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RESEARCH ARTICLE

Burnout in academia: Pharmacy students' burnout level during the resumption of in-person classes post-pandemic lockdowns

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Abstract

Background: As the COVID-19 pandemic gradually recedes, Philippine universities have begun to reopen their campuses to students, marking a return to normalcy. Thus, academic burnout began to manifest among many students, resulting in multiple academic breaks across the country. **Objective:** This study aimed to examine the level of academic burnout among pharmacy students from a private university during the reopening of university campuses for in-person classes after pandemic lockdowns. **Methods:** The study had a quantitative, descriptive cross-sectional design, and the survey questionnaire included the Copenhagen Burnout Inventory Student version (CBI-S). Descriptive statistics, *t*-test, and Analysis of Variance (ANOVA), were used to analyse the data. **Results:** Of the 318 respondents, 63% (n=202) exhibited moderate academic burnout. In contrast, 11% (n= 34) had low burnout levels, and 26% (n=82) had high burnout levels. Students had a high level of Personal Burnout (M=3.80, SD=0.92) and Studies-Related Burnout (M=3.88, SD=1.00). They also exhibited a moderate level of Classmate-Related Burnout (M=2.69, SD=1.10) and Instructor-Related Burnout (M= 2.87, SD=1.10). Academic burnout levels among the respondents did not show any significant differences based on their living situation. **Conclusion:** The impact of shifting academic demands on pharmacy students caused moderate to high levels of academic burnout.

Introduction

In response to the COVID-19 pandemic, stringent quarantine measures required transitioning from traditional in-person learning to online education modality globally (United Nations, 2020), compelling students to take classes without face-to-face interaction with peers and professors for two academic years. This sudden shift from in-person to online and remote instruction has presented unique challenges for university students, potentially exacerbating the issue of academic burnout. These shifts in learning modality increased feelings of isolation, limited social interactions, raised technological challenges, blurred boundaries between academic and personal life, and amplified anxiety about health and safety (Cao *et al.,* 2020; Son *et al.,* 2020). Such stressful circumstances have the potential to intensify the experience of academic burnout among university students (Gonzálvez *et al.,* 2018; Jiang *et al.,* 2021; Ramos *et al.,* 2021;). However, within two years, students eventually adapted and established study routines while on remote learning, despite the blurred boundaries between academic work, breaks, and leisure.

Studies have shown that academic burnout has become a significant concern in universities, affecting students' well-being and academic performance (Schaufeli *et al.,* 2002; Salmela-Aro *et al*., 2008). Burnout can be characterised by three dimensions, i.e. exhaustion, cynicism, and efficacy. Exhaustion pertains to feelings of fatigue, strain, and weariness, specifically related to school. Cynicism involves a sense of detachment from school and a loss of interest in academic matters. Lastly, efficacy refers to a diminished belief in one's

competence and achievements in school-related tasks. Academic burnout is associated with energy depletion due to academic demands, negative attitudes toward education, feelings of inadequacy, and reduced professional efficacy (Zhang *et al*., 2007; World Health Organisation, 2019). These symptoms have been associated with reduced academic engagement, increased dropout rates, and compromised mental health (Dyrbye *et al.,* 2010).

Several studies have shed light on the prevalence and impact of academic burnout during the COVID-19 pandemic. One study (Cao *et al.,* 2020) found that many university students reported high burnout symptoms, including exhaustion, cynicism, and reduced academic engagement, during the pandemic compared to pre-pandemic times. Another study reported similar findings (Son *et al.,* 2020), identifying increased levels of academic burnout among university students due to the challenges associated with online learning and the disruption of their usual academic routines.

Various factors contribute to the development of academic burnout among students. Excessive workload, academic pressure, high expectations, and perfectionism are significant stressors. Students experiencing academic burnout exhibit diminished enthusiasm and motivation toward their studies, accompanied by heightened negative emotions such as fatigue, frustration, depression, and anxiety (Schaufeli *et al.,* 2002; Salmela-Aro *et al*., 2008). The quality of the university environment, academic and social cohesion, learning experiences, educational justice, the teacher-student relationship, and academic motivation are additional factors that can influence academic burnout, thereby affecting student academic performance, commitment to education, interest in continuing education, and engagement in scholarly activities (Tajeri Moghadam *et al*., 2020).

