Research Article

The Association of Online Learning and Burnout Syndrome Among Filipino Adolescents in Private Senior High Schools in Metro Manila using the Maslach Burnout Inventory Student Survey (MBI -SS)

Gabriel Alfonso D. Robeniol [1], Ann Marie Tan-Ting [1]

Author's Affiliation:
1- Department of Pediatrics, Cardinal Santos Medical Center, Metro Manila, Philippines

Correspondence:
Gabriel Alfonso D. Robeniol, E-mail: robeniol.chino@gmail.com

Received on: 16-Mar-2023 Accepted for Publication: 15-Aug-2023

ABSTRACT

Background: Burnout Syndrome has been defined as workplace stress characterized with a three-dimensional model – emotional exhaustion, cynicism, and inefficacy. Originally observed among the service professions, burnout is postulated to be experienced by adolescent students who are among the most vulnerable groups in aspect of mental health. The COVID-19 pandemic shifted the academic landscape to online learning which may contribute to burnout. This study explored the presence of burnout among Filipino adolescent students to determine its relationship with online learning, its contributory factors, and barriers to online learning.

Methods: This cross-sectional study used the Maslach Burnout Inventory – Student Survey among 257 Filipino adolescents aged 15-19 years old enrolled in online high schools in Metro Manila in November – December 2021. Collected data were measured using the three-dimensional model and analyzed using the chi-square test.

Results and Data Analysis: This study showed that 26.8% and 72.8% of the participants were classified as high-risk and moderate-risk for burnout, respectively. Risk for burnout is significantly associated with students taking 6 or more subjects per day ($P < 0.05$) and those with grades belonging to the lowest 75% in their year level ($P < 0.05$). Mental health difficulties and having to fulfill responsibilities at home were the most common reported barrier to online learning.

Conclusion and Recommendations: Is this journal recommended heading? Burnout Syndrome is present in Filipino adolescent students in online learning programs amidst the COVID-19 pandemic. Further research on face-to-face classes and broadening the study population are recommended for baseline comparison. Identifying factors on student burnout is desirable to improve academic efficacy and to protect the adolescents' mental wellbeing.

Keywords: Burnout Syndrome; Adolescence; Mental Health; Online Learning; Maslach Burnout Inventory

INTRODUCTION

The World Health Organization (WHO) defines burnout syndrome as a phenomenon resulting from chronic workplace stress. A widely accepted three-dimensional theory for burnout has been modeled by researchers encompassing (1) emotional exhaustion, (2) cynicism or depersonalization, and (3) efficacy. Emotional exhaustion refers to having a lack of energy or depletion of one's emotional source. This represents the basic individual stress component of burnout syndrome. Cynicism or depersonalization refers to the excessive detachment, withdrawal, or disconnection of one's self from others. This represents the interpersonal component of burnout. Inefficacy or feeling of reduced personal accomplishment refers to the feeling of incompetence, decreased productivity, and even failure. This represents the self-evaluation component of burnout.[1,2,3]

Burnout syndrome was traditionally observed among the population of human service professionals (i.e. managers, teachers, physicians, nurses, etc.) due to their involvement in emotionally exhausting environments.[1,2] Students are not technically employed but the core activities of students can be considered as work from the psychological perspective. Students participate in well-structured activities like attending classes, doing assignments, and other mandatory activities. Burnout is postulated to be observed in students and may manifest as exhaustion due to study demands, feelings of cynicism and detachment towards their studies, and feelings of incompetence and study failures.[2]

The Maslach Burnout Inventory (MBI) is the most notable tool to assess the three dimensions of burnout.[2,6] It has been widely used in published studies on burnout in Filipinos.[7,8] In a study by George and Reyes on burnout among Filipinos,[8] the MBI achieved to have excellent coefficients of internal consistency for its subscales with Cronbach alphas ranging from 0.94-0.95.

