

Mediating Effects of Social Support on the Relationship between Self-efficacy and School Adaptation among China Vocational College Freshmen during COVID-19 Control Period

Li Fanfan^{1,a,*}, Pang Tiqiang^{2,b}

¹Faculty of Education and Languages, SEGi University, Petaling Jaya, Selangor, Malaysia

²Postdoctoral Researcher, Institute of Flexible Electronics Technology of THU, China

^a2319281588@qq.com, ^b18264000601@163.com

*Corresponding author

Abstract: Study the mechanisms and factors that affect the school adaptation of China vocational college freshmen during the COVID-19 control period is an important issue. A total of 432 vocational college freshmen were focused to explore the relationships between self-efficacy, social support and school adaptation among China VL vocational college. Based on structural equation model, path analysis was applied to analysis the relationships between variables. A direct relationship was found between self-efficacy and social support ($\beta = .47$; $p < .001$), as well as school adaptation ($\beta = .46$; $p < .001$). In addition, social support was a significant mediator in the relationship between self-efficacy and school adaptation ($\beta = .31$, $p < .001$, 95% CI [.109~. 345]). This study's findings help to understand the interrelationship between self-efficacy, social support and school adaptation. Consequently, policy makers, faculty and parents can develop and plan valuable strategies to help the freshmen quickly get through the COVID-19 control.

Keywords: Self-efficacy, Social Support, School Adaptation, COVID-19

1. Introduction

Due to the government's effective epidemic control measures/measurements, China vocational colleges were gradually allowing students to return to school after the COVID-19 outbreak six months. However, the COVID-19 epidemic has not been fully controlled around the world at present, China vocational colleges have adopted more stringent management measures to prevent the spread of COVID-19, such as daily temperature measurement, closed school doors, and wearing masks in public places^[1], which increased the school adaptation content for the rapid growth of China vocational college freshmen enrollment. A lot of studies have proved that students were more likely to suffer from mental discomfort during COVID-19 pandemic. For example, mental school inadaptation of young college students and confirmed that 40.4% are found to be prone to psychological problems due to the COVID-19 epidemic. Evidence showed that the duration and particularity of freshmen's school adaptation to the school are particularly important, which has a significant impact on their mental health^[2]. Therefore, the current study on the school adaptation of vocational students under the COVID-19 is of great significance for their mental health.

Successful school adaptation to school for individuals was affected by many factors, such as individual's development, success, perception of social support, anxiety and loneliness level, and academic performance cognitive competencies. Introduced by Bandura, the theory of Social Cognitive Theory (SCT) to be the most determining factor when applied to behavioral intervention, self-efficacy as a key factor of personal factors will contribute to behavior factor^[3]. Self-efficacy refers to the information that an individual believes that one's has the ability to complete tasks, and that individuals has achieved specific performance achievements^[4]. Evidence showed that self-efficacy can be considered as the antecedent of school adaptation from the perspective of resources^[5].

In spite of many studies have confirmed the association between self-efficacy and school adaptation^[6], but there is a gap in the study of the mediating mechanism of social factors (social support) between self-efficacy and adaptation, especially, no researcher has conducted research on the mechanism of

influence of these three factor during the context of the COVID-19 control period. Therefore, the purpose of this study utilized structural equation model (SEM) to examine the mediating effects of social support on self-efficacy and school adaptation, within sample of vocational college freshmen living on campus of vocational college during COVID-19 control period.

2. Literature Review

2.1. Self-efficacy and Adaptation

Self-efficacy as an individual factor was considered as the antecedent of school adaptation from the perspective of resources^[7]. As college is an important milestone of one's life, it was significant for freshmen to adapt to school environment well after entrance^[8]. Previous studies have confirmed the self-efficacy as antecedents of school adaptation. For example, *Vancouver* found that self-efficacy is positively correlated with difficult goals even when past performance is under control. A longitudinal study has shown that parents' self-efficacy was the most predictor of their children's adaptation level^[9]. *Sabouripour* found that self-efficacy indirectly predicted environmental mastery^[10]. Moreover, self-efficacy was an important source of personal factors for college students to prevent stress and adjust school adaptation. Self-efficacy is an important predictor of students' resilience. In addition, adaptation characteristics are essential to effectively respond to changes and are the best predictors for international students to adapt to the new environment^[11].

