Academic burnout and professional self-concept of nursing students: A cross-sectional study

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ABSTRACT

Background: Nursing students' academic burnout affects their learning behaviour and academic performance, which ultimately affect whether they will become a qualified nurse. However, little is known about the academic burnout of nursing students, or about its relationship with professional self-concept.
Objectives: The purpose of this study was (1) to assess the academic burnout of nursing students and (2) to evaluate the impact of professional self-concept on academic burnout among nursing students.
Design: A cross-sectional survey.
Settings: The survey was carried out at a 3-year vocational medical college and a 4-year undergraduate medical college in Anhui province, which is located in east-central China.
Participants: From March to May 2018, a total of 1139 full-time nursing students were investigated by convenient sampling, and 1083 valid questionnaires were recovered in this study.
Methods: Basic information of students were collected. The Academic Burnout Scale (ABS) and the Nurses' Self-Concept Instrument (NSCI) were used to evaluate students' academic burnout and professional self-concept.
Results: The average of the overall score of the Academic Burnout Scale was 2.77 ± 0.53, which closed to the median of the scale (median = 3). Whether class leader students or not has significant influence on influence students' academic burnout. Nursing students' professional self-concept had negative effect on their academic burnout.
Conclusions: Nursing students' academic burnout level was close to the median on the Academic Burnout Scale, and improper behaviour was most severe. Positive professional self-concept can reduce the level of academic burnout. It is meaningful for nursing educators to take measures to decrease nursing students' academic burnout and enhance their professional self-concept.

1. Introduction

Burnout was described by Maslach and Jackson as a syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment that occurred among employees (Maslach and Jackson, 1981). Many researches on burnout have been done in industrial fields; however, recently, more and more researchers are beginning to turn their attention to non-occupational population, such as college students. Students' obligatory learning activities, for instance, attending classes on time, taking exams, and completing homework, can be thought as work from the psychological viewpoint (Salmela-Aro et al., 2009). Academic burnout has been defined in many ways. Schaufeli et al. (2002) proposed academic burnout as a combination of emotional exhaustion, cynicism and academic inefficacy that caused by the on-going failure to manage study pressure effectively. Yang (2004) defined the academic burnout as a state of emotional exhaustion, a tendency to depersonalization, and a feeling of low personal accomplishment caused by learning pressure, academic burden or other factors regarded learning. Salmela-Aro et al. (2009) summarized the characteristics of academic burnout, including low motivation and increased feelings of failure because of their incapacity to meet academic requirements.

The available literature reported varying rates of burnout among medical students (Santen et al., 2010; Muzafar et al., 2015; Fares et al., 2016; Almalki et al., 2017; Popa-Velea et al., 2017). For instance, Popa-Velea et al. (2017) stated that burnout prevalence was 15.05% among Romanian medical students. In contrast, Fares et al. (2016) reported that the prevalence of burnout was 75% among medical students in Lebanon. The wide range of burnout levels may be explained by the

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different assessment tools those studies used or different cultural and social background. Moreover, predictors of burnout among medical students were as follows: personality traits (Lee et al., 2017) perceived social support, perceived stress, alexithymia (Popa-Velea et al., 2017), and factors related to education process such as the acquisition of skills, feeling about course activities (Costa et al., 2012). Furthermore, some demographic variations may lead to differences in academic burnout. One study indicated that academic burnout had significant gender differences, male students were lower than female students at the level of reduced personal accomplishment (Lian et al., 2006).Another study revealed that ordinary students had higher academic burnout than class leaders (Li et al., 2017). In a word, those studies demonstrated that medical students do experience some degree of academic burnout because of heavy academic workloads and intense competitive pressure. However, most studies have referred to all medical students but not focused on nursing students.

Professional self-concept in nursing was stated as how nurses' think and feel about themselves as nurses (Arthur, 1992). Cowin (2001) defined it as the way that nurses perceive themselves in their workplaces. Nurses' professional self-concept is relatively stable, but it is an ongoing process, it may develop during the process that an individual shifts from being a nursing student in college to being a licensed practical nurse in the hospital setting (Arthur, 1992). Nurses who have positive professional self-concept more likely to have greater job satisfaction and job retention, and more likely to be productive within their professional roles (Cowin et al., 2008). Cao et al. (2015) demonstrated that positive perception of professional self-concept could result in decreased stress experiences and job burnout among clinical nurses. Some studies with emphasis on teachers also drew similar conclusions (Liu and Qin, 2005; Rad and Nasir, 2010 However, as far as we know, little research has focused on the relationship between academic burnout and professional self-concept among nursing students.