In March 2020, the Philippine government placed the country under serial lockdowns due to the Coronavirus Disease or Covid-19 global pandemic hence, the academic landscape in the country suddenly shifted to online learning.[9] Online learning is cost-effective, improves accessibility to up-to-date information, and addresses faculty shortage. Amidst these advantages, a national survey done by Baticulon et al.[10] identified barriers to online learning (i.e. limited access to devices, internet connectivity, difficulty in learning styles, mental or physical health issues, no conducive learning spaces, home responsibilities, administrative or even socioeconomic issues). In addition, a study by Alibudbud[11] presented that mental health issues (i.e. anxiety, depression, and absenteeism) can be a consequence of online learning due to an increased demand for new technological skills and productivity, information overload, and may be worsened by the Covid-19 pandemic.[12]

Importance has been implicated in studying this aspect of the adolescent's mental well-being to prevent issues that may arise from burnout. However, research on burnout usually focuses on professional occupational groups. Published research on burnout among students in the secondary level are few,[7] while published research on burnout among Filipino high school students are unavailable. The sudden shift in the academic setting to an online platform suggest further stressors which may affect the mental health of Filipino adolescents. The study aims to determine the association of Burnout Syndrome among adolescent senior high school (SHS) students. Specifically, the authors aim: (1) to determine the prevalence of Burnout Syndrome in adolescent SHS students in the background of the current online learning curriculum, (2) to determine factors that contribute to burnout in adolescent SHS students; and (3) to identify possible barriers to online learning among SHS students amidst the Covid-19 Pandemic. Understanding and justifying their relationship is greatly desirable to pave the way in creating future strategies to improve academic efficacy and above all, to protect the student's mental welfare and prevent complications arising from these mental health issues.[7,10]

METHODOLOGY

Study Design and Inclusion & Exclusion Criteria:

This was a prospective cross-sectional study, using an online survey, which was done among Filipino adolescents aged 15-19 years old enrolled in Grade 11 or 12 in an online curriculum in private Senior High Schools (SHS) in Metro Manila, Philippines. Excluded in the study are adolescents below and above the mentioned age range, not enrolled in Private Senior High Schools with an Online Curriculum, and are known or diagnosed cases of any neurodevelopmental, neurocognitive, and/or psychological disorders or taking any psychiatric medications. Participants who are unable to accomplish the questionnaires or those with incomplete and unsubmitted online forms and those who opted to drop out or withdraw during the conduction of the study were withdrawn from the study. Data collection was done in November to December 2021.

Sample Size Determination:

Sample size determination used the formula by Cohen,[13] where α is the level of significance, $1-\beta$ is the power, and ϱ is the effect size of the correlation to be detected. Using a significance level of 0.05, a 90% power, and a supposed effect size of the correlation to be 0.20, the sample size needed is 258.65 or 259.

Definition of Procedures and Measurements of Outcomes:

Convenience and stratified sampling methods were utilized such that electronic invitation letters were sent out to different private SHS Administrators in Metro Manila. A total of 10 institutions agreed to participate in this study. Cluster sampling was used where the school administrators selected the first 5 - 10 students from each of the SHS Sections or Classes based on their specific class numbers to participate in this study.

School administrators were sent an online link that contained (1) a brief introduction regarding the present study, (2) the assent and consent forms, and (3) the Data Collection form which includes the demographics of the participant and survey questions regarding their online learning curriculum and possible barriers to online learning. After completing the data collection form, a separate link was provided and redirected the participant to a separate, unlinked, and unidentified Maslach Burnout Inventory – Student Survey form.

The collated data was then sent to a third-party statistician who completed the data analysis. The collected outcome was measured using the three-dimensional model of burnout such that burnout syndrome was assessed by high scores for Emotional Exhaustion (low = 0-1, moderate 10-14, high >14) and Cynicism (low = 0-1, moderate 2-6, high >6), and low scores for Personal Efficacy (low <22, moderate 23-27, high >28). [1,2,3,13,14]

Statistical Design:

Descriptive statistics were utilized to analyze available data using frequency and proportion to summarize categorical variables, while mean and standard deviation were utilized to summarize continuous variables.

Comparison between the three-dimensional model of burnout and categorical variables was performed using the chi-square test.

Ethical Considerations:

The study was reviewed by an accredited ethics review board before its conduction and implementation. The authors had no conflict of interest nor received any funding from any institution. The assent and consent forms were provided by the authors. The assent and consent forms were not collected personally by the authors. The authors ensured the protection and privacy of the participant's personal information in compliance with the Philippine Data Privacy Act of 2012.

