The rate of student's academic burnout during Covid-19 pandemic ⊘

Anthony Gunawan Tanputera ✉; Herry Christian Palit; Debora Anne Yang Aysia

Check for updates
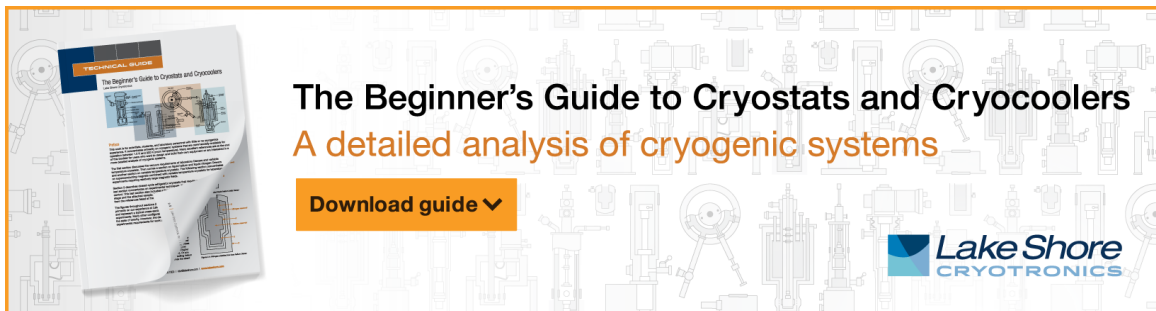
View Online   Export Citation   CrossMark

22 January 2024 07:06:42

AIP Publishing

The Rate of Student's Academic Burnout During Covid-19 Pandemic

Anthony Gunawan Tanputera[a], Herry Christian Palit[b], and Debora Anne Yang Aysia[c]

Industrial Engineering Department, Petra Christian University
Jl. Siwalankerto 121–131, Surabaya 60236, East Java, Indonesia

[a] Corresponding author: anthonygunawan911@gmail.com
[b] herry@petra.ac.id, [c] debbie@petra.ac.id

Abstract. This research aimed to determine the level of academic burnout on online learning for junior high school, high school, and college students in East Java. Online learning was one of the government's efforts to minimize the effect of the COVID-19 virus. The use of gadgets for too long could cause various emotional and physical disturbances for the user. Data was collected via a questionnaire asking about the effect of online learning on academic burnout for students in East Java. There were 334 respondents, consists of 102 junior high school students (31%), 104 high school students (31%), and 128 college students (38%). Academic burnout was measured using three dimensions, namely emotional exhaustion, cynicism, and reduced academic efficacy. This present study shows 67.66% of junior high school students, 71.12% of senior high school students, and 68.50% of collage students experienced academic burnout. Online learning increases academic burnout, where the rate of emotional exhaustion is high, however the rate of cynicism and reduced academic efficacy are moderate. Students who prefer offline learning compared to online learning have a higher rate of cynicism because they felt burdened with the assignments given, and the material taught in class was not clear. The analysis of academic burnout from these three dimensions is also concluded in this paper.

INTRODUCTION

The COVID-19 pandemic had made daily activities more complex, including the learning process. Therefore, the Ministry of Education and Culture (Kemendikbud) decided to carry out online learning to minimize physical contact. Online learning was a learning method that was carried out online. The learning process was carried out without face to face but through some application media. All forms of learning, such as teaching and examination activities, were entirely carried out online through some applications for online learning such as Google Classroom, Google Meet, Zoom, etc.

There were several challenges that students in learning activities must face [1]. First, students needed to have a solid and high spirit of independent learning. Student's desire to learn was one of the success factors in online learning. The ability to learn independently was a necessary factor in online learning. Because during the learning process, students would search, find, and conclude what they had learned in class. Second, the level of students' understanding of the use of technology. The application of this online learning activity required every student to master gadgets, such as computers, laptops, and smartphones. In addition, technological developments in the 4.0 era created several applications that could be used as online learning features (such as Google Classroom, Google Meet, and Zoom) that require students to understand how it worked. Third, students need interpersonal communication skills. The other success factor of online learning was good communication skills between students. Finally, students need to collaborate with other students or teachers. Students were required to collaborate with other students in carrying out assigned tasks and with lecturers when experiencing difficulties in online learning. This interaction aims to train the social spirit of students.