Academic burnout has adversely impact on nursing students' learning process and academic performance, which ultimately may decrease the quality of care delivered to patients in their future work. Therefore, the academic burnout of nursing students is a meaningful topic to study. Conversely, self-concept is a protective factor for coping with stress. Professional self-concept, as a domain-specific self-concept, plays an active role in the decrease of nurses' burnout. Thus, we hypothesized that professional self-concept was a negative predictor of academic burnout among Chinese nursing students on the basis of previous studies. The objectives of this study are listed as follow: (1) to address the academic burnout of nursing students from Mainland China; (2)To explore the influence of professional self-concept on academic burnout among nursing students in China.

2. Methods

2.1. Design and samples

A descriptive cross-sectional study was conducted to explore the association between academic burnout and professional self-concept among Chinese nursing students from March to May in 2018. This survey was carried out at a 3-year vocational medical college and a 4-year undergraduate medical college in Anhui province which is located in east-central China. On the principle of convenience sampling, the potential sample consisted of 1191 nursing students enrolled in two medical colleges. However, 52 students not present in class when the data were collected; finally, 1139 nursing students were investigated in this study. Inclusion criteria: full-time students who were regularly admitted by attending National College Entrance Examination (NCEE). Exclusion criteria: students on leave because of sickness and other reasons.

2.2. Data collection procedures

The research was approved by two schools' ethics committee. The students were enrolled in their twenty-minute recess in the morning. Firstly, they were informed of the study's significance and purpose before giving their express consent. It was made clear to all students that they can voluntarily decide on whether to participate the study and that all information would be kept confidential. Secondly, the questionnaires, which usually take about five to 10 min to complete, were sent out, and then the participants were required to fill out the questionnaires independently under the unified instruction. Finally, all the questionnaires were taken back on the spot. Meanwhile, participants were required to supplement the omitted items.

2.3. Instruments

Data were obtained using three questionnaries as follows: the general information questionnaire, the Academic Burnout Scale(ABS) and the Nurses' Self-Concept Instrument (NSCI).

2.3.1. General information questionnaire

General information was divided into demographic characteristics and academic-related data of the participants. The former included five items about participants' gender, age, residence, grade, and whether they come from single-child families. The latter included three items about their education program, whether participants are class cadres, whether nursing speciality was their first choice.

2.3.2. Academic Burnout Scale (ABS)

The ABS is a 20-item instrument measuring the level of academic burnout in nursing students, which was developed in the Chinese language by Lian et al. (2005). The ABS includes three subscales: dejection (8 items), improper behaviour (6 items), and reduced personal accomplishment (6 items). A five-point Likert scale ranging from 1 (strongly inconformity) to 5 (strongly conformity) is used, and eight items of the scale are reversed coded. The ABS score, which is the total of its item scores, ranged from 20 to 100 points, with high scores indicating higher levels of academic burnout. The result of the previous study proved that the ABS had good reliability and validity. In the study, the overall Cronbach's alpha coefficient of the ABS was 0.88. Cronbach's alpha coefficients for each subscale were 0.85,0.72, 0.68, respectively.

2.3.3. Nurses' Self-Concept Instrument (NSCI)

The NSCI was developed to assess professional self-concept of nursing students by Angel et al. (2012). It consists of 14 items and includes four fundamental dimensions: care, knowledge; staff relations and leadership. Each item scored from 1 (definitely false) to 8 (definitely true), with higher scores indicating more positive professional self-concept. The internal consistency coefficients of the whole scale and subscales range from 0.78 to 0.97 (Angel et al., 2012). In the current study, the Chinese version of the NSCI has been proved to be a valid and reliable measure for evaluating Chinese nursing students' professional self-concept. (Construct reliability of each subscale were 0.79, 0.84, 0.81, 0.86, average variance extracted of each subscale were 0.56, 0.58, 0.59, 0.60, Cronbach's alpha of the whole scale and each subscale were 0.93, 0.79, 0.84, 0.81, 0.85).

2.4. Data analysis

Epidata 3.1 software was used for data input. All data were analyzed with SPSS 17.0. A normal distribution of the data was shown using the Kolmogorov-Smirnov test. The general information, level of academic burnout, and professional self-concept were analyzed by the descriptive statistics. Academic burnout differences relative to different general information was tested by the analysis of variance (ANOVA) or

Table 1
Demographic data of the respondents (*N* = 1083).