The results of the surveys were disclosed to the school administrators and guidance counselors so that identified students at risk of Burnout may be properly assisted and referred for prompt intervention. A complete copy of the study was made available to the administrators as reference for possible improvement of their respective institution's implementation of online curriculum guidelines and policies.

RESULTS

TABLE 1. MBI-SS SUBSCALES AND RISK OF BURNOUT IN SHS STUDENTS ENROLLED IN ONLINE CURRICULUM (N=257)

MBI-SS		**N (%)**
Exhaustion	Low	97 (37.7)
	Moderate	82 (31.9)
	High	78 (30.4)
Cynicism	Low	12 (4.7)
	Moderate	29 (11.3)
	High	216 (84.0)
Efficacy	High	4 (1.6)
	Moderate	33 (12.8)
	Low	220 (85.6)
Overall Burnout	Low	1 (0.4)
	Moderate	187 (72.8)
	High	69 (26.8)

A total of 280 participants were recruited for this study. A total of 257 participants were able to submit the survey form with no missing data. Twenty-eight (28) participants were considered dropouts with dropout rate of 8.2%. This study showed that 69 (26.8%) of the participants were classified as high risk for burnout, only 1 (0.4%) was classified as low risk, and 187 (72.8%) were classified as moderate risk or those who did not meet the criteria for high or low risk for burnout. (Table 1)

TABLE 2. DEMOGRAPHICS, ONLINE LEARNING VARIABLES AND CORRELATION OF SELECTED VARIABLES ON BURNOUT USING THE CHI-SQUARE TEST (N=257)

Variables		N (%)	BURNOUT N(%)		p-value
			LOW to MODERATE	HIGH	
Gender Identity	Female	193 (75.1)	141 (73.06)	52 (26.94)	0.778
	Male	59 (23)	44 (74.58)	15 (25.42)	
	Others **	5 (1.9)	3 (60)	2 (40)	
Age Group	< 17	97 (37.8)	67 (69.07)	30 (30.93)	0.212
	17	112 (43.6)	87 (78.38)	24 (21.62)	
	> 17	48 (18.6)	31 (67.39)	15 (32.61)	
Academic Track	BAMa	48 (18.8)	40 (83.33)	8 (16.67)	0.316
	HumSSb	46 (17.9)	32 (69.57)	14 (30.43)	
	STEMc	130 (50.7)	91 (70)	39 (30)	
	Others ***	32 (12.6)	24 (75)	8 (25)	
Online classes per day:	< 4 hours	15 (5.9)	12 (80)	3 (20)	0.907
	4 - 6 hours	138 (53.7)	99 (71.74)	39 (28.26)	
	6 - 8 hours	80 (31.1)	59 (73.75)	21 (26.25)	
	> 8 hours	24 (9.3)	18 (75)	6 (25)	
Study time after online classes:	< 4 hours	75 (29.2)	59 (78.67)	16 (21.33)	0.527
	4 - 6 hours	96 (37.4)	66 (68.75)	30 (31.25)	
	6 - 8 hours	50 (19.5)	37 (74)	13 (26)	
	> 8 hours	36 (13.9)	24 (70.59)	10 (29.41)	
Subjects per day:	< 4 subjects/day	131 (51)	103 (78.63)	28 (21.37)	0.034
	5 subjects/day	102 (39.7)	72 (70.59)	30 (29.41)	
	> 6 subjects/day	24 (9.3)	13 (54.17)	11 (45.83)	
Extra-curricular activities:	1 hour/week	93 (36.2)	63 (67.74)	30 (32.26)	0.503
	2 hours/week	71 (27.6)	53 (74.65)	18 (25.35)	
	3 hours/week	26 (10.1)	20 (76.92)	6 (23.08)	
	> 4 hours/week	67 (26.1)	46 (77.97)	13 (22.03)	
Academic standing:*	Highest 25%	94 (36.6)	77 (81.91)	17 (18.09)	0.022
	Lowest 75%	150 (58.3)	103 (68.67)	47 (31.33)	
General average:*	<85%	25 (9.7)	11 (57.89)	8 (42.11)	0.081
	85-90%	60 (23.3)	43 (71.67)	17 (28.33)	
	90-95%	142 (55.3)	102 (71.83)	40 (28.17)	
	>95%	30 (11.7)	27 (90)	3 (10)	

