2	18,19	10	5,08	5	15,00
b.	Female	49	81,67	77	100,00	125	100,00	74	96,11	120	96,00	17	34,62	9	81,81	187	94,92	15	75,00
	Total	60	100,00	151	100,00	245	100,00	77	100,00	125	100,00	26	100,00	11	100,00	197	100,00	20	100,00
2	Age																		
a.	Early Adolescents (12-15 years old)	0	00,00	0	00,00	0	0,00	0	00,00	0	00,00	0	00,00	0	00,00	0	00,00	0	00,00
b.	Middle Adolescents (15-18 years old)	0	00,00	0	00,00	0	0,00	0	00,00	0	00,00	0	00,00	0	00,00	0	00,00	0	00,00
c.	Late Adolescents (18-21 years old)	22	36,67	143	85,12	0	0,00	58	75,32	86	68,80	21	80,76	9	81,81	140	71,06	16	80,00
d.	Early Adulthood (21-40 years old)	38	63,33	25	14,88	0	0,00	19	24,68	39	31,20	5	19,24	2	18,19	57	38,93	4	20,00
	Total	60	100,00	168	100,00	0	0,00	77	100,00	125	100,00	26	100,00	11	100,00	197	100,00	20	100,00
3	Study Program																		
a.	Diploma Three of Nursing 4th Semester 6th Semester	26	43,33	24	14,28	0	0,00	14	18,19	34	27,20	2	7,69	2	18,18	46	23,35	2	10,00
b.	Bachelor of Applied Nursing 4th Semester 6th Semester 8th Semester	19	31,66	27	16,10	0	0,00	6	7,79	37	29,60	3	11,54	1	9,10	42	21,32	3	15,00
	Total	60	100,00	168	100,00	0	0,00	77	100,00	125	100,00	26	100,00	11	100,00	197	100,00	20	100,00
4	Grade-point Average 2019/2020																		
a.	3,51-4,00	41	68,33	147	87,50	0	0,00	52	67,54	118	94,40	18	69,23	6	54,54	166	84,26	16	80,00
b.	3,24-3,50	16	26,66	19	11,30	0	0,00	23	29,87	6	4,80	6	23,08	3	27,27	29	14,72	3	15,00
c.	2,75-3,23	3	5,01	2	1,20	0	0,00	2	2,59	1	0,80	2	7,69	2	18,19	2	1,02	1	5,00
	Total	60	100,00	168	100,00	0	0,00	77	100,00	125	100,00	26	100,00	11	100,00	197	100,00	20	100,00
5	Grade-point Average 2020/2021																		
a.	3,51-4,00	47	78,33	144	85,71	0	0,00	63	81,81	108	86,40	20	76,92	7	63,64	167	84,77	17	85,00
b.	3,24-3,50	13	21,67	22	13,09	0	0,00	14	18,19	16	12,80	5	19,24	4	36,36	29	14,72	2	10,00
c.	2,75-3,23	0	00,00	2	0,39	0	0,00	0	00,00	1	0,80	1	3,48	0	00,00	1	0,50	1	5,00
	Total	60	100,00	168	100,00	0	0,00	77	100,00	125	100,00	26	100,00	11	100,00	197	100,00	20	100,00
6	Interest in Choosing a Nursing Major																		
a.	According to respondents own interest/desire	39	65,00	149	88,69	0	00,0	56	72,72	114	91,20	18	69,23	4	36,36	172	87,30	15	75,00
b.	Not according to interest / not personal desire	21	35,00	19	11,31	0	00,0	21	27,28	11	8,80	8	30,76	6	54,54	25	18,70	5	25,0
	Total	60	100,00	168	100,00	0	0,00	77	100,00	125	100,00	26	100,00	11	100,00	197	100,00	20	100,00

