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THE MEDIATING AND BUFFERING EFFECT OF SELF-CONTROL ON THE RELATIONSHIP BETWEEN PEER SUPPORT AND ACADEMIC BURNOUT

Abstract. In order to better understand the antecedents of academic burnout, this research examines the effects of college students' peer support on their academic burnout and the mediation effect of self-control. 260 Chinese college students were recruited by completing the Peer Support Scale, Tangney's Self-control Scale, and College Students Academic Burnout Scale. According to correlation analysis, peer support among participants was shown to be negatively correlated with academic burnout but positively correlated with their capacity for self-control. Meanwhile, self-control and academic burnout were negatively related. Furthermore, mediation analysis using the PROCESS plugin in SPSS revealed that peer support had both a direct and indirect predictive influence on academic burnout among students. Self-control was specifically identified as a partial mediator and buffer between peer support and academic burnout. In this case, universities may assist students in relieving academic burnout by encouraging closer peer relationships and developing a higher level of self-control.

Keywords: Peer support, Self-control, Academic burnout, College students.

Introduction

According to Maslach and Jackson (1981), burnout was initially described as a symptom of 'emotional exhaustion', 'depersonalisation', and a loss of 'personal accomplishment' [26, p. 99]. Traditionally, it was believed that burnout only happened in occupations, but more lately, it has been expanded among many activity areas such as teaching and learning (Schaufeli et al. [36]). Students may suffer from burnout (Salmela-Aro et al. [35]), which is referred to as academic burnout (Wang et al. [46]). Yang [48; 49] defined academic burnout as emotional tiredness, a propensity toward depersonalization, and a sense of poor personal achievement due to course stress, course load, or other psychological issues that are exhibited during the learning process.

Many previous studies have found that academic burnout has negative effects on students' well-being and academic achievement (Bai et al. [1]). Orth, Robins and Roberts [29] demonstrated that students who were burned out were more likely to have psychological problems including depression, poor self-esteem, and suicidal ideation. Besides, research conducted by (Schaufeli et al. [36]) with 1661 undergraduate students from Spain, Portugal, and the Netherlands demonstrated that, regardless of the place of origin, academic burnout was adversely connected to university involvement and achievements. Given the prevalence of these circumstances in youths, it seems imperative to discover the causes of academic burnout among college students.

As was evidenced by the existing literature, social support, including support from parents, teachers, and peers, is significantly inversely correlated to academic burnout (Kim et al. [20]). Besides, research has presented consistent evidence that personal regulation abilities (such as the capacity for self-control) are a crucial component in reducing academic

burnout (Seibert et al. [38]; Özhan & Yüksel [31]). Meanwhile, peer support has frequently been reported to be associated with students' self-control abilities (King et al. [21]). The extant literature speaks of a potential mediation path between peer support and academic burnout through self-support. Yet, this indirect path has been rarely examined among college students. To fill this gap, the present research investigated the association between peer support and academic burnout, as well as the role of self-control in mediating this relationship in the context of undergraduate study.

Literature review

As mentioned above, burnout is manifested as emotional exhaustion, depersonalization and reduced personal accomplishment (Maslach & Jackson [26]). Emotional exhaustion, which corresponds to the sense that one's emotional resources have been drained, is considered the fundamental individual stress factor of the symptom. Depersonalization, which refers to hostile, cynical, or overly alienated behaviours toward peers, is the interpersonal aspect of burnout. Low personal accomplishment, which is the self-evaluation aspect of burnout, relates to sensations of reduction in one's competency and productivity as well as to one's diminished feeling of efficacy (Maslach [25]). Academic burnout is characterised by feelings of exhaustion due to the requirements of the study, a contemptuous and indifferent attitude toward one's study, and a sense of incompetence as a student (Mc Carthy, Pretty & Catano [27]).