Variables	N(%)
Gender	
Male	131(12.1)
Female	952(87.9)
Grade	
Freshman	316(29.2)
Sophomore	308(28.4)
Junior	241(22.3)
Senior	218(20.1)
Residence	
Urban	333(30.7)
Rural	750(69.3)
The only child	
Yes	227(21.0)
No	856(79.0)
Education program	
4-year undergraduate program	483(44.6)
3-year junior program	600(55.4)
Class leaders	
Yes	378(34.9)
No	705(65.1)
Way of admission	
Chose major actively	848(78.3)
Major transfers	235(21.7)

independent-sample *t*-tests. The correlation between academic burnout and professional self-concept were examined by the Pearson correlation analysis. The influence of professional self-concept on academic burnout was explored by multiple regression analysis. *P* < 0.05(two-tailed test) was considered statistically significant.

3. Results

3.1. Demographic data of the respondents

A total of 1139 questionnaires, 1083 valid questionnaires were recovered, and the valid returned rate was 95.1%. 56 questionnaires were excluded because of the regular answer (The students answered at random, and for example, they all chose A as the answers, such kind of regular repetition.). Nursing students' ages ranged from 17 to 25, average 20.06 years (SD = 1.38), most of them were female (952, 87.9%). Demographic data of the respondents are shown in Table 1.

3.2. Academic burnout

The average of the overall score on the total academic burnout was 2.77 ± 0.53, which closed to the median of the scale (median = 3). Among three dimensions of academic burnout, the highest score is improper behaviour (2.97 ± 0.62), followed by dejection (2.72 ± 0.71), and the lowest is reduced personal accomplishment (2.61 ± 0.53) (see Table 2).

Comparing with class leader students, the scores of three subscales

Table 2
Academic burnout among nursing students (N = 1083).

Variables	Score	Items	Mean score
DE	21.78 ± 5.68	8	2.72 ± 0.71
IB	17.85 ± 3.70	6	2.97 ± 0.62
RPA	15.71 ± 3.18	6	2.61 ± 0.53
TAB	55.35 ± 10.65	20	2.77 ± 0.53

DE, dejection; IB, improper behaviour; RPA, reduced personal accomplishment; TAB, total academic burnout.

Table 3
Academic burnout of nursing students with different characteristics (N = 1083).

Variables	DE	IB	RPA	TAB
Gender				
Male	2.93 ± 0.74	3.06 ± 0.59	2.76 ± 0.56	2.92 ± 0.53
Female	2.69 ± 0.70	2.96 ± 0.62	2.60 ± 0.52	2.75 ± 0.53
t	3.647	1.684	3.314	3.525
P	0.000	0.092	0.001	0.000
Grade				
Freshman	2.78 ± 0.86	3.00 ± 0.73	2.57 ± 0.58	2.78 ± 0.65
Sophomore	2.68 ± 0.67	2.96 ± 0.60	2.61 ± 0.51	2.75 ± 0.51
Junior	2.71 ± 0.61	2.94 ± 0.54	2.66 ± 0.51	2.77 ± 0.45
Senior	2.71 ± 0.63	2.93 ± 0.55	2.65 ± 0.51	2.77 ± 0.47
F	1.217	0.606	1.867	0.199
P	0.302	0.611	0.133	0.897
Residence				
Urban	2.71 ± 0.70	2.98 ± 0.62	2.63 ± 0.53	2.77 ± 0.53
Rural	2.75 ± 0.73	2.96 ± 0.60	2.60 ± 0.52	2.77 ± 0.53
t	−0.865	0.686	0.649	−0.029
P	0.387	0.493	0.516	0.977
The only child				
Yes	2.80 ± 0.69	2.94 ± 0.58	2.65 ± 0.51	2.80 ± 0.50
No	2.70 ± 0.71	2.98 ± 0.63	2.61 ± 0.54	2.76 ± 0.54
t	1.944	−0.859	0.896	1.006
P	0.052	0.39	0.370	0.315
Class leader				
Yes	2.65 ± 0.69	2.88 ± 0.60	2.53 ± 0.51	2.68 ± 0.52
No	2.76 ± 0.72	3.03 ± 0.62	2.67 ± 0.54	2.81 ± 0.53
t	−2.390	−3.685	−4.210	−3.820
P	0.017	0.000	0.000	0.000
Education program				
4-year undergraduate program	2.86 ± 0.68	3.09 ± 0.55	2.71 ± 0.48	2.89 ± 0.47
3-year junior program	2.61 ± 0.72	2.88 ± 0.65	2.54 ± 0.55	2.67 ± 0.56
t	5.941	5.760	5.464	6.791
P	0.000	0.000	0.000	0.000
Way of admission				
Chose major actively	2.68 ± 0.72	2.94 ± 0.64	2.59 ± 0.54	2.73 ± 0.55
Major transfers	2.86 ± 0.65	3.09 ± 0.53	2.74 ± 0.47	2.89 ± 0.43
t	−3.422	−3.451	−3.883	−4.007
P	0.001	0.001	0.000	0.000