Medical students, in particular, experience high levels of academic burnout (Maslach & Jackson, 1981) due to several factors, such as a demanding environment, competitiveness, heavy workloads, sleep deprivation, peer pressure, and emotional, educational, and personal concerns (Shrestha *et al.,* 2021).

Burnout among medical students was associated with higher levels of depression, anxiety, and other indicators of psychological distress (Dyrbye *et al.,* 2010). Moreover, academic burnout has been linked to adverse scholarly outcomes. One study found that burnout symptoms predicted lower academic achievement and higher dropout rates among university students (Salmela-Aro *et al*., 2009), emphasising the importance of addressing academic burnout to ensure long-term educational success for students.

As the COVID-19 pandemic gradually recedes, Philippine universities have reopened their campuses to students, marking a return to normalcy or the "*new normal*." While in-person classes have resumed, students, professors, and school personnel must adhere to health protocols, maintain social distancing, and take additional precautions to prevent the spread of the virus. A recent study (Fadel *et al.,* 2023) revealed that Lebanese pharmacy students experienced significant psychological distress upon resuming in-person classes after post-COVID-19 lockdowns. With the return of the typical school setup, student burnout is inevitable, especially considering the need to adjust to the new academic demands and interact with peers and professors, including environmental challenges that differ from the past two years of online classes. Thus, academic burnout began to manifest again among many students, resulting in multiple academic breaks nationwide.

The primary objective of this study was to determine the overall level of academic burnout of pharmacy students in a private university during the resumption of conventional face-to-face classes after two years of online learning modality. The second objective was to determine student burnout levels across the four sub-dimensions of academic burnout: personal, studies-related, classmate-related, and instructor-related. The third objective was to evaluate the differences in student academic burnout levels based on sex, living situation, and year level.

Methods

Research design and sampling

The study utilised a quantitative, descriptive cross-sectional design and a printed survey questionnaire. It was carried out from January to May 2023, coinciding with the reopening of university campuses for in-person or face-to-face classes after pandemic lockdowns.

The study included Bachelor of Science in Pharmacy (BSc.Pharm.) students from Saint Louis University (SLU) in Baguio City, Philippines, during the second term of the academic year 2022-2023. The total student population at that time was 1627, with 393 first-year students, 534 second-year students, 407 third-year students and 293 fourth-year students.

The sample size was determined using OpenEpi software, considering a 95% confidence level, 50% prevalence, and accounting for a 20% margin of error. Although the required sample size was estimated to be less than 318, 318 was chosen to represent the entire BSc.Pharm. student population of the university. This sample size was distributed proportionally between the

four-year levels, resulting in 77 first-year students, 104 second-year students, 80 third-year students, and 57 fourth-year students. Simple random sampling was utilised.

Eligibility and exclusion criteria

The following inclusion criteria were observed to make a participant eligible: 1) Being enrolled officially in the BSc.Pharm. programme of Saint Louis University at the time of data collection; 2) Taking at least 18 units and above at the time of data collection; 3) Agreeing and signing the Certificate of Consent in the Informed Consent Form; and 4) Obtaining signed informed assent form and parents' consent for participants below 18. Exclusion criteria were: 1) Not willing to take part in the study; 2) Having a cognitive impairment such as dementia; 3) Not having secured parents' consent for participants below 18 years old; and 4) Being unable to answer the questionnaire due to the severity of any health condition or having a concurrent illness preventing participation.

Data collection

Once the institutional review board (SLU-Research Ethics Committee) approved the research proposal, the necessary permissions and endorsements were obtained from the head of the department and the dean of pharmacy. Sample randomisation was carried out using an online research randomiser, taking into account the list of enrolled students at the time of data collection. Potential participants meeting the specified parameters were selected, and it was assumed that the generated samples from the online tool be independent of each other and evenly distributed throughout the entire population. The research team made class visits to the randomly selected students to extend invitations to participate in the study. During the first five minutes of interaction with the possible respondent, research assistants explained the purpose of the study, the content of informed consent, assent form, parents' consent for minors, and how the data will be collected. The anonymity of participants and confidentiality of the information provided by the participants were also reiterated when introducing the study. Once the procedure and informed consent were explained and all queries answered, the respondents were asked if they were still willing to participate. Completed questionnaires were promptly collected. Minors were given parents' consent forms, and the questionnaires were retrieved the next day. It is important to note that the questionnaires were administered on regular class days, excluding major examination periods. All collected responses were thoroughly reviewed, validated, and assigned numerical codes for data analysis.

