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Original Article

An investigation about learning burnout in medical college students and its influencing factors

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ABSTRACT

Purpose: To investigate the degree of learning burnout and its influencing factors in medical college and university students.

Methods: The Learning Burnout Scale, Attributional Style Questionnaire, and Self-Efficacy Scale were used to investigate 679 medical college and university students.

Results: The Learning Burnout Scale score was 61.33 ± 8.28. The score for the Attributional Style Questionnaire was 0.19 ± 1.18, and Self-Efficacy Scale score was 2.46 ± 0.37. Self-efficacy and attributional styles were negatively correlated with learning burnout. Field of study, scholarship status, grade, and attributional style and self-efficacy total scores affected the degree of learning burnout, and explained 27% of the total variance of observed learning burnout.

Conclusion: Learning burnout in students is of a moderate level. We should help and guide students according to their profession, grade, learning characteristics, and whether they have existing attributional style problems; these interventions should help to reduce learning burnout.

1. Introduction

Learning burnout is a psychological state characterised by ongoing negative emotions, and low motivation. It occurs mainly in students and is related to their learning, research interests, and/or employment. Learning burnout has three dimensions: emotional exhaustion, cynicism and low efficacy [1]. In general, there is currently a high degree of learning burnout in college students in China. Li et al. [2] has shown that moderate levels of learning burnout or greater account for half of all cases. Further, learning burnout is a common emotional, attitudinal and behavioural problem in college students [3]. Previous research about college students,

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learning burnout has mostly focused on students studying the arts and sciences, sports, teaching, and engineering. Apart from studies by Li et al. [4] and Lian et al. [5] that studied learning burnout in college students, there are no other relevant reports. In addition, there are few studies about learning burnout in medical college students, or about its influencing factors. Therefore, this study aimed to study medical college student learning burnout and associated factors, and the intensity of attribution styles and self-efficacy for explaining and predicting learning burnout in this group. The intention was to provide quality improvement suggestions to medical school academic directors/managers to improve their students' learning abilities and interest levels, and to reduce the students' levels of learning burnout.

2. Subjects and methods

2.1. Subjects

This study used a convenience sampling method. We selected 679 students from two medical colleges, including 199 males and 480 females (156 medical science students, 150 computer science students, 173 foreign language science students, and 200 nursing science students. The mean age of the students was 20.82 ± 2.79 years old. All participants were undergraduates (210 freshman, 240 sophomore, and 229 Grade 3 students).

2.2. Methods

2.2.1. Investigation methods

A questionnaire was developed that consisted of four parts: a general questionnaire, the Learning Burnout Questionnaire, the Attribution Style Questionnaire, and the General Self-Efficacy Scale (GSES). The general questionnaire collected data on gender, age, profession, single child status, division of arts, scholarships, and grades. The Learning Burnout Questionnaire, as compiled by Lian [6], was divided into three dimensions—depression (8 entries), misconduct (6 entries) and low sense of achievement (6 entries)—with a total of 20 entries; the questionnaire's general Cronbach's α coefficient was 0.865 and every dimension of this coefficient was 0.70 or greater. The questionnaire used a five-point Likert scale, from 1 (completely inconsistent) to 5 (fully consistent); higher scores indicated higher levels of learning burnout. The Attribution Style Questionnaire, a self-reported questionnaire measuring individual attribution styles, was compiled by the American psychologists Peterson et al. [7] and is based on the attribution theory of depression. This questionnaire has been amended by Wang et al. [8]; there were 60 questions, including four factors of internal and external dimensions, fatalistic dimensions, a universal dimension, and continued dimension. The total score was calculated by deducting the negative points from the positive points; the higher the score, the more optimistic the attribution style. The questionnaire's Cronbach's α coefficient was 0.843, and each subscale's coefficient was between 0.4 and 0.9 [8]. The GSES has good reliability, internal consistency, a Cronbach's α coefficient of 0.87, and a test-retest reliability, $r = 0.83$. The General Self-Efficacy Scale (GSES) [9]: has 10 elements and uses a four-point Likert scale; a higher score indicates higher levels of self-efficacy.

Between April and June 2012, 800 questionnaires were distributed; 748 were returned, of which 679 were valid, giving an effective rate of 84.9%.

2.2.2. Statistical methods

Data management and statistical analysis was undertaken using SPSS version 11.5 statistical software for the descriptive statistics, independent sample t test, analysis of variance, correlation analysis, and regression analysis. Homogeneity of variance test standards and hypothesis testing was set at $\alpha = 0.05$. The regression dummy variable settings included: 1) Scholarship dummy variables: those who did not have a scholarship = 1, scholarship holders = 0. 2) Course subject dummy variables were defined as follows: Profession 1 for computing = 1, others = 0; Profession 2 for foreign languages = 1, others 0; Profession 3 nursing = 1, others 0; 3). Dummy variables for grades were defined as: Grade 1 (sophomore) = 1, others = 0; Grades 2/3 = 1, others = 0.

3. Results

3.1. Medical college students' learning burnout scores

The mean burnout total score was 61.33 ± 8.28, with depression scores of 24.46 ± 4.26, misconduct scores of 18.66 ± 3.21, and low achievement scores of 18.22 ± 2.86.

3.2. Factors that influenced medical college students, learning burnout: univariate analysis

3.2.1. Relationship among attribution styles, self-efficacy and learning burnout

The attribution styles total score was 0.19 ± 1.18, and the self-efficacy total score was 2.46 ± 0.37. The students' self-

Table 1 – Comparison of learning burnout scores among students with different general information (x ± s).

Item		n	Score	Statistical value	p-Value
Gender	Male	185	61.55 ± 7.93	0.19[a]	0.85
	Female	480	61.41 ± 8.46		
Specialty	Medical	156	63.07 ± 9.15	13.67[b]	0.00
	Computer	150	60.67 ± 7.97		
	English	173	58.35 ± 6.81		
	Nursing	200	63.05 ± 8.21		
Division of arts	Liberal arts	200	61.80 ± 8.46	0.92[a]	0.36
	Science	478	61.16 ± 8.21		
Only child	Yes	255	61.17 ± 7.98	−0.39[a]	0.70
	No	424	61.43 ± 8.47		
Scholarship status	Yes	201	60.02 ± 7.44	−2.85[a]	0.01
	No	478	61.88 ± 8.56		
Grade	Freshman	210	59.93 ± 7.54	4.41[b]	0.00
	Sophomore	240	62.03 ± 8.28		
	Junior	229	61.88 ± 8.79		

[a] t-value.
[b] F-value.