



Predictors of Academic Burnout Among Nursing Students in Ghana, an Institutionalised Based Cross-Sectional Study

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Abstract: Nursing students inability to cope with academic burnout is on ascendency leading to poor academic achievements. The concept of burnout and its multifaceted determinants among nursing students had been understudied in Ghana. This study aimed to identify predictive variables of academic burnout among students of the Presbyterian Nursing and Midwifery Training College, Dormaa Ahenkro, Ghana. An institutionalized based cross-sectional design was employed to enlist (n=196) health trainees using a simple random sampling technique. A well-structured questionnaire with a modified burnout inventory scale was administered to collect data face-to-face with students. Data was exported into SPSS version 27 (USA) after being managed in Microsoft Excel (2019). Univariate analysis was conducted and findings were displayed using tables. The mean score of participants' burnout was used as a cut-off point to categorize levels of burnout. Bivariate and Multivariate analysis was conducted to determine the association between the outcome and predictor variables. A 95% level of confidence interval and an alpha-value below 0.05 indicated a statistically significant correlation. A high (53.8%) academic burnout of student was found. Increased academic overload [aOR= 2.78 (1.44-5.37), p=0.002] and many extra-curricular activities [aOR= 2.11 (1.08-4.12), p=0.0029] predicted students' high academic burnout. Student academic burnout was high as a result of an overload of academic activities and extracurricular works. The need to orient students through education on burnout reduction mechanisms would help students devise strategies for coping with academic stress, subsequent to managing academic burnout.

Keywords: Academic Burnout, Nursing Student, Predictors

1. Introduction

The concept of burnout has been recognised as a phenomenon specific to the workplace and not a medical condition [1, 2]. It's consistent symptom of stress [3], arises from persistent interpersonal demands at work [1, 4, 5]. Burnout could be conceptualised into three dimensions, emotional exhaustion, cynicism or depersonalization, and reduced personal achievement, though other concepts exist [1, 3]. Emotional exhaustion is the feelings and sensations of being drained by the psychological demands of work [1]. Cynicism or depersonalization is the interpersonal dimension of burnout, and it involves a response of detachment,

indifference, and lack of concern towards work or academic activities [1]. Whilst reduced personal accomplishment is expressed as dissatisfaction and low self-esteem.

The determinants of burnout are multifaceted [6]. Among these are high-stress levels [4, 7, 8], a mismatch between abilities, demands and workload [5, 7-9], lack of competence [3, 8], poor working conditions or learning environment [3, 8, 9], insufficient work breaks or leisure time [8] and inadequate support and resources for activities [3], affecting personal well-being. Burnout affects professionals in organisations [1, 6, 8], for example, recent studies had

established that burnout occurs in various professional including nursing profession [8, 10–14]. Available body of knowledge indicates that burnout occurs among professionals in health-delivering facilities [3, 6] and clinical practitioners, in particular, are a high-risk group for developing work-related burnout [1, 3]. Again, burnout has been documented to occur among students including student nurses [10].

Academic burnout affects students' ability to cope with their academic demands and expectations. This manifests as a negative and cynical attitude towards one's academic activity, a lack of motivation and a diminished sense of low self-efficacy [15]. Literature had established that the discrepancy between theory and practice contributes to a source of stress and anxiety for nursing students during their academic training [4, 8, 16]. Globally, available data indicates that around fifty percent of nursing students experience moderate-to-high levels of burnout [4, 8, 9, 17]. In Africa, the occurrence of burnout is on the ascendancy indicating a 35% prevalence of burnout among students including nurses [18, 19]. This has negatively impacted student's academic productivity [1, 6, 9] high school dropout [8, 20–22] and poor physical and psychological well-being [22–25]. Again, as cited by [26], about 61% of students complain of moderate to severe psychosomatic disorders, worsening life satisfaction, and unhealthy academic coping strategies, subsequent to increase depression, anxiety, and suicidal ideation [22, 27, 28].

In Ghana, evidence indicates that nursing students exhibited levels of burnout particularly among female nursing students, exposing most to losing interest in pursuing nursing [29]. Available study on academic burnout was conducted on veterinary students and not nursing students. Presently studies on academic burnout among nursing students in Ghana are insufficient leading to data paucity. Addressing these gaps, this study aimed to determine the predictors of academic burnout among nursing students at the Presbyterian Nursing Training College, Dormaa Ahenkro, Ghana.