Research tool

The survey questionnaire used in this study consisted of two parts. The first part collected sociodemographic information, such as sex, living situation, and year level. The second part utilised the Copenhagen Burnout Inventory Student version (CBI-S) to assess student academic burnout levels. Adapted from the original Copenhagen Burnout Inventory for working individuals (Kristensen *et al.,* 2005), CBI-S is a self-report questionnaire designed to measure burnout in the student population. The reliability of the adapted CBI-S questionnaire was assessed using Cronbach's alpha coefficients, which demonstrated satisfactory levels of internal consistency. Overall, CBI-S had good reliability, with satisfactory internal consistency and validity, as evidenced by its factor structure and associations with related constructs (Campos *et al*., 2013).

The CBI-S questionnaire consists of 25 items that measure four sub-dimensions of burnout: personal burnout (PB) 6 items, studies-related burnout (SRB) 7 items, classmate-related burnout (CRB) 6 items, and instructor-related burnout (IRB) 6 items. It uses a five-point scale as follows: always (100%), frequently (75%), sometimes (50%), rarely (25%), and never (0%) (Borritz *et al.,* 2006). A total average score was calculated for each scale, with the following categories: low level of academic burnout (<50), moderate level of academic burnout (50-74), and high level of academic burnout (75-99).

Statistical analysis

Descriptive statistics, such as frequencies, percentages, means, and standard deviation measures, were used to compute and analyse the data. Demographic information was managed using frequencies and percentages to describe the population. Significant differences among variables in the two groups, such as sex, were assessed and interpreted using the *t*-test. The significant differences among variables with more than two groups, such as year level and living situation, were analysed using the one-way Analysis of Variance (ANOVA). The level of significance used in this study was set at 5% or 0.05. All data were processed using IBM SPSS Statistics version 24.

Ethical clearance

The research protocol was reviewed and approved by the institutional review board (Saint Louis University-Research Ethics Committee) prior to the conduct of the study. The review considered the research's scientific and ethical aspects (Protocol number: SLU-REC-UG2023-058). All participants gave informed consent before taking part in the study.

Results

Characteristics of study participants

Table I provides the demographic characteristics of the 318 pharmacy students. Of the sample, 255 identified as females, while 63 identified as males. The distribution of respondents across year levels includes 77 first years, 104 second years, 80 third years, and 57 fourth years. Regarding their living situation, 146 students resided with their immediate family, 118 lived alone, and 54 lived with non-relatives.

Overall level of academic burnout

Of the 318 respondents, 63% (n=202) had moderate academic burnout, while 11% (n=34) had low burnout levels, and 26% (n=82) had high burnout levels (Table II).

Table III presents participants' burnout levels. Students had a high level of PB (M=3.80, SD=0.92) and SRB (M=3 .88, SD=1.00). They also exhibited a moderate level of CRB (M=2.69, SD=1.10) and IRB (M=2.87, SD=1.10). When ranked in order of burnout levels, SRB had the highest level, followed by PB, IRB, and CRB.

Table I: Demographic characteristics of participants

Variable	Frequency (n)	Percentage (%)
Gender		
Female	255	80.19
Male	63	19.81
Year level		
First year	77	21.21
Second year	104	32.70
Third year	80	25.16
Fourth year	57	17.92
Living situation		
Living with immediate family	146	45.91
Living alone	118	37.11
Living with non-relatives	54	16.98

Table II: Overall level of academic burnout

Level	n	%
Low burnout	34	11
Moderate burnout	202	63
High burnout	82	26
Total	318	100