Previous research has found that academic burnout is caused by both internal factors and the external environment. The internal part involves one's emotional intelligence (Kang [19]), personal features (Otero-López et al. [30]), self-efficacy (Capriet al. 2012) and so on; External environment is primarily concerned with the learning context such as social support (Seo et al. [39]), relationships between teacher and student (Tajeri Moghadam et al. [42]) and academic atmosphere (Brazeau et al. [3]). Peer support as a type of social support

has often been explored as an important cause of academic burnout (Kim et al. [20]). Based on the conservation of resources theory (Halbesleben et al. [16]), one of the primary ideas in interpreting stress and burnout, environmental conditions frequently threaten or induce the depletion of one 's resources, and if resources are endangered, stress might arise (Gorgievski et al. [14]). Hence, academic burnout is very likely to be related to peer support which can be considered as a type of resource that people want (Bai et al. [1]). Indeed, many studies have proven repeatedly that perceived peer support is inversely associated with academic burnout (Kim et al. [20]). Some research even discovered that academic burnout is directly impacted negatively by peer support (Yang [48; 49]). Because peers are capable of supplying resources to help college students overcome academic challenges, such as organising study groups, sharing notes and thoughts, and providing guidance about study strategies (Richardson & Skinner [33]). Meanwhile, others have noted that peer support is also substantially connected to the overall psychological adjustments of college students (Rodriguez et al. [34]). Better academic and psychological adjustments may lead to lower academic burnout.

Besides external factors such as peer support, individual differences (such as self-control) are also important drivers of academic burnout (Schmidt et al. [37]). Self-control is a broad personality attribute or disposition possessed by individuals who contemplate the long-term effects of their actions on themselves and others while making behavioural decisions (Gibbs & Giever [13]). The person-environment fit theory suggests that external environmental factors may influence the individual's psychosocial adjustment mechanisms through certain personal traits (Edwards Caplan & Van Harrison [10]). In this regard, self-control is a means of regulating one's behaviour and emotions, which can be seen as a predictor of one's adaptation to reality (Wang et al. [45]). Studies showed that

people with high levels of self-control tended to be more diligent and hard-working, take more initiative in solving current problems, and have a more positive outlook when confronted with academic pressures. Whereas people with low levels of self-control have difficulty controlling and regulating their behaviours and are more likely to experience negative emotions when encountering problems that are difficult to solve immediately (Liu et al. [23]). Therefore, they might exhibit greater burnout in their school life (Zhang et al. [50]). This relationship has been confirmed in the research on middle-school education (Luo et al. [24]), special education (Javaheri Mohamadi et al. [18]), and higher education (Cooper et al. [8]).

It is worth noting that peer support as a buffer against academic burnout was also contributable to self-control abilities, implying an expanding and reinforcing effect within the individuals. Peers act as essential role models who express signals about their own beliefs and offer crucial information sources that youths use to construct their perceptions of abilities and attitudes (Fan [12]). Additionally, by developing more emotional and psychological independence from parents, youths begin to spend more time with their peers (Steinberg [41]). As youths engage in practically identical activities and form greater bonds with their peers, the attitudes, beliefs, values, and behaviours of adolescents' peers become more influential (Brown, Clasen & Eicher [5]). Indeed, peer support is found repeatedly and positively associated with self-control among students. For example, (Zhang et al. [51]) found that peer support helps increase self-control among left-behind students in rural China. Also, Zhao and Song [53] found that peer support is highly likely to predict students' level of self-control.