2. Materials and Methods

2.1. Study Design

A quantitative study that applied a cross-sectional design (institutional-based) was deemed appropriate because the investigators described specific characteristics of a population of interest whilst gathering information at a single point in time (30, 31). In this study, nursing students from the first year to the third year were enlisted. Students who voluntarily consented to partake in the study were recruited whilst those who did not consent voluntarily were excluded. Additionally, students who were severely sick and absent from school during the period of data gathering were not considered for inclusion.

2.2. Sample Size and Sampling Technique

Considering the defined population of the school, the

Yamane formulae $n = \frac{N}{1+N(e^2)}$ was employed to calculate a required sample size of 196 students, taking into consideration a 5% unresponsive rate.

Students were grouped based on their programmes under study into three strata where each stratum represented students programme of study. Stratum A represented general nursing students; Stratum B was direct midwifery students whilst Stratum C was post-basic midwifery students. The sample size for each stratum was determined using a simple random sampling whilst using the class attendance list as a sampling frame to ensure that each student has an equal chance of being selected from each stratum. Eligible students who consented to participate in the study were randomly selected from each stratum.

2.3. Data Collection Instrument and Technique

A well-structured and validated questionnaire was used to gather data for the study and the development of the questionnaire was in accordance with objectives. A modified version of the Maslach Burnout Inventory (MBI), the Copenhagen Burnout Inventory, and the School Burnout Inventory was utilized to determine student academic burnout. These three inventories were chosen because established literature suggests that each has limitations therefore combining them would supplement the limitations of each scale [32–34]. A reliability test was conducted to determine the internal consistency of the adopted scales. The questionnaires comprised three sections: Section A collected demographic information. Section B measured academic burnout and its dimensions, Section C identified the predictive factors of student burnout. The modified scale comprised 20 items, with 6 items devoted to measuring emotional exhaustion, 7 items for depersonalization, and another 7 items for low efficacy. Participants were asked to rate responses as “Always”, “Often”, “Sometimes”, “Not Often” and “Never”. To gain insight into the predictive variables of student academic burnout, section C enquired from participants' factors contributing to their academic burnout as “Yes” or “No”. The investigators spent six weeks gathering field data for the study. The questionnaires were distributed to eligible and consented students to answer during break times in order not to interfere with academic activities. The investigators were present during data collection to clear any misconception relating to the study. A student spent between 10–15 minutes completing a questionnaire. The data collection process continued until an estimated sample size of 196 was obtained.

2.4. Data Management and Analysis

Data collected was manually entered into Microsoft Excel (2019) for vigorous data management before being exported to Statistical Package for Social Sciences (SPSS 27, USA). Descriptive statistics were conducted on data collected into frequencies and percentages whilst ensuring data was normally distributed. The mean score of student academic burnout was 72.1 which was used as a cut-off

point for scoring student academic burnout. A score <72.1 and >72.1 indicated low burnout and high burnout respectively. A test of association using the Chi-square test and a binary logistic regression was carried out to determine the odds of the relationship between the dependent and independent variables at a 95% level of confidence and an alpha value $<0.05\%$ indicated a significant relationship.

2.5. Limitation of Study

The study's sample size limit the generalizability of findings. Again, students' biases in responding to the questionnaire could influence the accuracy of the results, potentially distorting the actual situation on the ground. The findings of this study are limited to student nurses in academic institutions and not on clinical practice.

2.6. Ethical Approval

Approval to conduct this study was obtained from the School Management. Both written and oral consent was obtained from students and participants fully accepted to participate in the study. Consented students were informed that, at any point in time of the study, they could withdraw their consent without causing any misunderstanding between investigators and students, therefore not affecting their academic activities. To protect students' confidentiality and privacy, participants were asked to complete the questionnaires independently by facing the classroom wall. To ensure data protection, the completed questionnaires were password protected and hard documents were locked in a file cabinet.