n= frequency; %= percentage

Table III: The four sub-dimensions of academic burnout

Items	M	Score	SD	Interpretation
Personal burnout				
Questions				
How often are you physically exhausted?	3.95	79	0.78	High
How often do you feel tired?	4.16	83	0.76	High
How often are you emotionally exhausted?	4.00	80	0.91	High
How often do you think, "I can't take it anymore"?	3.49	70	1.11	Moderate
How often do you feel worn out?	3.89	78	0.88	High
How often do you feel weak and susceptible to illness?	3.28	66	1.06	Moderate
Overall	**3.80**	**76**	**0.92**	**High**
Studies-related burnout				
Questions				
Do you feel worn out at the end of the day?	4.12	82	0.90	High
Are you exhausted in the morning at the thought of another day of class?	3.86	77	1.01	High
Do you feel that every waking hour is tiring for you?	3.64	73	1.15	Moderate
Do you have enough energy for family and friends during leisure time?	3.33	67	1.07	Moderate
Are your studies emotionally exhausting?	4.06	81	0.89	High
Do your studies frustrate you?	4.02	80	1.02	High
Do you feel burnt out because of your studies?	4.15	83	0.94	High
Overall	**3.88**	**78**	**1.00**	**High**

Table III: The four sub-dimensions of academic burnout (Continued)

Items	M	Score	SD	Interpretation
Classmate-related burnout				
Questions				
Do you find it hard to work with your classmates?	2.80	56	1.00	Moderate
Does it drain your energy to work with your classmates?	2.78	56	1.08	Moderate
Do you find it frustrating to work with your classmates?	2.61	52	1.09	Moderate
Do you feel that you give more than you get back when you work with your classmates?	2.89	58	1.16	Moderate
Are you tired of working with your classmates?	2.47	49	1.10	Low
Do you sometimes wonder how long you will be able to continue working with your classmates?	2.59	52	1.19	Moderate
Overall	**2.69**	**54**	**1.10**	**Moderate**
Instructor-related burnout				
Questions				
Do you find it hard to work with your instructors?	3.06	61	0.94	Moderate
Does it drain your energy to work with your instructors?	2.94	59	1.10	Moderate
Do you find it frustrating to work with your instructors?	2.90	58	1.09	Moderate
Do you feel that you give more than you get back when you work with your instructors?	2.79	56	1.17	Moderate
Are you tired of working with your instructors?	2.65	53	1.12	Moderate
Do you sometimes wonder how long you will be able to continue working with your instructors?	2.88	58	1.20	Moderate
Overall	**2.87**	**57**	**1.10**	**Moderate**

M= mean; SD= standard deviation

As presented in Table IV, a significant difference was found in the PB level of students based on sex (t = 2.970, p = 0.004). Females tended to experience higher levels of PB than males. However, no significant differences were found between males and females in SRB (t = 1.760, p = 0.082), CRB (t = 0.430, p = 0.671), and IRB (t = -0.040, p = 0.969).

Table IV: Academic burnout and sex (*t*-test)

Dimension	Sex	M	SD	*t*-value	*p*-value	Remarks
Personal burnout	Female	3.86	0.69	2.970	0.004*	Significant
	Male	3.55	0.73			
Studies-related burnout	Female	3.92	0.68	1.760	0.082	Not significant
	Male	3.74	0.73			
Classmate-related burnout	Female	2.70	0.91	0.430	0.671	Not significant
	Male	2.64	1.13			
Instructor-related burnout	Female	2.87	0.94	-0.040	0.969	Not significant
	Male	2.87	1.08			

M = mean; SD = standard deviation; *p < 0.05

Table V shows no significant differences in the level of academic burnout among the respondents based on their living situation. The p-values were all greater than 0.05: PB (F = 0.940, p = 0.391), SRB (F = 0.870, p = 0.422), CRB (F = 0.330, p = 0.718), and IRB (F = 0.430, p = 0.653). These results suggest that the living situation, whether respondents lived alone, with immediate family, or with non-relatives, does not significantly affect their level of academic burnout.

Table V: Academic burnout and living situation (one-way ANOVA)

Dimension	Living situation	M	SD	*F*-value	*p*-value	Remarks
Personal burnout	Alone	3.82	0.74	0.940	0.391	Not significant
	With immediate family	3.74	0.70			
	With non-relatives	3.89	0.63			
Studies-related burnout	Alone	3.93	0.68	0.870	0.422	Not significant
	With immediate family	3.83	0.71			
	With non-relatives	3.94	0.68			
Classmate-related burnout	Alone	2.72	0.98	0.330	0.718	Not significant
	With immediate family	2.70	0.91			
	With non-relatives	2.60	1.02			
Instructor-related burnout	Alone	2.93	0.98	0.430	0.653	Not significant
	With immediate family	2.82	0.93			
	With non-relatives	2.86	1.05			

M= mean; SD= standard deviation

Table VI shows significant differences across different year levels regarding PB (F = 3.280, p = 0.021) and SRB (F = 5.020, p = 0.002). Specifically, fourth-year students had lower levels of PB and SRB than those in other years. However, no significant differences were found across year levels in CRB (F = 0.070, p = 0.976) and IRB (F = 1.460, p = 0.227).