* Based on the immediate past completed grading period

** Includes Bisexual, Transgender, and Non-Binary

*** Includes General Academic Strand, International Diploma Program, Arts & Design, Technical Vocational Program

[a] Business, Accountancy, and Management

[b] Humanities, Education, Social Sciences

[c] Science, Technology, Engineering, and Mathematics

The majority of the participants belong to the late adolescents age group. The majority of the participants identified as females. In terms of the variables of online learning, 138 (53.7%) reported having at least 4 to 6 hours of online schooling per day. However, 96 (37.4%) of the participants spend another 4-6 hours of study time outside of the allotted time for online classes and 93 (36.2%) reported having about 1 hour per week for extra-curricular activities. Of the 257 participants, 102 (39.7%) reported having at least 5 subjects per day, 150 (58.3) reported that they belong to the lowest 75% in academic standing for their respective year level while 142

(55.3%) reported having at least 90-95% of general weighted average during the immediate past grading period. (Table 2)

Burnout was significantly associated with the number of subjects per day (p=0.034). This means that a higher incidence of burnout was observed from those with 6 subjects or more per day compared to their peers taking 5 subjects and below per day. Burnout was significantly associated with relative academic standing (p=0.022). This means that there is a higher incidence of burnout among those in the lowest 75% compared to their peers belonging to the highest 25% in their year level. Demographic factors such as sex, age, academic track, and other variables of online learning show no significant correlation. (Table 2)

TABLE 3. FREQUENCY OF OCCURRENCE OF SELECTED SELF-REPORTED BARRIERS TO ONLINE LEARNING

Variable	Never	Sometimes	Often	Always
Problems with internet access?	12 (4.7)	142 (55.3)	83 (32.3)	20 (7.8)
Lack of technical skills?	66 (25.7)	135 (52.5)	49 (19.1)	7 (2.7)
No or limited access to gadgets or devices?	171 (66.5)	59 (23)	23 (8.9)	4 (1.6)
Difficulty adjusting to learning styles?	18 (7)	133 (51.8)	71 (27.6)	35 (13.6)
Mental health difficulties?	26 (10.1)	71 (27.6)	80 (31.1)	80 (31.1)
Physical health difficulties?	61 (23.7)	108 (42)	56 (21.8)	32 (12.5)
Need to fulfill responsibilities at home?	15 (5.8)	68 (26.5)	88 (34.2)	86 (33.5)
Family conflicts?	61 (23.7)	112 (43.6)	47 (18.3)	37 (14.4)
Limited space for studying?	82 (31.9)	85 (33.1)	42 (16.3)	48 (18.7)
Poor communication with teachers and instructors?	55 (21.4)	135 (52.5)	50 (19.5)	17 (6.6)
Poor quality of learning materials?	98 (38.1)	118 (45.9)	32 (12.5)	9 (3.5)
Limited interaction with peers?	41 (16)	101 (39.3)	70 (27.2)	45 (17.5)

The majority of the participants do not have issues concerning their access to gadgets or devices for online schooling. The majority of the participants reported having just some degree of difficulties with internet access, lack of technical skills, difficulty in adjusting to learning styles, limitations due to physical health, family conflicts, limited or non-conducive learning spaces, poor communication between learners and instructors, as well as poor learning materials, and limited interaction with peers. Of the 257 participants, 160 (62.2%) reported often to always having mental health difficulties as a barrier to their online learning and 174 (67.7%) reported often to always having the need to fulfill responsibilities at home as barriers to online schooling. (Table 3).

DISCUSSION

This study reports firsthand data that Burnout Syndrome is present in Filipino adolescents aged 15-19 years old enrolled in an online learning program in private Senior High Schools in Metro Manila, Philippines. The prevalence of moderate-risk Burnout and high-risk Burnout is 72.8% and 26.8%, respectively.