3. Results

A 100% response rate was obtained for the 196 students recruited into the study. The mean age of participants was 23 ± 3 years. About 68% of participants were between the ages 18-23 years whilst 25.9% fell between 24-29 years. Most (74.6%) were females, whilst 25.4% were males. Slightly above average (54.8%) were Registered General Nurses, 38.6% were Registered Midwives and 6.6% were in the Post-Basic Midwifery program. The majority (89.3%) of participants were Christian and 8.6% were Muslims. Most of the participants were single (67.5%), 21.8% were in a relationship, 9.1% were married, and 1.5% were divorced (Table 1).

Table 1. Distribution of Sociodemographic Characteristics of Participants.

Variables	Category	N=197	Percentage
Age	18-23	134	68.0
	24-29	51	25.9
	30-35	10	5.1
	36-40	2	1.0
Sex	Males	50	25.4
	Females	147	74.6
Academic Program	RGN	108	54.8
	RM	76	38.6
	Post Basic Midwifery	13	6.6
Marital Status	Married	18	9.1
	Divorced	3	1.5
	Single	133	67.5
	Dating	43	21.8
Religious Affiliation	Christianity	176	89.3
	Islam	17	8.6
	Traditionalist	4	2.0

RGN: Registered General Nursing; RM: Registered Midwifery

3.1. Burnout Among Students

The data showed that 17.3% of participants always reported being overwhelmed by academic activity as compared to 46.2% who sometimes reported being burdened by academic activity. About 8.6% and 25.4% cited that academic demands disturb their friendship. About, 10.7% of participants always felt a lack of sufficient energy to complete their academic assignments compared to 30.5% who sometimes felt insufficient energy to complete academic activities. With regard to participants' self-efficacy, it was found that 12.2% always felt incomplete about academic work, 33.5% sometimes and 25.4% never felt incompleteness in academic activities. About 44.2% of participants never felt the inability to compete with coursemates academically. Again, 39.6% never felt criticized by others for their academic inability, whilst 12.7% and 47% always and sometimes felt criticized respectfully. About 59.4% never felt they would be able to continue their education knowing they would be unsuccessful. Additionally, 53.8% of participants understood why they are schooling as compared with 7.1% and 4.1% who reported they don't not understand why they are in school (table 2).

Table 2. Distribution of burnout among participants.

Item (Emotional Exhaustion)	Always	Often	Sometimes	Not often	Never
I feel overwhelmed by my academic work.	34 (17.3)	28 (14.2)	91 (46.2)	29 (14.7)	15 (7.6)
Academic demands disturb my friendships.	17 (8.6)	21 (10.7)	50 (25.4)	47 (23.9)	62 (31.5)
I do not have sufficient energy to complete my academic assignments.	21 (10.7)	31 (15.7)	60 (30.5)	27 (13.7)	58 (29.4)
I desire to quit my academic work.	17 (8.6)	12 (6.1)	39 (19.8)	26 (13.2)	103 (52.3)
I do not have the ability to study at the school.	12 (6.1)	13 (6.6)	50 (25.4)	36 (18.3)	86 (43.7)
Academic activities disturb my friendships.	15 (7.6)	13 (6.6)	53 (26.9)	25 (12.7)	91 (46.2)
Item (Depersonalization)					
I feel a lack of motivation to complete my academic work.	28 (14.2)	25 (12.7)	62 (31.5)	42 (21.3)	40 (20.3)
I have less intention to give effort in doing my academic activities.	28 (14.2)	18 (9.1)	46 (23.4)	50 (25.4)	55 (27.9)