DE, dejection; IB, improper behaviour; RPA, reduced personal accomplishment; TAB, total academic burnout.

are significant higher in non-class leader students. 4-year undergraduate program students had higher scores than the 3-year junior program students on the three subscales of academic burnout. The major transfers scored significantly higher than the students who actively choose nursing as their specialty on the three dimensions of academic burnout. The major transfers in the present study mean those who are not matriculated by the specialties they declare, and are transferred to nursing programs passively. Male students had higher scores in dejection (*t* = 3.647, *P* = 0.000), reduced personal accomplishment (*t* = 3.314, *P* = 0.001), and total academic burnout (*t* = 3.525, P = 0.000), while had no significant difference in improper behaviour. No significant difference in academic burnout was noted among grade, residence, only child or not (*P* > 0.05) (see Table 3).

3.3. Professional self-concept

As shown in Table 4, Chinese nursing students felt most positive in staff relations self-concept (mean = 6.77, SD = 0.88), followed by care self-concept (mean = 6.61, SD = 0.99) and knowledge self-concept (mean = 6.58, SD = 0.93), and least confident in leadership self-

Table 4

Correlation matrix for academic burnout and professional self-concept (N = 1083).

Variables	M ± SD	DE	IB	RPA	TAB
CA	6.61 ± 0.99	−0.273**	−0.229**	−0.342**	−0.328**
KN	6.58 ± 0.93	−0.334**	−0.301**	−0.403**	−0.403**
SR	6.77 ± 0.88	−0.301**	−0.228**	−0.329**	−0.338**
LE	6.26 ± 1.14	−0.291**	−0.270**	−0.385**	−0.364**
TPSC	6.54 ± 0.87	−0.341**	−0.297**	−0.420**	−0.411**

DE, dejection; IB, improper behaviour; RPA, reduced personal accomplishment; TAB, total academic burnout; CA, care; KN, knowledge; SR, staff relations; LE, leadership; TPSC, total professional self-concept.

** $P < 0.01$.

concept (mean = 6.26, SD = 1.14).

3.4. Relationships between academic burnout and professional self-concept

Negative correlation had been shown between the scores of ABS and the scores of NSCI($r = -0.411$, $P < 0.01$). Academic burnout also had negative correlations with the care($r = -0.328$, $P < 0.01$), knowledge ($r = -0.403$, $P < 0.01$), staff relations($r = -0.338$, $P < 0.01$) and leadership self-concept ($r = -0.420$, $P < 0.01$). All subscales of academic burnout had significant negative correlations with all dimensions of professional self-concept. All results of correlation analysis are shown in Table 4.

3.5. Multiple linear regression analysis of academic burnout

The outcomes of multiple linear regression analysis indicated that the NSCI total score, whether class leaders, and education level were associated with the total score of academic burnout. Of three independent predictors, the total mean score of professional self-concept was most strongly related to the total mean score of academic burnout. As can be seen from Table 5, the model could explain 18.9% (adjusted R^2 scores: 18.7%) variance of nursing students' academic burnout.

4. Discussion

The main objectives of the current study were to examine the academic burnout of Chinese mainland nursing students and to explore the impact of professional self-concept on the academic burnout among nursing students in Mainland China.

In the present study, we found that their academic burnout level was close to the median on the Academic Burnout Scale, and improper behaviour was most severe. These findings were consistent with previous reports (Lian et al., 2006). Some nursing students lack identification with their major (Sun et al., 2016), which might be the main reason for their academic burnout. Many students had limited insight into the specialized and professional characteristic of nursing before they were admitted by the nursing program. Even after entering their professional studies, some nursing students still didn't have clear role definitions (Sun et al., 2016). Additionally, poor self-directed learning

ability (Tao et al., 2015), a broad spectrum of courses, and high levels of stress (Smith and Yang, 2017) may cause some nursing students to struggle with their study, then they showed some improper learning behaviours, such as inattention, skip classes, nodding off in class and so on.