Table VI: Academic burnout and year level (one-way ANOVA)

Dimension	Year level	M	SD	*t*-value	*p*-value	Remarks
Personal burnout	First	3.83	0.74	3.280	0.021*	Significant
	Second	3.91	0.73			
	Third	3.80	0.66			
	Fourth	3.55	0.63			
Studies-related burnout	First	3.84	0.72	5.020	0.002*	Significant
	Second	4.02	0.62			
	Third	3.94	0.66			
	Fourth	3.60	0.77			
Classmate-related burnout	First	2.67	1.00	0.070	0.976	Not significant
	Second	2.71	0.91			
	Third	2.72	1.01			
	Fourth	2.65	0.90			
Instructor-related burnout	First	2.88	0.99	1.460	0.227	Not significant
	Second	2.76	0.88			
	Third	3.05	0.99			
	Fourth	2.80	1.06			

M = mean; SD = standard deviation; *p < 0.05

Discussion

When returning to conventional face-to-face classes after two years of online learning, most pharmacy students had moderate to high academic burnout. A moderate level of academic burnout refers to students experiencing a significant but manageable level of exhaustion, cynicism, and reduced personal accomplishment in the academic context (Leiter & Maslach, 2015). The presence of moderate academic burnout suggests that students may be experiencing noticeable symptoms of burnout, but their functioning

and overall well-being are not severely impaired. However, moderate academic burnout may be linked to negative outcomes in terms of mental health and academic performance (Cho & Jeon, 2019). In 2020, a study explored the levels of burnout among Filipino college students and found that burnout in students could indicate symptoms related to anxiety, depression, and thoughts of self-harm (Aranas *et al*., 2020). Given these findings, it is crucial to address and manage moderate academic burnout to prevent its escalation into severe burnout, which can have more detrimental effects on student well-being and academic success. Appropriate support and resources, such as counselling services, stress management programmes, and a positive and supportive learning environment, can help students cope with burnout and reduce its level (Stallman, 2010; Kötter *et al.,* 2017).

When examining the four CBI-S sub-dimensions of academic burnout, i.e. personal burnout, studies-related burnout, classmate-related burnout, and instructor-related burnout, the results revealed that students exhibited high burnout levels in both personal and studies-related burnout. However, students had moderate levels of classmate-related and instructor-related burnout. The differences observed in the results across the sub-dimensions of academic burnout suggest that academic burnout can stem from various factors, including the expectations and requirements imposed by professors, interpersonal dynamics with classmates, personal issues, and stress associated with academic workload.

The personal burnout dimension measures exhaustion and fatigue related to personal life. It reflects the emotional and physical exhaustion experienced by students due to personal responsibilities and demands. The findings on personal burnout suggest that a considerable portion of student personality traits have contributed to their experience of intense fatigue, cynicism, disengagement from academic tasks, and a reduced sense of effectiveness and accomplishment. After resuming face-to-face classes, students might be affected by negative information about the pandemic and health protocols, which can cause stress, anxiety, depression, panic, helplessness, and other negative emotions (Cao *et al.,* 2020). One study from 2021 supported this claim and revealed that burnout levels significantly increased with higher psychological distress or non-specific symptoms of stress, anxiety, and depression (Yusoff, Hadie & Yasin, 2021). Another study demonstrated that pharmacy students had high levels of personal burnout, characterised by feelings of exhaustion and a decreased sense of efficacy in their academic pursuits (Kaur *et al*., 2020). These findings align with the notion that personal burnout is a common phenomenon among university students, highlighting the need for interventions and support to address this issue.