In the present study, we report that there are no gender differences in burnout risk. This is in contrast to studies which showed a higher burnout risk in the female sex.[17,18,19] According to Misra and McKean, females have more effective time management behaviors but experience higher academic stress and anxiety than males.[18] Similar data were published in Italy[17] and Canada.[19] In the present study, we report that there are no age differences in burnout risk. This is in contrast to the study by Gabola et. al. [20] which showed that burnout risk was found to be higher in late adolescence than in middle adolescence because as students move forward in their school trajectories, tasks become more challenging. Aside from these external stressors, the adolescents' cognitive control and response to stress may be influenced by their brain's structural and functional development including its neuroendocrine functions.[21]

It is notable that different studies investigating the relationship of burnout risk with gender identity and age have varying results, calling for more investigations on the link between Burnout Syndrome, gender, and age.[7,17,18,19,20,23] According to Velasco,[7] there is an inverse relationship between burnout and social support, while Gabola et. al.[20] highlighted that different sociocultural values and different school attitudes and systems account for cross-cultural differences in burnout risk. The findings of this present study which showed no significant difference in burnout risk between gender identity and age in Filipino adolescent SHS students may be due to the Filipino parental perspective on education as essential to their children's success and their willingness to go to great lengths just to support their children's education, regardless of gender and age, especially in their primary through tertiary academic levels.[24]

Since there has been no available data on burnout in Filipino SHS students, the present study showed primary data that there is no significant difference in burnout risk between different academic tracks.

In the present study, high-risk Burnout Syndrome had a significant association with the number of subjects a student attends per day and the student's overall academic standing. This is consistent with the findings of Velasco wherein the number of university units is positively correlated with exhaustion. [7] This is also consistent with the claim of Galbraith and Meril[25] that one's academic load increases the likelihood of exhaustion. The delivery of lesson topics had to be adjusted for online schooling such that the same number of topics were covered in a shorter amount of time and that self-directed learning was utilized more thus students needed more hours in the online setup as compared to face-to-face classes which may contribute to student exhaustion. However, student exhaustion and overall burnout in the usual setup of face-to-face classes have not yet been investigated thus far.

On the other hand, the student's overall academic standing which may be due to ineffectively fulfilling school responsibilities leading to difficulties in school performance may translate to the inefficacy subscale of burnout. This is consistent with the findings of Velasco[7] wherein the Grade Point Average (GPA) of university students is positively correlated with academic efficacy and negatively correlated with cynicism. They claimed that higher academic achievement leads to a positive outlook in students which also leads to a higher sense of efficacy in fulfilling their academic work.[7] Conversely, study failures or feelings of incompetence brought about by poor

academic standing may lead to feelings of being withdrawn or detached which translates to Cynicism – forming a vicious cycle of reciprocal cause and effect on Burnout Syndrome.

This study also presented possible barriers to learning that Filipino adolescents in SHS experience in online school programs. The present study showed that only a few participants had problems with internet access and the lack of technical skills while almost 67% of the participants reported that they have never experienced having no or limited access to gadgets. This is in contrast to the study by Baticulon et. al.,[10] Nepal, S.,[28] and Mukhtar, K.,[29] which all reported that internet availability and lack of technological skills pose a grave barrier to online learning in their respective respondents. In addition, poor communication with educators and the quality of learning materials, as well as having to adjust to different learning styles were not an issue for the majority of the participants. It is worth noting that the present study was conducted in private institutions where most students belong to families of higher socioeconomic status hence, these numbers are not reflective of the whole Filipino SHS demographic.

The present study showed that 62% of the participants reported having some sort of mental health difficulties, which may have a causal relationship with Burnout Syndrome. This is consistent with the published data by Baticulon et. al.[10] and Golberstein et. al..[30] According to their studies, the pandemic had caused psychological stress among adolescent students.[10,30] Feelings of anxiety, loneliness, and hopelessness were reported making it difficult for the students to focus on their studies. In the study by Baticulon et. al.[10], their student respondents were reported to be worried about their online assignments, future plans in their careers, and as well as the safety of their families from Covid-19.[10] Although the present study did not specifically ask the nature of the mental health difficulty and even excluded participants with a known psychiatric illness, the inquiry was only made to elicit a self-reported claim of any physical or psychological barrier in online learning.

