

Stress, Burnout and Psychological Capital of Emergency Remote Learning and Instruction among College Students in Northwest China During the COVID-19 Pandemic

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ABSTRACT

The impact of COVID-19 towards people's health and normal social order is significant and may multiply affect the learning mode and teaching quality, especially contemporary college students as the one of the most vulnerable category of online learning. To avoid the threats to health, most of them have to face the block-down and an urgent shift to emergency remote instruction. This study attempts to test empirically PsyCap, stress and burnout associated with telecommunication in online learning process and psychological capital among college students in Northwest China during this global suspension of face-to-face classes period, and it also tries to establish a model between the three variables. Based on the data of 251 participants, results shows the moderate stress, burnout, acceptable level of PsyCap college students; there is a positive correlation between emergency online learning stress and PsyCap; Online learning stress is negatively correlated with Psychological capital and learning burnout.

Keywords: remote learning stress; learning burnout; psychological capital; college students

1. INTRODUCTION

In recent three years, the outbreak of the global COVID-19 pandemic has upended 6 million lives while showing no trends of slowing down^[1]. In China, COVID-19 was found initially in Wuhan in 2019, and gradually developed into a pandemic in the following two years^[2]. Schools and universities are closed from time to time to curb the virus transmission. The Ministry of Education then launched the remote teaching and learning campaign. Most universities and colleges across China have adopted physical distancing learning mode and online emergency instruction.

However, delivering lessons via the Internet poses additional challenges to college students facing the new way of learning. Epidemics are associated with increased burden of psychological distress^[3]. Besides, limiting face-to-face interactions may hinder students' emotional development, and other soft skills^[4]. Accordingly, a suspension of face-to-face classes and urgent shift to emergency remote instruction may generate stress and burnout among college students, which threatens the

health and well-being of students globally. However, recent research supports a positive relationship between PsyCap (psychological capital) and well-being^[5].

To date, few studies have been done to examine relationships among stress, burnout and psychological capital among Chinese college students during the COVID-19 pandemic, especially in an emergency remote instruction context. Little research in the literature has been done to examine the role of PsyCap in relieving stress and burnout among college students. Therefore, we aimed to examine PsyCap of Chinese college students and its associations with stress and burnout after the implement of the new study format learning online during the COVID-19 pandemic.

2. LITERATURE REVIEW

Stress refers to a feeling of physical or emotional tension which is a normal human reaction occurs to everyone. The sudden closure of universities as a precautionary measure have changed the teaching from a conventional face-to-face activities to a virtual remote

learning across the world. Such a quick shift in the educational mode might cause intense stress on students [6]. The infected cases continuously increases globally and new strains are discovered somewhere from time to time in the country. In this circumstances, some college students may continue their remote learning activities in the near future. The rapidly increasing stress can result in undesirable impacts threatening the students' well-being as well as academic life [7]. Undergraduate students face various moderate to high stress levels stresses in China. The lockdown during the pandemic period increased the undergraduate students' stress level. Some scholars have explored the impact of online learning on the students' academic performance [8], stress [9] and satisfaction [7] in the past two years.

Burnout can be defined as a multidimensional syndrome with three adverse consequences: gradual exhaustion, cynicism, and reduced efficacy. There is no consensus regarding the relation between stress and burnout although previous research has revealed that stress is closely related to burnout. Some scholars believe stress may trigger burnout among students while others hold that burnout account for stress. To date, burnout in educational domain has been believed as a major cause of poorer academic performance such as exhaustion from school work, cynicism toward the meaning of formal education or learning, and a sense of inadequacy with school work. However, it is still unclear to what extent burnout indicate academic achievement [10].

A key reliever to burnout is the ability of ones' PsyCap (Psychological Capital). As measurable psychological strengths and capacities, PsyCap developed along with positive psychology movement which was initiated by Martin Seligman at the end of last century. It is a positive oriented human psychological construct consist of four core dimensions: optimism, hope, self-efficacy and resilience. PsyCap contributes to mental well-being through positive cognitive and affective mechanism [11]. PsyCap also mediates impact of stress because it can strengthen the individual's capabilities to battle against stress and burnout [12]. The evidence above suggests that someone with high level of PsyCap will be more likely to survive and succeed in a stressful environment. As indicated by a systematic review, PsyCap research within educational domains is still in its early stage [13] although a few studies already provided evidence that academic stress can be positively mediated by PsyCap among student population [14].