Item (Emotional Exhaustion)	Always	Often	Sometimes	Not often	Never
Academic activities make life boring.	28 (14.2)	17 (8.6)	63 (32.0)	33 (16.8)	56 (28.4)
I have less interest in doing school assignments.	19 (9.6)	15 (7.6)	47 (23.9)	52 (26.4)	64 (32.5)
I find no essence in doing school assignments.	20 (10.2)	13 (6.6)	36 (18.3)	32 (16.2)	96 (48.7)
I feel tired every morning when I wake up to face another day of academic work.	52 (26.4)	34 (17.3)	71 (36.0)	20 (10.2)	20 (10.2)
I really don't care about what happens in my academic work.	17 (8.6)	13 (6.6)	30 (15.2)	32 (16.2)	105 (53.3)
Item (Low Efficacy)					
I have feelings of inadequacy about my school's academic work.	24 (12.2)	17 (8.6)	66 (33.5)	40 (20.3)	50 (25.4)
I do not have the ability to compete with my classmates.	16 (8.1)	13 (6.6)	46 (23.4)	35 (17.8)	87 (44.2)
Others criticise me for my academic inabilities.	25 (12.7)	17 (8.6)	47 (23.9)	30 (15.2)	78 (39.6)
I achieve worthless grades in my academics.	11 (5.6)	25 (12.7)	45 (22.8)	41 (20.8)	75 (38.1)
I would not continue my education knowing that I would not be successful.	16 (8.1)	10 (5.1)	22 (11.2)	32 (16.2)	117 (59.4)
I do not know why I am still studying at the school.	14 (7.1)	8 (4.1)	37 (18.8)	32 (16.2)	106 (53.8)
I feel like I don't care about school anymore.	17 (8.6)	10 (5.1)	52 (26.4)	30 (15.2)	88 (44.7)

3.2. Student Academic Burnout

About 53.8% (n = 106/197) of participants reported high burnout as compared with 46.2% (n = 91/197) who reported low burnout (table 3).

Table 3. Distribution of Students' Academic Burnout.

Student academic burnout	N=197	Percentages
Low burnout	91	46.2
High burnout	106	53.8

3.3. Factors Contributing to Student Burnout

About 58.9% of participants indicated academic activity overload contributes to burnout, 52.8% cited unscheduled quizzes and 53.8% established a difference between theory and practice increases student burnout. Again, about 59.9%

of participants indicated extracurricular activities such as sports activities among others did contribute to academic burnout. About 46.2% and 48.2% respectively cited that a highly competitive atmosphere and a relatively inflexible curriculum contribute to academic burnout (Table 4).

Table 4. Factors Contributing to Students' academic burnout.

Items	Category	Frequency	Percentage
Academic activity overload at this school causes burnout.	Yes	116	58.9
	No	81	41.1
Unscheduled quizzes and tests at this school cause burnout.	Yes	104	52.8
	No	93	47.2
The highly competitive atmosphere at this school contributes to academic burnout.	Yes	91	46.2
	No	108	53.8
A relatively inflexible curriculum contributes to academic burnout.	Yes	95	48.2
	No	102	51.8
The gap between theory and practice at this school causes burnout.	Yes	106	53.8
	No	91	46.2
Many extracurricular activities, such as sports and choir practice, among others, at this school cause academic burnout.	Yes	79	40.1
	No	118	59.9

3.4. Association Between Contributing Factors and Students' Academic Burnout

The association between the dependent variable and independent variable was determined by applying the Pearson Chi-Square Test. At a 95% confidence level and an alpha value of <0.05, the association between student academic burnout and contributing factors was considered significant. It was disclosed that students' academic activities

and unscheduled quizzes associated with academic burnout of ($X^2 = 20.1, p=0.001$), ($X^2 = 6.6, p=0.015$) respectively. Students' academic competitiveness and inflexible curriculum are associated with academic burnout ($X^2 = 11.8, p=0.001$), ($X^2 = 5.4, p=0.023$) accordingly. Additionally, the difference between theory and practice and extra curriculum activity associated with academic burnout ($X^2 = 8.3, p=0.004$), ($X^2 = 17.9, p=0.001$) respectively (Table 5).

Table 5. Association between contributing factors and burnout among students.

Variable	Low burnout	High burnout	X^2 (p-value)
Academic activity overload at this school causes burnout.			20.1 (0.001) *
Yes	69 (75.8)	47 (44.3)	

Variable	Low burnout	High burnout	X ² (p-value)
No	22 (24.2)	59 (55.7)	6.6 (0.015) *
Unscheduled quizzes and tests at this school cause burnout.			
Yes	57 (62.6)	47 (44.3)	11.8 (0.001) *
No	34 (37.4)	59 (55.7)	
The highly competitive atmosphere at this school contributes to academic burnout.			5.4 (0.023) *
Yes	54 (59.3)	37 (34.9)	
No	37 (40.7)	69 (65.1)	8.3 (0.004) *
A relatively inflexible curriculum contributes to academic burnout.			
Yes	52 (57.1)	43 (40.6)	17.9 (0.001) *
No	39 (42.9)	63 (59.4)	
The gap between theory and practice at this school causes burnout.			
Yes	59 (64.8)	47 (44.3)	
No	32 (35.2)	59 (55.7)	
Many extracurricular activities, such as sporting activities cause academic burnout.			
Yes	51 (56.0)	28 (26.4)	
No	40 (44.0)	78 (73.6)	