There were several impacts of online learning. *S*ome of the positive effects were *e*xpanding access to education for the general public located far from schools*,* increasing access to many experts regardless of location*,* and flexibility [2]. However, the negative impacts of online learning were *p*hysical complaints, such as dizziness, tired eyes, eye irritation, back pain and hearing loss*;* decreased concentration while studying*; s*leep disturbances (insomnia)*;* and anxiety [3]. In addition, online learning could impact a person's mental condition because students were required to stare at the gadget screen in a static and repetitive state for a long time. Thus, the excessive use of gadgets could cause various psychological, emotional, and physical disorders for users.

Based on a brief survey conducted on the use of electronic devices for junior high school students, high school students and college students, it was found that they could spend more than 12 hours each day using their gadgets during the Covid-19 pandemic. However, the recommended use of devices was only for 2 hours, more than that will cause mental disorders for users, such as stress and depression [4]. Thus, students' prolonged use of gadgets during the Covid-19 pandemic can cause prolonged stress, which can trigger academic burnout.

So far, there has been no research about the level of students' academic burnout at every level of education during the Covid-19 pandemic. Therefore, this present study discusses the rate of academic burnout among junior high school, high school, and college students in East Java, Indonesia.

METHODS

Academic Burnout

For many years, burnout has been recognized as an occupational hazard. Burnout is a psychological syndrome as a prolonged response to chronic interpersonal stressors on the job. The term burnout means mental and physical exhaustion. Burnout had an understanding in the form of a syndrome of emotional exhaustion, depersonalization, and a sense of helplessness experienced by someone in a job [5]. The three dimensions of burnout are an overwhelming exhaustion, feelings of cynicism from the job, and a sense of ineffectiveness and lack of accomplishment [6].

Burnout could occur in various sectors of activity and work, one of which is the education sector. The burnout that happened in the education sector was referred to as academic burnout. Academic burnout arose from exhaustion due to the demands of learning, having a cynical attitude (cynicism) towards academic assignments, and feeling incompetent (self-efficacy) as a student [7].

Maschlas Burnout Inventory - Student Survey

Maschlas Burnout Inventory - Student Survey (MBI-SS) was a method of measuring burnout whose measurement scale consists of three dimensions, namely emotional exhaustion (exhaustion), cynicism (cynicism), and reduced academic efficacy. This method had as many as 15 questions that described the three dimensions. The questions were divided into five questions about emotional exhaustion, four questions about cynicism, and six questions about reduced academic efficacy [8].

Emotional exhaustion (exhaustion) indicated fatigue caused by excessive study demands, both physically, psychologically, and emotionally. Physical fatigue was usually characterized by physical symptoms such as dizziness, headache, fever, aches or pains, etc. Psychological fatigue was indicated by feeling unhappy, like a failure, unappreciated by the surrounding environment, etc. Finally, the emotional exhaustion of students was characterized by feelings of excessive boredom, laziness, sadness, depression because of task demands, and so on [9].

The dimension of cynicism was related to responsibility for the demands of the study. The cynicism shown by students was usually attitudes such as not caring about the surrounding environment, reluctance to interact with others, and laziness to learn. This attitude could negatively impact student performance where students were reluctant to pay attention to the teacher during class and result in learning outcomes that were not optimal.

The dimension of reduced academic efficacy was related to students' ability and confidence in academic achievement, which meant a decrease in students' motivation, productivity, and self-competence. Students would feel insecure to accept the material or do the assignments or exams given, resulting in feelings of dissatisfaction with themselves and the work they did.

The questionnaire consists of two parts, namely the respondent's profile and 15 MBI-SS questions that describe the three dimensions of academic burnout. The questionnaire was distributed to students at every level of education, namely junior high school students, high school students, and college students using Google Forms. Respondents who distributed the questionnaire came from private schools or universities in East Java, with a minimum of 100

respondents for each education level. The respondent was limited to students from private schools or universities for preventing the appearance of biased measurement results.