The present study showed that 68% of the participants reported having to fulfill responsibilities at home as a barrier to their online learning. This is consistent with the study by Baticulon et. al.[10] which implied that more time spent at home did not equate to productiveness in academic work. Although the majority of the participants did not report having issues with family conflicts or having limited space conducive for studying at home, having the need to fulfill responsibilities at home may distract them from their online classes and study time. The present study showed that the majority of the participants did not see having limited interaction with their peers as a barrier to online learning in contrast to previous studies stating that having this limitation has negative effects on a student's well-being. Although the adolescents' psychosocial development is heavily based on socialization and deep relations with peer groups[21], the contrasting results may be due to the wider availability of social media platforms allowing them to socialize and belong to different peer groups.

CONCLUSION

Burnout Syndrome is present in Filipino adolescent online learners. The risk for burnout is significantly associated with the number of subjects per day and the student's overall academic standing. Mental health

difficulties and having to fulfill responsibilities at home are reported to be the most common barrier in the online school setting.

Through this study, the correlation between attendance to an online curriculum and Burnout Syndrome in Filipino adolescents amidst the Covid-19 Global Pandemic were identified to aid teachers, guidance counselors, and school administrators as well as government and non-government organizations to benchmark educational policies and guidelines amidst all modes of conventional and non-conventional forms of education be set to achieve optimal quality education that is geared toward the protection of the adolescent learner's mental wellbeing.

LIMITATIONS

This prospective cross-sectional study only measures associations between the risk of Burnout Syndrome with the limited variables on online learning which possess no assumptions that they may be directly in causation. The long-term mental effects of the lockdown secondary to the Covid-19 Pandemic cannot be predicted by these results and must not be taken into generalization. Questionnaires are self-administered hence self-reporting bias may affect the responses. Self-reported symptoms of Burnout Syndrome may coincide with symptoms of an undiagnosed or unknown mental health disorder and the indicated risks of Burnout Syndrome may not always be consistent with evaluations made by a trained medical health professional.

RECOMMENDATIONS

The study population is limited to SHS students in private and urban settings. We recommend broadening the population to include SHS students from both private and public and both in rural and urban areas to compare data among different demographics and socioeconomic statuses. This study was pursued during the time when schools are alternatively online. We recommend further studies in face-to-face classes for baseline comparison. Symptoms of Burnout Syndrome may be in parallel with symptoms of Anxiety Disorder, Depressive Disorders, and other Mood Disorders. We recommend further studies on the correlation of Burnout Syndrome with any other psychological disorders.

REFERENCES

1. World Health Organization. Burn-out an "Occupational phenomenon": International Classification of Diseases. WHO 2019. www.who.int/news/item/28-05-2019-burn-out-an-occupational-phenomenon-international-classification-of-diseases (accessed January 14, 2021).
2. Hu Q, Schaufeli WB. The factorial validity of the Maslach Burnout Inventory–Student Survey in China. Psychological Reports 2009;105:394–408.
3. Schaffran P, Kleinert J, Altfeld S, Zepp C, Kallus KW, Kellmann M. Early risk detection of burnout: Development of the burnout prevention questionnaire for coaches. Frontiers in Psychology 2019;10.
4. Aypay A. A positive model for reducing and Preventing School Burnout in high school students. Educational Sciences: Theory & Practice 2017.