X²: Chi-square value, *: p-value<0.05, statistically significant association

In the multivariate model, a binary logistic regression was conducted to determine the relationship between the dependent variable and contributing factors. Significant variables in the bivariate model were included in the multivariate model and the crude odds ratio (cOR) determined at the 95% confidence interval and a p-value of <0.05 was considered significant statistically. The Chi-square value of 35.54 and a p-value of 0.001 indicated that the model was fit for the regression. A Nagelkerke value of

0.221 indicated a 22.1% change in the dependent variable (High burnout) as a result of the predictor variables. Students who indicated “school academic activity influences burnout” had increased odds of encountering high academic burnout [aOR=2.78 (CI=1.44-5.37), p=0.002]. Again, students who were involved in extracurricular activities, such as sports had increased odds of high academic burnout [aOR=2.11 (CI=1.08-4.12), p=0.029] (Table 6).

Table 6. Factors influencing student high academic burnout.

Variables	cOR 95% CI	p-value	aOR 95% CI	p-value
Academic activity overload at this school causes burnout.				
Yes	3.94 (2.13-7.28)	0.014	2.78 (1.44-5.37)	0.002*
No	Reference		Reference	
Unscheduled quizzes and tests at this school cause burnout				
Yes	2.11 (1.19-3.73)	0.011	1.21 (0.62-2.34)	0.58
No	Reference		Reference	
The highly competitive atmosphere at this school contributes to academic burnout.				
Yes	2.72 (1.53-4.85)	0.001	1.05 (0.54-2.05)	0.23
No	Reference		Reference	
A relatively inflexible curriculum contributes to academic burnout.				
Yes	1.95 (1.11-3.45)	0.021	1.05 (0.54-2.05)	0.88
No	Reference		Reference	
The gap between theory and practice at this school causes burnout.				
Yes	2.31 (1.30-4.12)	0.004	1.52 (0.79-2.92)	0.21
No	Reference		Reference	
Many extracurricular activities, such as sports and choir practice, among others, at this school cause academic burnout.				
Yes	3.55 (1.95-6.460)	0.029	2.11 (1.08-4.12)	<.001 *
No	Reference		Reference	

cOR: Crude's Odds Ratio, CI: aOR: Adjusted odds ratio, Confidence Interval, *(p-value<0.05)

4. Discussion

A 53.8% of students academic burnout was documented. A meta-analysis reported a 51% high academic burnout [35], a 55.4% was also found in a systematic review report [14] and the findings were related. The similarities in findings could be ascribed to the adoption of similar instruments for measuring burnout. A lower burnout of 12.1% medical

students [18], 27.9% among medical students in China [36], 37.3% [37], 44.2% [38], and 48.5% of burnout had been found among undergraduate students of health sciences [39]. Alternatively, a higher score of 64.4% of student burnout had been found [40]. Again, A 71.4% of burnout had been discovered among medical students in India [41] and the findings were different. The differences in study reports could be accounted for by the differences in methodologies cited and the inventory scale for measuring student burnout.