The studies-related burnout dimension focuses on burnout specifically related to academic workload. It captures the feelings of being overwhelmed, stressed, and emotionally drained due to the demands and pressures associated with academic work. The present study found that students experienced significant energy exhaustion, negative emotions towards their educational responsibilities, feelings of incompetence, and reduced effectiveness in their academic pursuits due to their highly demanding school tasks. These results are in agreement with those of a previous study, showing that university students often encounter high levels of stress and burnout due to the demanding nature of their studies (Levecque *et al.,* 2017). Previous findings revealed that university students reported significant levels of studies-related burnout (Al-Ghamdi *et al.,* 2021). In the present study, studies-related burnout represented the highest level of burnout compared to the other dimensions. Indeed, intense study and class schedules can easily result in burnout-related exhaustion and other dimensions of distress, such as severe fatigue (The Well-Being Index, n.d.; Yusoff *et al*., 2021). When students feel disappointed and miserable due to academic burnout, they show less tendency to participate in class activities; as a result, they experience academic burnout and present less educational achievements (Rahmatpour *et al.,* 2019). These findings highlight the prevalence of studies-related burnout among university students and the importance of implementing interventions and support mechanisms to alleviate the negative consequences associated with this phenomenon. Burnout can be relieved since academic burnout is reversible if detected and addressed promptly. Interventions aimed at reducing burnout by decreasing academic workload and demands can help students embark on a path of enjoying learning from a declining state of weariness (Liu *et al.,* 2023).

The classmate-related burnout dimension reflects the sense of depletion and exhaustion experienced with classmates and the impact of these interactions on student well-being. Considering the influence of peers on student burnout levels, findings from this study suggest that students generally maintain a good relationship with their classmates, as the level of burnout attributed to their interactions with classmates was not significantly high. Students' significant but manageable levels of negative attitudes and emotional exhaustion associated with school-life events are not primarily attributed to their classmates. In the present study, the level of burnout related to classmates was the lowest compared to the other dimensions, indicating that having positive

relationships with peers can greatly improve student well-being and be an essential asset in addressing burnout and related difficulties. Interacting with classmates can help students stay motivated by creating a sense of accountability and competition (Zhang *et al.,* 2021). Without this motivation, students may struggle to remain engaged with their coursework, leading to burnout (Pekrun *et al.,* 2009). Previous findings have demonstrated that student external resources, such as a positive school climate, good motivation provided by the school, and social support from teachers, friends, classmates, and family, had positive effects on hindering burnout symptoms (Salmela-Aro *et al*., 2009; Shin *et al.,* 2012).

The instructor-related burnout dimension captures the feelings of fatigue and depletion that students experience in their interactions with instructors or professors and how these interactions can affect their overall well-being. Students did not have significant exhaustion or disengagement related to their instructors' behaviour. The moderate level of instructor-related burnout may be attributed to the readjustment of students to the "*new normal*," trying to adapt to the current academic demands, causing new stress factors for students. Stress factors pertaining to the teaching process include maladjusted teaching methodology and irrelevant content, while those related to the learning process encompass excess learning activities (perceived as a heavy workload), student presentation in class, and an assessment system that includes a lack of control over one's achievement (Cabanach *et al*., 2016; Moè & Katz, 2020). Such instructor-related stress factors caused significant but manageable levels of exhaustion. There is ample evidence that teaching style predicts student engagement, motivation, and well-being and that it is a buffering factor of academic stress (Codina *et al.,* 2020; Dash *et al.,* 2020). Findings from the present study have implications for professors and suggest the need for educators to identify and take effective supportive measures to combat academic burnout problems, which can lead to reduced life satisfaction among medical students (Wang *et al*., 2022). Pharmacy educators must also assess their teaching practices and techniques to suit the needs of their students and provide them with a better learning environment. Indeed, pharmacy students experience lower levels of school-related burnout when their professors demonstrate competence and relatability (Cho & Jeon, 2019). This research also highlights the importance of incorporating autonomy-supportive learning environments facilitated by pharmacy professors and instructors. These environments are crucial for promoting a positive and fulfilling learning experience for pharmacy students.