Source: Primary data

After all research data has been collected, it is known that respondents who experience moderate stress 88.69% choose nursing studies according to their own interests / desires and the majority of respondents who experience moderate stress are also respondents who choose nursing studies according to their own interests / desires, which is 65.00 %. According to a study there is no relationship between stress levels and student interest in nursing studies¹⁶. If you look at the proportion of respondents who have an odd GPA for the academic

year 2020/2021 at a moderate level of academic stress, it is dominated by students with a GPA in the range of 3.51-4,00, which is 67.85% and a mild academic stress level of 78.33%. which is in the range of 3.51-4,00. According to previous research, student achievement index does not have a significant relationship with nursing student stress¹⁵. Most of the respondents in this study have the same GPA, so it cannot be concluded that students with high GPA tend to experience high academic stress. The distribution of respondents who experienced

moderate stress in the third semester nursing diploma study program was dominated by 6th semester students by 23.80% while in the applied nursing undergraduate study program the majority came from 6th semester of 23.21% and 8th semester of 22.61%. The data shows a tendency that the more semesters students have taken, the higher the level of stress experienced. These results are in line with the results of previous studies which showed that 3rd semester nursing students had a higher stress level than 1th semester students¹⁷. The higher the semester taken by the students, the higher the academic demands that must be met so as to increase the stress experienced by students.

The level of high academic workload is dominated by women (34.62%) this happens because the majority of respondents in this study are women so it cannot be concluded that the incidence of high academic workloads is more common in women. The age range of 18-21 years or late teens is more likely to experience high academic workloads (80.76%) and as many as 68.80% of respondents who have moderate academic workloads are also respondents with late teens. Based on table 2, it is known that the higher the semester taken by the students, there is a tendency to increase the academic workload where the 6th semester of diploma three nursing students contributed 19.23% of the high academic workload and the 8th semester of applied nursing undergraduate students contributed 38.46% high academic workload of all respondents who have a high academic workload. Both in the even semester 2019/2020 and in the odd semester 2020/2021 students who have social studies in the range of 3.51-4.00 have more high academic workloads. Students who choose to study in nursing majors according to their own interests or desires appear to have a high academic workload, which accounts for 60.23% of all respondents who have a high academic workload.

Of the 20 respondents who experienced severe academic burnout, 80% were in their late teens. Meanwhile, academic burnout is being distributed more in the category of late teens (71.06%). According to a study, the age of nursing students has an insignificant relationship to academic burnout as a whole or to each dimension in burnout syndrome¹⁸.

4. Highlights

There is a significant correlation between academic stress and academic workload with academic burnout among nursing students in Health Polytechnic of The Ministry of Health in Yogyakarta during Covid-19 pandemic.

5. Conclusion

There is a significant correlation with a strong level of correlation and a positive direction of correlation between activeness in student organization activity (X1) and academic achievements (Y) during the

Covid-19 pandemic among Health Polytechnic of the Ministry of Health in Yogyakarta's student. There is a significant correlation with a strong level of correlation and a positive direction of correlation between soft skills (X2) and academic achievements (Y) during the Covid-19 pandemic for Health Polytechnic of the Ministry of Health in Yogyakarta's student. There is a significant correlation with the direction of a positive correlation between activeness in student organization activity (X1) and soft skills (X2) simultaneously with academic achievements (Y) during the Covid-19 pandemic for Health Polytechnic of the Ministry of Health in Yogyakarta's student. This study shows that the soft skills variable (X2) has a greater contribution to academic achievements (Y) during the Covid-19 pandemic compared to the activeness in student organization activity variable (X1).

6. Acknowledgement

The authors would like to thank those who have assisted in this research, especially the Manager of Student Affairs and Students of the Health Polytechnic of the Ministry of Health of Yogyakarta.