A five-Likert scale was used in the questionnaire, where a score of one indicates strongly disagree, and a score of five indicates strongly agree. The distributed questionnaires had passed the validity test using the Pearson correlation test and reliability test using Cronbach's alpha test. The data obtained from the results of the distribution of the MBI-SS questionnaire were analyzed using descriptive statistics and significance tests to determine the relationship between academic burnout with the respondent's profile in every level of education. One of the statistic nonparametric tools that being used was the Kruskal Wallis test. Kruskal Wallis test was generally used as an alternative to the ANOVA test when one or all of the data distributions were not normally distributed.

RESULTS AND DISCUSSION

Respondent Profile

Respondents that had been obtained from the results of the questionnaire survey were 334 respondents from three levels of education, namely junior high school students (102 respondents), high school students (104 respondents), and college students (128 respondents). Most respondents were female (194 respondents, 58%), while the rest were male respondents (140 respondents, 42%). Respondents of male junior high school students were 47 respondents, while 55 respondents were female respondents. High school respondents consisted of 21 male respondents and 83 female respondents. Finally, male college student respondents were 72 respondents, while female college students were 56 respondents. Based on their class, the number of junior high school respondents was nine from seventh grade, 39 from eighth grade, and 54 from ninth grade. Based on their class, the number of high school students was 42 respondents from tenth-grade, 53 respondents from eleventh-grade, and nine from twelve-grade. Respondents from college students had a total of 128 respondents, which came from four semesters, namely semester 2 (6 respondents), semester 4 (7 respondents), semester 6 (44 respondents), and semester 8 (71 respondents).

Most of the respondents (91%) use Wi-Fi to access the internet for online learning. In addition, most of the respondents used laptops (282 respondents, 45%) and smartphones (265 respondents, 42%) as electronic devices to use in learning activities. During online learning activities, respondents were assisted with various application media applications with specific functions and purposes, which in the majority, they used Zoom for video conference applications.

Most of the respondents spent 5-6 hours using gadgets to do online learning (188 respondents, 56%), and 83 respondents had learning time for 3-4 hours. Besides online learning, respondents used their gadgets to do the tasks given from these online learning activities. Most respondents spent their time in front of the screen to do assignments for 3-4 hours (142 respondents, 42.51%). In addition to school purposes, respondents sometimes used their electronic devices for non-academic activities, including extracurricular activities, student council meetings, organizational meetings, committee meetings, etc. However, most respondents did not spend their time in front of the screen for these activities (115 respondents, 34.43%). Respondents also did other activities to entertain themselves by using gadgets, such as playing games, watching movies, chatting via chat via social media, etc. However, most respondents spent their time in front of devices for other purposes for 3-4 hours (148 respondents, 44.31%). Therefore, it could be concluded that respondents can spend 11 to 14 hours using gadgets. This statement was also proven by the initial survey conducted, where junior high school, high school, and college students could spend more than 12 hours using gadgets every day.

During online learning, respondents met with the distractions experienced. These distractions could come from external factors (such as internet connection, lack of facilities, etc.) or internal factors (aches, laziness, boredom, and others). 51% of respondents (172 respondents) often experienced interference during online learning, while 49% of other respondents (162 respondents) admit that they did not experience interference. Respondents who experienced interference were asked what kind of distractions during online learning. The distractions experienced were the slow internet connection (137 respondents, 41.01%), internal noise (86 respondents, 25.75%), and material delivered by the teacher was not clear (84 respondents, 25.15%). Respondents were also asked which type of online learning was more desirable. The results obtained are that most respondents (76%) preferred face-to-face learning (offline) to online learning.

The Rate of Student's Academic Burnout

The data showed 67.66% of junior high school students, 71.12% of high school students, and 68.50% of college students experienced academic burnout. The perceived students' academic burnout was categorized into three-level, namely Low (1.00-2.33), Medium/Moderate (2.34-3.66), and High (3.67-5.00). Table 1 showed the burnout rate at all levels of education was high in the emotional exhaustion dimension, but it was moderate in cynicism and reduced academic efficacy dimension. The data distribution could be seen in Appendix 1.