2.2. The Moderating Role of Social Support

Social factors have an important impact on school adaptation, such as social support, which was a behavior or information that an individual feels that one's has received the attention, respect, or value of others in the environment^[12]. Social support can buffer the pressure of life according to the social support buffer theory, so it can promote the individual's social adaptation further to improve mental health. An increasing number of researchers have begun to pay attention to explore the impact of social support as mediate variable. For example, a survey report on international students showed that social support is an important factor in the challenges encountered in the process of school adaptation. Even some researchers believed that social support may be play an mediator factor for students' social adaptation and personal emotional adaptation of students. Generally speaking, school adaptation content were added for students during COVID-19 control period, such as wear mask, temperature check, and scan the code, and closed school^[13]. Additionally, school adaptation requires students to adapt to many factors, such as teachers, classroom environment, school and classroom rules, and peer relationships^[14].

Therefore, based on the results of previous studies, four research hypotheses are proposed as follows:

H1: Self-efficacy would be positively predict to social support among vocational college freshmen during COVID-19 control period.

H2: Self-efficacy would be positively predict to school adaptation among vocational college freshmen during COVID-19 control period.

H3: Social support would be positively predict to school adaptation among vocational college freshmen during COVID-19 control period.

H4: Social support could play a mediate role between self-efficacy and school adaptation among vocational college freshmen during COVID-19 control period.

3. Methods

3.1. Participants and procedure

The researcher entered the research site after being approved by the Institutional Review Board (IRB) of WL Vocational College, which located in southeast of China. A simple random sampling was used to distribute 450 questionnaires to vocational college freshmen who enrollment school in fall 2020 just three month, out of which 432 available questionnaires were filled appropriately for analysis, recovery rate was 96%. Table 1 shows the distribution of demographics information (gender and place of origin) of the 432 respondents participated in this study. According to the results, most of the respondents were females, reached 399 (92.4%), and 33 males only accounted for 7.6% in this

study. More than quadruple of the respondents, 78.2% (N = 338), were rural, and 21.8% (N = 94) were urban.

Table 1: Distribution of the frequency and percentage of Participants (n=432)

Variables (n=432)	Groups	No. of Respondents	Percentage %
Gender	Male	33	7.6
	Female	399	92.4
Place of origin	Urban	94	21.8
	Rural	338	78.2

3.2. Measures

A total of three questionnaires were used to measure the variables of this study. To measure social support, 4- Likert, 10 items with three factors (subjective support, objective support and support utilization) of Social Support Rate Scale (SSRS) was adopted from Xiao to assess social support^[15]. The single factor of General Self-Efficacy Scale (GSES) was used to measure self-efficacy level^[16], each item was responded to as 1 (“Not at all true”) and 4 (“Exactly true”) on a 4-Likert type scale. To assess students’ school adaptation level, 5-Liket, 60 items with seven factors of China College Student Adaptation Scale (CCSAS) was employed, (interpersonal relationship adaptation, campus life adaptation, learning adaptation, career adaptation, satisfaction, self-adaptation, emotion adaptation, respectively), which was a multidimensional concept to measure the adaptation level of over 15 year old students. All reliability and validity of three scales in this study are showed in Table 2. Additionally, the value of χ^2/df falling within the recommended $\chi^2/df < 5$ indicating that the fit is reasonable^[17].

Table 2: Fit statistics of the three scales

Variable	Scales	α	χ^2/df	RMSEA	SRMR	TLI	GFI	CFI	NFI
Adaptation	CCSAS	0.829	1.835	0.044	0.037	0.921	0.927	0.927	0.841
Social Support	SSRS	0.819	3.941	0.039	0.011	0.981	0.978	0.987	0.969
Self-efficacy	SEGS	0.94	3.354	0.074	0.011	0.965	.978,	0.976	0.966

3.3. Multicollinearity analysis

Multicollinearity analysis was performed at the beginning of the study. The variance inflation factor (VIF) is a measure of the severity of collinearity in a multiple linear regression model. According to Norušis, the value of Tolerance needs more than 0.1 while VIF value needs less than 10.0 to meet the requirement of low collinearity. The Tolerance value distributes between 0.487 and 0.804 and VIF value distributes between 1.268 and 1.268, which meet the requirements recommended by Norušis^[18]. The results showed that there is no collinearity problem in our model.

3.4. Data Analysis

The four hypotheses proposed in this study were all examined through Structural Equation Modelling (SEM) by AMOS 25 Software. Meanwhile, the bootstrap method was used to analysis the direct, indirect and total effects among the predictor, mediator and result variables^[19]. The study followed the Hays’ recommendation with 5,000 times bootstrapping repeated to evaluate mediation effect, thus, the indirect effect exists on the basis that the 95% confidence interval does not contain zero.