Females tended to experience higher levels of Personal Burnout than males. Previous studies also revealed that the burnout risk was higher among female students (Labraque & Ballad, 2021; Ramos *et al.,* 2021). One potential implication is that male students prioritise their studies and training, not allowing emotions or emotional issues to hinder their academic performance. These results align with the societal expectation in the Philippines, where there is a cultural norm that men are expected to display less emotional expression than women (Elmer *et al*., 2020). Our findings concur with those of a previous study on burnout among medical students showing that women are more likely than men to experience burnout (Yahya *et al*., 2021). Other studies have provided evidence supporting that female university students tend to experience higher levels of academic burnout than their male counterparts (Drăghici & Cazan, 2022; Fiorilli *et al.,* 2022). However, the present results oppose those of previous studies showing that male college students had higher burnout scores than female students (Almalki *et al.,* 2017; Liu *et al.,* 2023). These results suggest that gender-related factors, such as societal expectations, gender roles, and perceived discrimination, may contribute to this disparity. Understanding gender differences can help universities develop targeted interventions to address and reduce student burnout.

This study's results showed no significant differences in the level of academic burnout among students living alone, with immediate family, and with non-relatives, contradicting previous findings. A previous study found significant associations between burnout and family relationships, where a difficult family environment can lead to academic burnout, including increased stress due to decreased family functionality and family management (Andrade *et al.,* 2023). It also reported diminished competence, productivity, and sense of accomplishment in the last phase of academic burnout. Conversely, having supportive family relationships has been associated with lower levels of burnout, with a positive family environment being described as a source of happiness and a conducive atmosphere for medical students to unwind from intense studying, evaluations, and stressful situations (Ye, Huang & Liu, 2021; Gradiski *et al*., 2022;). Moreover, social isolation and loneliness have been associated with increased mental health struggles and reduced functional abilities (Matthews *et al.,* 2014), leading to situations where individuals refer to themselves negatively, are more likely to become involved in non-academic discussions, or have impaired focus and memory when processing information while studying.

This study's results have provided evidence of varying levels of academic burnout among students across

different year levels. It is worth noting that in the present study, fourth-year students h the lowest level of burnout. The possible reason could be that senior students develop skills to manage their studies and, thus, are more able to cope with stress than students in the early years (Melaku *et al*., 2015). However, the results of the current study differ from those of previous studies showing that as university students progress toward their final year of study, they are more likely to experience higher levels of burnout (Schaufeli *et al.,* 2002; Deshmukh & Vithalani, 2022; Liu *et al.,* 2023). Findings from these studies indicate that factors such as educational demands, cumulative stressors, and upcoming transitions contribute to increased burnout levels as students advance through their academic programmes.

Strengths and limitations

The strength of this study is that it used a well-established and validated data-gathering instrument, which minimised information bias. The utilisation of random sampling in this study effectively eliminated biases and ensured that the sample accurately represents key characteristics of the population. To the author's knowledge, this study is the first to examine the level of academic burnout among pharmacy students in the Philippines. However, some limitations should be acknowledged. Like other questionnaire-based studies, there is a possibility of recall bias. Additionally, there may be limited generalisability as the demographics were skewed for a few characteristics, and the study was conducted only with students from a single pharmacy school in the Philippines, which restricts the generalisability of the findings. The results may not apply to students from other pharmacy schools within the country or from different countries. It is crucial to consider that pharmacy schools differ in curricula, atmosphere, and environment, all of which can influence academic burnout.

Conclusion

This study underscores the significance of addressing academic burnout among pharmacy students and emphasises the potential benefits of taking action in this area. The impact of shifting academic demands on pharmacy students caused moderate to high levels of academic burnout. If not addressed, this burnout can escalate to a higher level, significantly affecting various aspects of pharmacy students' lives, such as their overall health-related quality of life, college experience, and academic accomplishments. The findings of this study provide evidence of the growing occurrence of burnout among students resulting from the risks they face during the current health crisis and the changing academic demands. Given that academic burnout is influenced by various factors, it is crucial to be attentive to the holistic well-being of students. Pharmacy schools may create an initiative addressing the diverse factors influencing academic burnout among pharmacy students.

Researchers can employ various methods and include diverse populations to broaden our understanding of academic burnout among pharmacy students. It is recommended that the impacts and effects of burnout among pharmacy students be present in future studies to strengthen the claim that burnout induces negative effects. More so, the need to look into the causes of burnout in the academic facet, such as but not limited to school or classroom management, lecture and discussion practices, and level of requirements, to have a more in-depth assessment regarding the burnout experienced by the students. Lastly, conducting longitudinal studies instead of cross-sectional ones would enable tracking changes in students' burnout levels across all dimensions over time.

Conflict of interest

The author declares no conflict of interest.

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