However, the potential mediation role of self-control between peer support and academic burnout has been rarely examined. The aim of the current study is to fill this gap. According to the extant literature, the present research hypothesizes that college students' self-control plays a mediating and buffering role between peer support and academic burnout. (Fig. 1) shows a diagram of the mediation mode proposed in the hypothesis which depicts the relations between the independent, mediator, and dependent variables.
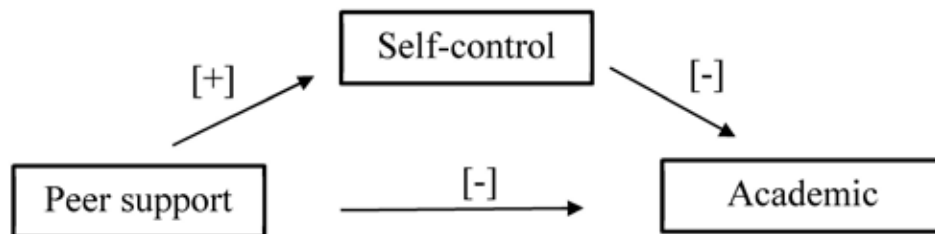

Figure1. The relationships to be examined in the study

Methodology

Participants

This research was conducted in a public university in eastern China. The university has 16469 undergraduates enrolled in 11 bachelor's degree programmes. A total of 262 undergraduates participated in the research and filled out the questionnaire. Incomplete responses were eliminated from the dataset, bringing the sample size down to 260. 98(37.4%) were freshmen, 35(13.4%) were sophomores, 74(28.2%) were junior students and 55(20.99%) were senior students. The top three majors they studied were International Trade and Commerce (26.5%), Architecture (13.5%) and Economics (13.1%). Students varied in age from 17 to 23, with a mean of 19.6 (SD: 1.42). 83 (31.7%) of the responders were male, while 179 (68.3%) were female. The procedures followed were conducted in compliance with the 2013 revision of the Helsinki Declaration of 1975′s ethical criteria.

Data collection and instruments

The current research used a correlational design, and a questionnaire served as the data-gathering method. The QR code of the questionnaire was shown to students at the end of their lessons and those who decided to join the research completed the questionnaire on their smartphones. QR codes, often known as quick response codes, are matrix barcodes that can direct users to a website or, in this case, the questionnaire page. In China, QR codes are widely used to access internet applications from a mobile device, such as making payments, subscribing, and visiting particular web pages. There were also paper versions of the questionnaire available, while students complete theirs online. Before answering the questionnaire, consent was sought from the students, and they were informed of the purpose of the research.

This research's questionnaire consisted of four parts: demographic information, the *Peer Support Scale*, *Tangney's Self-control Scale*, and the *College Students Academic Burnout Scale*. Age, gender, major, and grade are all included in the demographic information section. For the present research, the original English version of Tangney's Self-control Scale was translated into Chinese. Back translation suggested by Brislin [4] was utilized to improve the accuracy of the text. More precisely, the researcher translated the scale from English to Chinese, then back to English, and then compared all three versions of the scale to determine the equivalence between the original English version and the translated Chinese version. Any inequivalence was resolved prior to data collection.

Peer Support Scale (PSS). It was part of the Social Support Scale created by Shuiyuan Xiao [47] and modified by Niya Chen [7]. Since 1986, the scale has been used in several investigations in China and overseas, and its reliability and validity have been proven. The consistency coefficient for the overall score on the two-month retest was 0.92, and the consistency coefficients for the subscales varied from 0.89 to 0.94, suggesting that the questionnaire has a

high degree of retest reliability. PSS is scored on a 4-point scale with 8 questions. The Cronbach's alpha in this research was 0.72.

Tangney's Self-control Scale (TSS). Developed by Tangney et al. [43], this scale comprises 36 questions and measures one's level of self-control. Participants rate themselves on a five-point Likert scale, ranging from 1 – Not at all to 5 – Very much. In the present study, Cronbach's alpha was 0.87.

College Students Academic Burnout Scale (CSABS). The CSABS was developed by Lian, Yang and Wu [22] specifically to evaluate the burnout level of college students in academic settings. This rating scale consists of 20 questions with a five-point Likert scale, ranging from 1 – Strongly disagree to 5 –strongly agree. In the current research, Cronbach's alpha was 0.87.