5. Tomaszek K, Muchacka-Cymerman A. Sex differences in the relationship between Student School Burnout and problematic internet use among adolescents. International Journal of Environmental Research and Public Health 2019;16:4107.
6. Maslach C, Jackson SE. Maslach Burnout Inventory--es form. PsycTESTS Dataset 1981.
7. Velasco J. Millennials in the university: An inquiry on burnout among Filipino university students. Pertanika Journal of Social Sciences and Humanities 2019;27:18011–1814.
8. George R, Reyes M. Burnout as a predictor of quality of life among selected Filipino nurses. Indian Journal of Health and Wellbeing 2017;8:691–6.
9. World Health Organization. Who director-general's remarks at the media briefing on 2019-ncov on 11 February 2020. WHO 2020. www.who.int/dg/speeches/detail/who-director-general-s-remarks-at-the-media-briefing-on-2019-ncov-on-11-february-2020 (accessed January 14, 2022).
10. Baticulon RE, Sy JJ, Alberto NR, Baron MB, Mabulay RE, Rizada LG, et al. Barriers to online learning in the time of COVID-19: A national survey of medical students in the Philippines. Medical Science Educator 2021;31:615–26.
11. Alibudbud R. On online learning and mental health during the COVID-19 pandemic: Perspectives from the Philippines. Asian Journal of Psychiatry 2021;66.
12. Malolos GZ, Baron MB, Apat FA, Sagsagat HA, Pasco PB, Aportadera ET, et al. Mental health and well-being of children in the Philippine setting during the COVID-19 pandemic. Health Promotion Perspectives 2021;11:267–70.
13. Cohen J. Statistical Power Analysis for the behavioral sciences. New York: Psychology Press Taylor & Francis Group; 2009.
14. Shadid A, Shadid A, Shadid A, Almutairi F, Almotairi KE, Aldarwish T, et al. Stress, Burnout, and associated risk factors in medical students. Cureus 2020. doi:10.7759/cureus.6633.
15. Aranas K, Buenconsejo J, Zalameda C. Dimensions of school burnout as predictors of symptoms of anxiety, depression, and suicidal ideation among college students. Brillar 2020;1:33–42.
16. Puranitee P, Saetang S, Sumrithe S, Busari JO, van Mook WNKA, Heeneman S. Exploring Burnout and depression of Thai Medical Students: The psychometric properties of the Maslach Burnout Inventory. International Journal of Medical Education 2019;10:223–9.
17. Fiorilli C, Barni D, Russo C, Marchetti V, Angelini G, Romano L. Students' burnout at university: The role of gender and worker status. International Journal of Environmental Research and Public Health 2022;19.
18. Misra R, McKean M. College students' academic stress and its relations to their anxiety, time management, and leisure satisfaction. American Journal of Health Studies 2000;16:41–51.
19. Weckworth A, Flynn D. Effect of sex on perceived support and burnout in university students. College Student Journal 2006;40:237–49.
20. Gabola P, Meylan N, Hascoët M, De Stasio S, Fiorilli C. Adolescents' school burnout: A comparative study between Italy and Switzerland. European Journal of Investigation in Health, Psychology and Education 2021;11:849–59. doi:10.3390/ejihpe11030062.
21. Kliegman R, Stanton B, W. SGJ, Schor NF, Behrman RE, Nelson WE, et al. Nelson Textbook of Pediatrics. Philadelphia, PA: Elsevier Inc.; 2020.
22. Romeo RD. The teenage brain. Current Directions in Psychological Science 2013;22:140–5.
23. Salmela-Aro K, Upadyaya K, Hakkarainen K, Lonka K, Alho K. The Dark Side of Internet use: Two longitudinal studies of excessive internet use, depressive symptoms, school burnout and engagement among Finnish early and late adolescents. Journal of Youth and Adolescence 2016;46:343–57.
24. Mamat N, Masnan AH. Parental involvement in the Philippines: A review of literatures. Southeast Asia Early Childhood Journal 2017;6:41–50.
25. Galbraith CS, Merrill GB. Academic and work-related burnout: A longitudinal study of Working Undergraduate University Business Students. Journal of College Student Development 2012;53:453–63.

26. Golu F. Tech fatigue - a new pandemic. Studia Doctoralia 2021;12:85–7.
27. Andersson A, Grönlund Å. A conceptual framework for e-learning in developing countries: A critical review of research challenges. The Electronic Journal of Information Systems in Developing Countries 2009;38:1–16.
28. Nepal S, Atreya A, Menezes RG, Joshi RR. Students' perspective on online medical education amidst the COVID-19 pandemic in Nepal. Journal of Nepal Health Research Council 2020;18:551–5.
29. Mukhtar K, Javed K, Arooj M, Sethi A. Advantages, limitations and recommendations for online learning during COVID-19 pandemic era. Pakistan Journal of Medical Sciences 2020;36.
30. Golberstein E, Wen H, Miller BF. Coronavirus disease 2019 (covid-19) and Mental Health for Children and Adolescents. JAMA Pediatrics 2020;174:819.