The Kruskal Wallis test was carried out to know if there were significant burnout score differences from each dimension among different levels of education. The results showed that there was a significant score difference on exhaustion and cynicism dimensions (p-value < .05) among different levels of education (Appendix 2).

TABLE 1. MBI-SS based on level of education

Level of education	Rate of academic burnout per dimension		
	Exhaustion	Cynicism	Reduced academic efficacy
Junior High school	3.71 (High)	3.31 (Medium)	3.26 (Medium)
Senior High School	4.00 (High)	3.38 (Medium)	3.30 (Medium)
Collage	3.80 (High)	3.41 (Medium)	3.21 (Medium)

Comparison between MBI-SS and The Duration of Online Learning

The rate of burnout based on the duration of online learning at all levels of education was categorized as medium and high level (Table 2). In addition, the Kruskal Wallis test in Appendix 3 showed significant burnout score differences on emotional exhaustion and cynicism for junior high school, based on the time duration of online learning.

The rate of burnout for all duration of online learning for these three dimensions was categorized as medium and high. Related to previous research [4], the recommended use of gadgets was only for 2 hours, more than that would result in mental disorders of students.

TABLE 2. Comparison between MBI-SS and the time duration of online learning

Level of education	Duration of Online Learning	Rate of academic burnout per dimension		
		Exhaustion	Cynicism	Reduced academic efficacy
Junior High school	3-4 hours	3.34 (Medium)	3.36 (Medium)	3.13 (Medium)
	5-6 hours	3.88 (High)	3.03 (Medium)	3.41 (Medium)
Senior High School	3-4 hours	4.11 (High)	3.47 (Medium)	3.32 (Medium)
	5-6 hours	3.98 (High)	3.34 (Medium)	3.26 (Medium)
College	3-4 hours	3.68 (High)	3.35 (Medium)	3.07 (Medium)
	5-6 hours	3.90 (High)	3.41 (Medium)	3.32 (Medium)

Comparison between MBI-SS and Distractions During Online Learning

It could be seen in Table 3, the presence of distractions during online learning tended to increase the score of burnout, especially on emotional exhaustion and reduced academic efficacy. However, the difference in burnout rate categories was only found in junior high school and college students on the emotional exhaustion dimension. The distractions during online learning caused students to become more stressed due to study demands, laziness, and loss of motivation to excel in class.

TABLE 3. Comparison between MBI-SS and distractions during online learning

Level of education	Distractions during online learning	Rate of academic burnout per dimension		
		Exhaustion	Cynicism	Reduced academic efficacy
Junior High school	Yes	3.72 (High)	3.14 (Medium)	3.27 (Medium)
	No	3.61 (Medium)	3.17 (Medium)	3.20 (Medium)
Senior High School	Yes	4.08 (High)	3.32 (Medium)	3.32 (Medium)
	No	3.88 (High)	3.48 (Medium)	3.26 (Medium)
Collage	Yes	4.09 (High)	3.46 (Medium)	3.34 (Medium)
	No	3.56 (Medium)	3.36 (Medium)	3.10 (Medium)

Based on Kruskal Wallis in Appendix 4, it could be seen that there were significant score differences between the presence or absence of distractions during online learning on emotional exhaustion and reduced academic efficacy at college students.

Comparison between MBI-SS and Preference Type of learning

Table 4 showed the academic burnout scores were higher for respondents who were more interested in offline learning than online learning, especially at senior high school and college students. However, the emotional exhaustion was high for all students who preferred offline learning to online learning.

Respondents who preferred online learning tended to have lower scores of academic burnout because they did not mind when participating in online learning. In addition, they felt more relaxed when participating in online learning than offline learning.