Reference

- ILO. (2020). In the face of a pandemic: Ensuring Safety and Health in the Workplace. Jakarta.
- Goble, Frank G. The Third School of Psychology of Humanism Abraham Maslow. Yogyakarta: Kanisius, 1987.
- Klaus, P. 2007. The Hard Truth about Softskills. New York: Harper Collins Publisher
- Arnata, I. W., & Surjoseputro, S. 2014. Evaluation of Soft Skills in New Student Learning at the Faculty of Agricultural Technology, Udayana University. *Journal of Education and Learning*, 21(1), 1–9.
- Cahyaningtyas, Fadila. 2017. Duality in Small and Medium Enterprise Accounting Practices. *Journal of Innovation in Business and Economics*. Vol.01 No.02. 11-22
- Uline, Cynthia L dan Megan Tschannen Moran. 2008. The Walls Speak The Interplay of Quality Facilities, School Climate and Student Achievement. San Diego State University. *Journal of Educational Administration*.
- Tajasom, A. & Ahmad, Z.A. 2011. Principals' leadership style and school climate: Teachers' perspectives from Malaysia. *The International Journal of Leadership in Public Services*, 7 (1), 314-333.
- Pratiwi, Siska Sinta. 2016. The Effect of Student Activity in the Organization and Learning Motivation on Student's Learning Achievement, Faculty of Economics, Yogyakarta State University.
- Bagaswana, Lehan. 2014. The Effect of Soft Skills on Achievement Industrial Work Practice Students Department of Image Engineering Building Academic Year 2013/2014 State Vocational School 2 Depok Sleman. Faculty Of Engineering, Yogyakarta

State University

Mishra, S. (2020). Social networks, social capital, social support and academic success in higher education: A systematic review with a special focus on 'underrepresented' students. *Educational Research Review*.

Kulp, A. M., Pascale, A. B., & Gradstaff, M. (2019). Types of Extracurricular Campus Activities and First-Year Students' Academic Success. *Journal of College Student Retention: Research, Theory & Practice*, <https://doi.org/10.1177/1521025119876249>.

Parajuli, M. (2017). Gender Differences in the Academic Performance of Students. *Journal of Development and Social Engineering*, 39-47.

Freeman, R. (2017). The Relationship Between Extracurricular Activities And Academic Achievement. National Louis University.

Utomo, M. F., Yusari, I. G., Darmayanti, N. P., & Dhyani, I. A. (2019). Correlation between extracurricular activities and academic performances among preclinical medical students in Udayana University, Bali, Indonesia. *Intisari Sains Medis* ; 10(3): 588-591, 588-591.

Urlings-Strop, L. C., Themmen, A. P., & Stegers-Jager, K. M. (2017). The relationship between extracurricular activities assessed during selection and during medical school and performance. *Health Sci Educ*, 287–298.

Chua, C. J., Chuatoco, I. A., Peña, A. M., Jimenez, D. L., & Co, D. A. (2017). The Influence of Participation in Extracurricular Activities to the Employability of Industrial Engineering Graduates of One Private University in the Philippines . *Asia Pacific Journal of Multidisciplinary Research*, Vol. 5, No. 2, 163-170

Obilor, E. I. (2019). Soft Skills and Students' Academic Achievement. *The International Journal of Community and Social Development* 7(2), 27-37.

Sayed, A., Abozeid, H. A., Fayza, & Mohammed, M. (2020). Relationship between Soft Skills and Academic Achievement among 4 th Year Nursing Students. *IOSR Journals*.

Ilhomovna, H. P. (2020). The Role of Extracurricular Activities in an Educational Process. *JournalNX- A Multidisciplinary Peer Reviewed Journal*.

Tahir, T., Aurangzeb, W., & UmbreenIshfaq. (2021). Co-Curricular Activities and Its Relationship with Academic Performance. *Ilkogretim Online*Vol. 20 Issue 4, 1398-1406.

Lim, K. (2016). Coordinator's reflection. . *Buletin Praktikum Pusat Praktikum*. ; 1(3), 5-6.

Koncz, A. &. (2017). Employers cite communication skills, honesty/integrity as key for job candidates (press release). Bethlehem, PA: National Association of Colleges and Employers.

Howe, S. (2011). Can EQ be learned? *Fleet Maintenance*. Fort Atkinson; 14(10), 36.