The present study found that the overload of student academic activity significantly predicted their academic burnout. A study by [18] established a similar finding in research. Again, [24] indicated that the academic demands of students influence high burnout. Additionally, [42] conducted a mixed-method study on international students and cited that, academic overload of students affects their burnout. Furthermore, a cross-sectional study in China revealed a positive relationship between academic demands, and high burnout among Chinese high school students, which was in line with the present study's findings [43]. Moreover, [44] conducted a cross-sectional study on measuring the contributory factors to burnout. The author cited that students who have a lot of academic demands go through high burnout which was consistent with present findings. Further, [7] conducted a systematic review of meditation the cognitive behavioural therapies for the treatment of stress, depression, and anxiety in students. It was discovered that academic burden was a significant contributor to high burnout which supported the present study's finding. Additionally, [45] carried out a cross-sectional survey on "A conditional process model of academic demands and student learning" established a positive association between academic demands and high burnout and these findings correlated well with the current study outcome. These findings highlighted the need to address the amount and intensity of academic demands placed on students to decrease academic burnout. The similarities in the studies cited could be attributed to the educational system, and the increased involvement of students in academic activities. The extra-curricular activities of students significantly correlated to their high burnout, as this present study has found. In support of this, [46] conducted a systematic review and established that there is a significant influence of extracurricular activities on high burnout among students. Again, [47] indicated that extracurricular activities, such as athletes and social activities, positively correlated with student burnout. Furthermore, [48] revealed a significant influence of extra-curricular activities on burnout among students. The consistencies of these findings could be attributed to similarities of methodological approaches adopted. Conversely, [49] found that physical activity, such as exercising was a protective factor against student burnout, especially for students who engages in moderate to vigorous exercise. Similarly, [50] established that the lack of physical activity is a potential risk factor for academic burnout. However, the diversity, quantity, and scope of extracurricular activities that students engage in varied occasions could account for the differences in study outcomes.

The complete well-being of students is very crucial to their growth and cognitive development. However, students with high burnout are known to be susceptible to physical and psychological ill health [48, 51]. For instance, high burnout found among students predisposes them to develop disorders of body metabolism, such as dyslipidaemia, and musculoskeletal pains subsequent to increased morbidity and decrease quality of life [14, 48]. Students' high burnout impacts their relationships

with tutors and peers [52]. For instance, [52] established that students who experience high burnout negatively relate with tutors and peers. This occurs in their tendency to disregard instructions [52, 53] subsequent to failure to respond to academic assignments [14, 48, 52–55]. Similarly, an increase in burnout among nursing students tends to undermine their professionalism [56] and reduces empathy hence compromising patient care and safety [56]. Student high burnout contributes to the development of addictive behaviours [51]. For example, burn-out students may resort to internet and social media addictions as a coping mechanism to escape from the overwhelming academic pressure and seek relief and calmness [51]. This has a serious effect not only on the individual but also the society at large [8, 57]. Students who experience high levels of burnout may exhibit negative behaviours such as rule-breaking and substance abuse, which can have detrimental effects on social order and well-being [57, 58]. Moreover, student burnout can compromise the quality and efficiency of healthcare services delivery, increasing the cost of healthcare [23, 59]. Furthermore, student burnout can hinder the development and progress of society, as students who drop out of school lose the opportunity to contribute their skills and talents to the health workforce [48]. Burnout among students is associated with poor quality of life in various domains, such as physical, psychological, social, and environmental [60–63]. It impairs student sleep quality [36, 58, 61, 63, 64], leading to mental distress and unhealthy lifestyles among students, urging them to involve in smoking and alcoholism [58, 64] and resorting to increasing the use of medication such as caffeine, alcohol, or sleeping pills to cope with the effects of burnout [63]. Again, burnout also reduces student satisfaction with academic engagement subsequent to poor academic performance, and loss of potential. Furthermore, it undermines their self-esteem, leading to low personal achievement [60, 62].

5. Conclusion and Recommendations

The study found a high academic burnout among nursing students. Contributing factors to students nurses' academic burnout were an increased academic overload and many extracurricular activities. High academic burnout influences student inability to respond to scholarly assignments subsequent to poor school performance. It negatively affects students' quality of life as manifested by students' low self-esteem and low confidence. High burnout found among students influences the adoption of unhealthy lifestyles such as illicit use of drugs leading to psychological imbalance hence influencing suicidal ideations. The need to orient student nurses on academic burnout through education on mechanisms to deal with academic burnout is highly recommended. Further studies should be conducted on a larger sample size to generalise findings on a larger population.

Conflict of Interest

The authors of this paper declare that there were no competing interests among them in conducting this study.

Conflict of interest was therefore avoided.

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Authors Contribution

CAP, OKC and PA conceived the topic and developed the introduction. MOP, OKC and MS developed the methodology. OKC, MOP and CAP collected data. MOP and OKC analysed field data for the study. MOP and OKC drafted the manuscript. MS, PA and CAP revised the manuscript and proofread it. All authors accepted the paper for submission.

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