Although substantial amount of research have been done to understand stress, burnout and PsyCap, few previous research has combined these three variables in one study among Chinese college students, let alone the quantitative study in the particular context of online classes during the epidemic. Previous research revealed PsyCap can be enhanced through social mechanisms including close contact, social support and constructive

relationships [11]. We may infer the limiting face-to-face interactions may adversely affect PsyCap concurrently even triggers stress and burnout with the unexpected exposure to unfamiliar online pattern among Chinese college students. From the existing literature and given the increased demands on contemporary college students with the implementation of the new remote education format, this study therefore aims to test the the relationships between academic stress, burnout and PsyCap within Chinese cultures. The objectives of the study are:

1. To establish the reliability and validity of the scale of the Emergency Remote Learning and Instruction for college students; and
2. to develop a model of PsyCap and examine whether burnout and stress contributes to PsyCap.

3. METHODS

3.1. Design

This cross-sectional study used self-report questionnaires as the method of data collection.

3.2. Participants

Participants were undergraduate students both male (n = 62) and female (n = 188), aged between 18 and 24. From March through May 2022, students in Northwest China participated in the current study of probing Chinese college students' adaption to remote instruction during the COVID-19 epidemic period. Of these, some invalid questionnaires were excluded and 252 completed the questionnaire and met the inclusion criteria.

3.3. Instruments

Authors designed and revised scales of stress and burnout and psychological capital. The survey began with some demographic questions and was followed by three standard measures below.

Stress was measured using the Emergency Remote Learning Stress Scale with 20 items based on the Online Learning Stress among College Students (OLSCS) developed by Zhang Ning (2021) [15] with acceptable reliability and validity ($\alpha=0.957$; $c^2=5427.784$; $Sig=0.000<0.05$; $KMO=0.934$). OLSCS is a five -point Likert scale consist of 32 items that measure 6 dimensions: technological stress; learning time and support stress; autonomous learning abilities; teaching design stress; learning interaction stress; financial stress. Some overlap expression were deleted such as item 15 and 19 (item 15: curriculum contents were out of date; item 19: curriculum materials were not rich and out of date) and some questions were separated and reorganized for test to be more accurate if two concepts

mingled in one dimension or question. (e.g.item 3 stress of old online equipment of slow speed of network).Finally, 5 dimensions with 16 items in OLSCS were maintained with little adaptation of expression and four new questions were added about negative affect of using new learning interface;long time of attention; noisy environment, lack of communication.

The Online Learning Burnout which contains nine items was used to assess depression, misbehavior and low sense of achievemen. It based on Online Learning Burnout Scale (OLBS) developed by LianRong in 2005 (as cited in Li Yixi 2020)^[16] with good reliability and validity($\alpha=0.865$; $c^2=21294.63$; $Sig=0.000 < 0.05$; $KMO=0.851$).

The Psycap Scale which is composed of eight items was used to measure hope, optimistic, Resilience and efficacy of Psycap. It took Zhangkuo’s 40-items Psycap Scale as reference which has acceptable reliability and validity (as cited in Li Yixi 2020 above) $\chi^2=2384.953$, $p<0.000$; $KMO=0.868$).

4. FINDINGS

The data collected were analyzed using multiple regression analysis to establish the relationship of the independent variables and dependent variable. None of the demographic variables (sex, grades, age, living place, major) correlated significantly with DV and IV.

The Cronbach’s Apha of the questionnaire is 0.766, indicating a high level of reliability. The data survey showed that the participants had moderate levels of burnout, high psychological capital and considerable online learning stress.The average scores are 2.87 (OLB), 3.25 (PC) and 2.85 (OLS) respectively.

The overall fit of the 47-item measurement is summarized in Table 1 and Table 2.

Table 1. Correlation Coefficient

	OLS	PC	OLB
OLS	1.000	0.300**	-0.312**
PC	0.300**	1.000	-0.113*
OLB	-0.312**	-0.113*	1.000

Note: OLS=Online learning stress, OLB=Online Burnout, PC=PsyCap, **= $P<0.01$, *= $p<0.05$

According to Table 1, significant correlations were obtained between OLS and PC as well as OLB. Correlations among the predictors vary from-0.312 to 0.300. Results shows the moderate stress, burnout, acceptable level of PsyCap college students; there is a positive correlation between emergency online learning stress and PsyCap; Online learning stress is negatively

correlated with Psychological capital and learning burnout.

Table 2. ANOVA

R	R ²	Adjusted R ²	df	F	sig
0.364	0.132	0.129	2	38.246	0.000

The predictors in above tables indicate the acceptable reliability and validity of the hypothesis,which means the three variables are related to each other.

5.CONCLUSION

In conclusion, we found stress and burnout are major public mental problems among college students. Similar levels of both stress and burnout indicate in emerging students with moderate PsyCap. The findings suggest psychological strengths and capacities is an important factor that influencing online learning stress.

AUTHORS’ CONTRIBUTIONS

Authors selected valuable items with EFA test and adapted all scales and established the reliability and validity of the combined scale of Survey of Emergency Remote Learning and Instruction Test in this study.

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