Based on Appendix 5, it could be seen that there were significant score differences on emotional exhaustion dimension between respondent's preferred learning types at all levels of education. Furthermore, there was also a significant score difference on junior high school's reduced academic efficacy dimension. However, there were no significant score differences on the cynicism dimension regarding which type of learning was more desirable at all levels of education.

TABLE 4. Comparison between MBI-SS and Preference Type of learning

Level of education	Preference of learning	Rate of academic burnout per dimension		
		Exhaustion	Cynicism	Reduced academic efficacy
Junior High school	Offline	3.81 (High)	3.12 (Medium)	3.38 (Medium)
	Online	3.41 (Medium)	3.13 (Medium)	3.04 (Medium)
Senior High School	Offline	4.14 (High)	3.42 (Medium)	3.33 (Medium)
	Online	3.47 (Medium)	3.26 (Medium)	3.17 (Medium)
Collage	Offline	3.91 (High)	3.35 (Medium)	3.21 (Medium)
	Online	3.48 (Medium)	3.57 (Medium)	3.20 (Medium)

Comparison between MBI-SS and Gender

Table 5 shows the burnout rate of each dimension between gender at all levels of education. The emotional exhaustion at junior high school was the only one that had a different rate category. Overall, the female students tended to have slightly higher burnout scores than the males. However, the burnout score differences between gender were not signi ficant at all levels of education, except the reduced academic efficacy dimension at senior high school, as seen in Appendix 6.

TABLE 5. Comparison between MBI-SS and Gender

Level of education	Gender	Rate of academic burnout per dimension		
		Exhaustion	Cynicism	Reduced academic efficacy
Junior High school	Male	3.62 (Medium)	3.10 (Medium)	3.17 (Medium)
	Female	3.79 (High)	3.13 (Medium)	3.39 (Medium)
Senior High School	Male	3.81 (High)	3.36 (Medium)	3.01 (Medium)
	Female	4.05 (High)	3.39 (Medium)	3.37 (Medium)
Collage	Male	3.74 (High)	3.37 (Medium)	3.21 (Medium)
	Female	3.88 (High)	3.45 (Medium)	3.21 (Medium)

Social support had an essential role in reducing academic burnout among students [10]. The social support that could reduce burnout was in the form of appraisal support and belonging support. Appraisal support was social support in providing information, feedback, or advice to individuals on making decisions about a problem they faced. Meanwhile, belonging support was support in inviting individuals to be involved in carrying out daily activities. Therefore, it was essential for students to get social support to avoid various kinds of pressure.

CONCLUSION

Online learning increased the rate of academic burnout. The significant differences were found on the emotional exhaustion dimension, which had a high category and the cynicism dimension, which had a moderate category at each

level of education. The distractions during online learning had significant differences in emotional exhaustion. They reduced academic efficacy, which caused respondents to become more stressed due to study demands, laziness, and loss of motivation to excel in class. Respondents who preferred offline learning to online have higher cynicism at all education levels because they felt burdened with the assignments given, and the material taught in class was unclear. Female respondents were more likely to have a higher level of academic burnout than male respondents; however, only the reduced academic efficacy dimension at senior high school had a significant difference. Lastly, the time duration of using gadgets tended to increase the burnout score, which there were significant differences between emotional exhaustion and cynicism for junior high school. Social support could reduce the level of academic burnout students own, especially social support in appraisal support and belonging support. It was essential for students to get social support to avoid various kinds of pressure.