Data analysis

The data were analysed using SPSS. To guarantee the reliability and validity of data analyses, the answers of two participants were deleted from the data set. Because one person picked the same number throughout the questionnaire, while another finished the questionnaire in less than one minute. After that, the data were examined using a variety of descriptive analyses to determine their central and dispersion tendencies. The Pearson product-moment correlation coefficients between variables were then computed to verify the connections between the independent, mediator, and dependent variables. To further investigate the current study's hypothesis, a mediation analysis was implemented by using Process Procedure for SPSS Release 3.41 by Hayes [17].

Research results

Descriptive and correlation analysis

The descriptive analysis results of means, standard deviations, and zero-order correlations for the study's variables have been summarized in Table 1. Using Pearson product-moment correlation coefficients, the relationships between the three variables were assessed. Peer support was shown to have a positively and statistically significant relationship with

college students' self-control ($r = 0.27$, $p < 0.001$). Academic burnout and peer support had a significant but negative correlation ($r = -0.30$, $p < 0.001$).

There was also a significant negative correlation between self-control and academic burnout ($r = -0.7$, $p < 0.001$).

Table 1 Means, standard deviations, and correlations among study variables

Variable	M	SD	1	2	3
1. PSS	2.83	0.41	1		
2. SCS	3.26	0.50	0.27 ***	1	
3. ABS	2.81	0.50	–0.30 ***	–0.70 ***	1

Note: M = mean; SD = standard deviation; PSS=Peer Support Scale; SCS=Self-control Scale; ABS=Academic Burnout Scale; *** = p < 0.001

Mediation analysis

The PROCESS plugin (Version 3.41) was used to perform the mediation analysis with peer support as the independent variable, academic burnout as the dependent variable, and self-control as the mediation variable (model#4). According to the findings (see Table 2), peer support can negatively predict academic burnout ($B = -0.36$, $t = -2.61$, $p < 0.01$), and the prediction becomes more significant when self-control is the mediation variable ($B = -0.36$, $t = -14.44$, $p < 0.001$). Moreover, peer support was

found to significantly and positively predict self-control ($B = 1.45$, $t = 4.43$, $p < 0.001$).

In addition, bootstrap confidence intervals (95%) for both the direct impact of peer support on academic burnout and the mediating effect of self-control contained no zero between their lower and upper limits (see Table 3). This implies both that peer support can directly predict academic burnout (direct effect= –0.36) and that peer support can predict academic burnout indirectly via self-control (indirect effect= –0.53) (See Fig.2).

Table 2.– Mediation analysis results for the three variables

Regression Equation		Fitting Indices			Significance		
Outcome Variables	Predictor Vanables	R	R²	F	b	SE	t
Self-control	Peer support	0.27	0.07	19.67	1.45	0.33	4.43 ***
Academic burnout	Peer support	0.70	0.50	126.75	–0.36	0.14	–2.61 **
	Seif-cjntrol				–0.36	0.03	–14.44 ***

Note: ** = p < 0.01; *** = p < 0.001

Table 3.– Direct effect, indirect effect and completely standardised indirect effect among the variables

	Effect	Boot SE	Boot LLCI	Boot ULCI
Direct effect	– 0.36	0.14	–0.63	–0.89
Indirect effect	–0.53	0.13	–0.78	–0.27
Completely standar di sed indirect effect	–0.18	0.04	–0.26	–0.09

Note: M = mean; SD = standard deviation; PSS=Peer Support Scale; SCS=Self-control Scale; ABS=Academic Burnout Scale; *** = p < 0.001

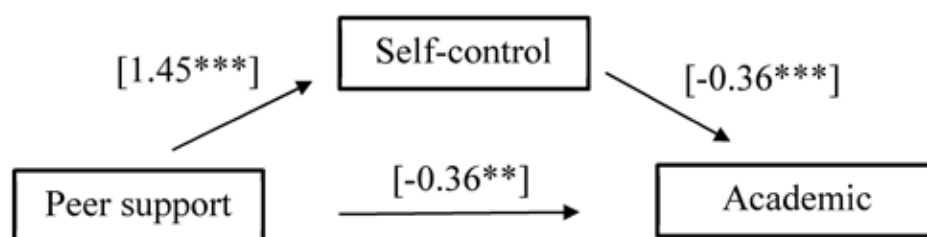Figure 2. The relationships results in the study