The findings of this study showed that class leaders had lower academic burnout than ordinary students. The result was in line with previous research(Li et al., 2017). There are some unique cultural reasons for this outcome. In China, class leaders should serve as role models to other students, so they usually set higher learning standards for themselves, and less likely to do inappropriate behaviours. Meanwhile, the class leaders usually help teachers deal with classes' affairs, and get thumbs up from teachers and classmates by making more contributions to the development of classes. The previous study also demonstrated that class leader students have better resilience than non-class leader students (Smith and Yang, 2017). All of these may decrease their negative learning experience and enhance their sense of accomplishment.

This study also found that nursing students of the 4-year undergraduate program had higher academic burnout than students of the 3-year junior program. This outcome may be attributed to the different levels of professional identity and occupational expectation between two education levels nursing students. Compared with junior college nursing students, undergraduate students' level of professional identity was lower (Xu et al., 2014), many undergraduate students choose nursing as their major not because they love nursing, but because the situation of employment was favorable (Wang et al., 2013), or their Chinese college entrance examination scores were not high enough to get them into their favorite majors. Additionally, undergraduate students usually have high expectation for their future jobs. However, undergraduate nurses and college nurses have no obvious differences in work contents, job responsibilities, payments and incentives in China. This status quo made some undergraduate nursing students feel perplexed at their career future.

This study showed that nursing students' academic burnout was negatively affected by their professional self-concept. The results from this study were in good consistent with previous findings (Liu and Qin, 2005; Rad and Nasir, 2010; Cao et al., 2015), which reported that significant negative relationship existed between burnout and professional self-concept among teachers and nurses. Self-concept was considered as an important internal and personal factor that can protect people from the negative effects of stress. Professional self-concept, which refers to how nursing students' think and feel about themselves as nurses, have incentive influence on individual career development (Arthur, 1992; Angel et al., 2012). Positive professional self-concept can relieve stress experiences and burnout (Cao et al., 2015). Students with healthy professional self-concept tend to evaluate nursing program positively and to cope with academic stress effectively, which can lead to reduced academic burnout. Therefore, professional self-concept should be considered as an important variable to reduce the academic burnout of nursing students. Specifically, improving nursing knowledge and skills, well developed communicating and cooperating ability, confidence and sense of leadership are important for decreasing nursing students' academic burnout. Targeted interventions could be

Table 5

Multiple linear regression analysis of academic burnout (N = 1083).

Variables	B	SE	β	t	P	95%CI		R²	F	P
						Lower	Upper	(Adj. R²)		
Constant	4.229	0.122		34.633	0.000	3.989	4.468	18.9%	83.841	0.000
TPSC	−0.234	0.018	−0.384	−13.313	0.000	−0.269	−0.200	(18.7%)		
Class leaders	0.131	0.031	0.117	4.283	0.000	0.071	0.191			
Education program	−0.093	0.031	−0.087	−3.026	0.003	−0.154	−0.033			

SE, standard error; CI, confidence interval; TPSC, total professional self-concept.

implemented by nursing educators to improve nursing students' professional self-concept. Role models, early clinical learning experiences, and positive nursing culture contribute to positive professional self-concept (Arthur, 1992; Gibson, 2003; O'Brien et al., 2008; Angel et al., 2012; Wenrich et al., 2013).

The present study has several strengths. First, our study was the first to explore the relationship between academic burnout and professional self-concept among nursing students. Second, the sample size of this study was large enough to examine the academic burnout of Chinese nursing students. Further, the high response rates may reflect nursing students' high interest in the issues explored in this study.

4.1. Limitations

Some limitations of this study should be considered. First, the generalizability of the findings is limited by the fact that most participants were female nursing students and were recruited from one province (Anhui) in eastern central China. Randomized samples from different areas are suggested for future research. Second, because of the cross-sectional design, causal relationship between academic burnout and professional self-concept cannot be determined in this study. It should be noticed that bidirectional interrelation may exist between these two constructs. For future work, longitudinal design studies should be recommended.

5. Conclusions

The current study demonstrated that Chinese nursing students' academic burnout level was close to the median on the Academic Burnout Scale, and improper behaviour was most severe. Nursing students' professional self-concept was a significant negative predictor of academic burnout. Additionally, whether being class leaders or not, education level also contributed to academic burnout. However, compared with personal characteristics, professional self-concept had the biggest influence on the academic burnout levels among nursing students. Our findings suggested that improving and developing nursing students' professional self-concept may be useful for managing their academic burnout. Longitudinal multi-centre design studies are suggested to explore the causal relationship between the professional self-concept and academic burnout.

Conflict of interest

None declared.

Ethical approval

The ethical committee of School of Nursing of Wannan Medical College. The approval number is 20180003.

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