APPENDIX

Appendix 1. Data Ditribution of MBI-SS Questions

No	Statement	Min	Max	Mean	St. Dev
1	I feel bored/bored with my learning activities	1	5	3.88 (High)	1.03
2	I have become less interested in learning activities since online learning	1	5	3.67 (High)	1.09
3	I am able to solve problems that appear in online learning (Related problems: Internet connection, gadget, internet quota, etc.)	1	5	3.82 (High)	0.97
4	I feel very tired during the last hour of online learning	1	5	4.00 (High)	1.06
5	I become less enthusiastic about starting online learning activities	1	5	3.81 (High)	1.07
6	I'm sure to stay active and excel in online learning	1	5	3.30 (Medium)	1.08
7	I feel tired and tired physically and emotionally	1	5	3.58 (Medium)	1.08
8	I am a good student when learning online (Completing assignments, listening to the teacher, not lying down when the teacher teaches, etc.)	1	5	3.24 (Medium)	1.10
9	I found many interesting things to learn during online learning	1	5	3.13 (Medium)	0.98
10	I feel tired when I have to get up early and take online lessons	1	5	3.51 (Medium)	1.20
11	I feel the lessons given are useless	1	5	2.69 (Medium)	1.22
12	I feel more enthusiastic when I get good grades when learning online	1	5	3.88 (High)	1.03
13	In my opinion, online learning is very burdensome for me	1	5	3.02 (Medium)	1.23
14	I doubt the importance of studying for myself	1	5	2.67 (Medium)	1.23
15	I feel confident that I can complete every task given during online learning	1	5	3.80 (High)	1.04

Appendix 2. Significance Test of MBI-SS

Grouping Variable	Asymp. Sig. (Kruskal Wallis Test)		
	Exhaustion	Cynicism	Exhaustion
Level of education	.004*	.001*	.278

* $p < .05$

Appendix 3. Significance Test Comparison between MBI-SS and The Duration of Online Learning

Grouping Variable		Asymp. Sig. (Kruskal Wallis Test)		
		Exhaustion	Cynicism	Reduced academic efficacy
Duration of online learning at	Junior High School	.000*	.009*	.125
	Senior High School	.601	.233	.977
	Collage	.152	.982	.055

* $p < .05$

Appendix 4. Significance Test Comparison between MBI-SS and Distractions During Online Learning

Grouping Variable		Asymp. Sig. (Kruskal Wallis Test)		
		Exhaustion	Cynicism	Reduced academic efficacy
Distractions during online learning at	Junior High School	.270	.412	.151
	Senior High School	.481	.193	.600
	College	.000*	.308	.013*

* $p < .05$

Appendix 5. Significance Test Comparison between MBI-SS and Preference Type of Learning

Grouping Variable		Asymp. Sig. (Kruskal Wallis Test)		
		Exhaustion	**Cynicism**	**Reduced academic efficacy**
Preference type of learning at	Junior High School	.013*	.856	.021*
	Senior High School	.007*	.380	.120
	College	.005*	.082	.730

* *p < .05*

Appendix 6. Significance Test Comparison between MBI-SS and Gender

Grouping Variable		Asymp. Sig. (Kruskal Wallis Test)		
		Exhaustion	**Cynicism**	**Reduced academic efficacy**
Gender at	Junior High School	.285	.810	.054
	Senior High School	.132	.615	.015*
	College	.291	.555	.826

* *p < .05*

REFERENCES

1. A. Hasanah, A. S. Lestari, A. Y. Rahman, and Y. I. Daniel, Jurnal Pendidikan **1**(1), 4–8 (2020).
2. A. R. Setiawan, Edukatif: Jurnal Ilmu Pendidikan **2**(1), 28–37 (2020).
3. S. Mushroor and R. Amir, International Journal of Community Medicine and Public Health **7**(1), 9–15 (2019).
4. M. Liu, L. Wu, and S. Yao, British Journal of Sports Medicine **50**(20), 1252–1258 (2015).
5. C. Maslach and S. E. Jackson (1981), Journal of Occupational Behavior **2**(2), 99–113 (1981).
6. C. Maslach and M. P. Leiter, World Psychiatry **15**(2), 103–111 (2016).
7. W. B.Schaufeli, I. M. Martinez, A. M. Pinto, M. Salanova, and A. B. Bakker, Journal of Cross-Cultural Psychology **33**(5), 464–481 (2002).
8. S-H. Lin and Y-C Huang, Active Learning in Higher Education **15**(1), 77–90 (2014).
9. T. Kristanto, W. S. Chen, and Y. Y. Thoo, Eating Behaviors **22**, 96–100 (2016).
10. L. F. Fun, I. A. N. Kartikawati, L. Imelia, and F. Silvia, MEDIAPSI **7**(1), 17–26 (2021).