*Note: Path values represent the standardized regression coefficients. ** = p < 0.01; *** = p < 0.001*

Discussion

The purpose of this study was to get a deeper understanding of the relationship between self-control and academic burnout. The results of this investigation are consistent with the current study's hypothesis and earlier studies (Englert et al. 2017; Kim et al. [20]; Zhang et al. 2019; Zhao & Song [53]). Primarily, these results agree that college students' peer support negatively influences their academic burnout. The results also echo the findings of earlier studies, which indicate that there was a predictive relationship between peer support and academic burnout (Tinto [44]; Bai et al. [1]; Räisänen et al. [32]; Zhao et al. [52]). This research implied that greater support gained from surrounding peers might lead to a reduced degree of burnout feelings on university study. Support could be direct academic guidance such as sharing notes and ideas (Richardson & Skinner [33]), or emotional encouragement such as listening to their problems and cheering them up (Rodriguez et al. [34]).

Secondly, the results of the study indicate that self-control has a direct, negative influence on academic burnout. This finding suggests that college students with more self-control had less academic burnout. A possible explanation for this might be that students with better self-control tend to be more conscientious and hard-working, take more effort in addressing present difficulties, and have a more optimistic view when facing academic pressures (Liu et al. [23]).

Thirdly, the current result suggests that students with greater peer support tend to become more self-controlled in their studies and daily life. This is consistent with Fan [12] which demonstrated that peers always serve as important role models, especially for college students who spent most of their time with friends, therefore, not only resources but also the beliefs and behaviours of peers could influence college students unconsciously. In this way, the capacity for self-control might be increased through getting frequent support from peers with good self-control abilities.

Finally, on the basis of the significant interaction between peer support, self-control and academic burnout, the mediating and buffering effect of self-control can be confirmed. College students are able to develop their self-control abilities after being supported by peers, and then higher self-control brings in a lower degree of burnout in the academic field.

Implications

Concerning practical implications, the relationships between the three variables reported in this research may help practitioners gain a deeper understanding of the mechanism underlying academic burnout among college students, and thus enable them to assist students in relieving pressures at university. For instance, colleges might increase the number of events aimed at fostering strong peer relationships and promoting mutual support among students. Besides, additional instructions on the development of self-control would be required to prevent academic burnout to a certain degree.

Regarding theoretical implications, this study empirically related self-control to peer support and academic burnout, thus enhancing our understanding of the causes of burnout among college students in academic contexts. It explored the potential mechanism

of how peer support influences academic burnout. Finally, it intensifies the person-environment theory (Edwards, Caplan & Van Harrison [10]) such that the environment enables individuals to improve their ability of self-control and then reduces their likelihood of experiencing burnout when faced with stress.

Limitations and future directions

There are some limitations. Firstly, a cross-sectional design was used. So, the results do not allow a valid inference of causality. There is a possibility that higher academic burnout may lead to less peer support because peers may not like to engage with someone who is always pessimistic about academics. Secondly, all participants were from a single university, which may have limited the generalisability of the research outcomes. Future researchers might utilise a longitudinal study design to select students from various universities and gather data over a period of time. In addition, Baumeister et al. [2] defined four fundamental domains of self-control: controlling thoughts, emotions, impulses, and performance. A future study might examine whether an aspect of self-control mediates the relationship between peer support and academic burnout.

Conclusion

This study explored the relationships between peer support and academic burnout and the buffering role of self-control in between. According to the findings, college students who obtained more support from their peers tended to have a lower degree of academic burnout and a higher level of self-control. Notably, academic burnout was also attributable to self-control indicating that college students' self-control served as a buffer against academic burnout and a bridge linking peer support and academic burnout.

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