4. Results

To test our hypotheses, we employed a mediation model analyzed using a structural equation modeling (SEM) framework (see Figure 1). The structure model showed good fit model statistics: $\chi^2/df=1.19$, GFI=0.980, AGFI=0.980, NFI=0.966, CFI=0.994, IFI=0.994, RMSEA=0.021.

Then we tested our hypotheses by analyzing structural model. The first hypothesis posited that self-efficacy would be positively predict to social support. The results demonstrated that self-efficacy was significantly positively affects the social support ($\beta=0.39$; $p<.001$). This indicated that higher

self-efficacy of vocational college freshmen in WL vocational college tend to obtain more social support from others during COVID-19 control period. The second hypothesis, which states that self-efficacy would be positively predict to school adaptation was also supported ($\beta= 0.40$; $p < .001$). This finding suggested the higher score in self-efficacy of vocational college freshmen the greater improvement in their school adaptation score among vocational college freshmen. The third hypothesis assessed social support would be positively predict to school adaptation, the results also play a positive directions ($\beta=0.48$; $p < .001$). It is reasonable to believe that receiving more social support from others will result in a greater feeling of acceptance and make it easier for vocational college freshmen to adapt vocational college during COVID-19 control period.

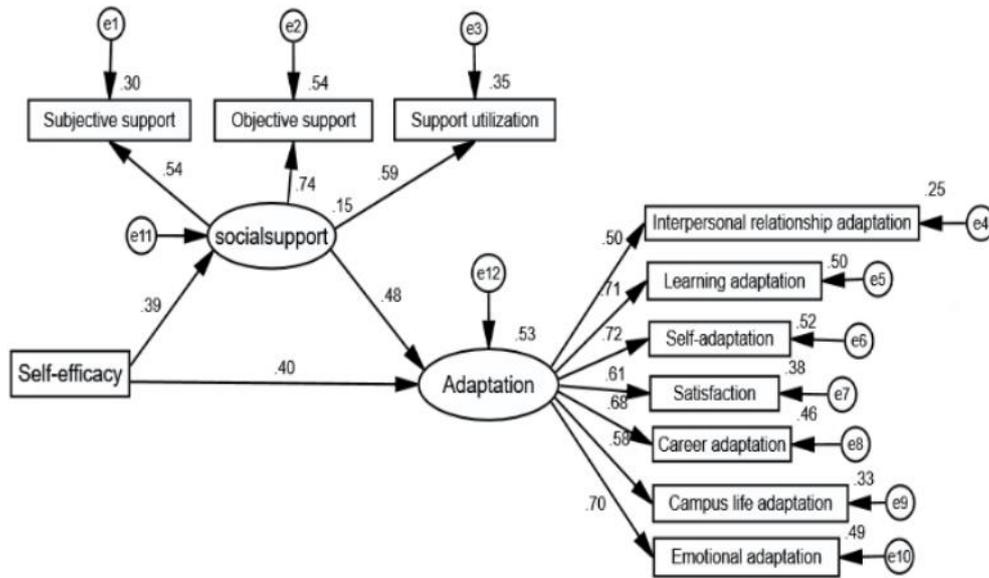


Figure 1. The mediate structure model of social support between self-efficacy and adaptation.

After the structured model was verified, bootstrap-based regression analysis was applied to test the mediating role of social support regarding the effect of self-efficacy on adaptation [20]. Accordingly, we observed three types of effect (see Table 3), indirect effect (IE) is “Self-efficacy →Social support →Adaptation”, direct effect (DE) is “Self-efficacy →Adaptation”, total effect (TE = IE+DE). Moreover, the total model (TE) reached a significant effect ($\beta= .385$, $p < .001$). Besides that, the direct model (DE) was also statistically significant ($\beta= .263$, $p < .001$). Furthermore, the indirect mediation (IE) model (linking Self-efficacy to Social support to Adaptation) had a significant effect ($\beta= .122$, $p < .001$).

To sum up, the 95% CI value of the indirect effect is [.05~.216], and zero is not within the range of lower and upper bounds, which accounts for 31.69% (IE/TE) of the total effect. Thence, hypothesis 4 of this study was confirmed: social support plays a partial mediating effect between self-efficacy and adaptation.

Table 3: Bootstrapping analysis of total, direct, and indirect effects of the mediation model.

Type	Estimate	Coefficients		95% C.I.(a)		P
		S.E.	Z	Lower	Upper	
IE (Indirect effect)	0.122	0.042	2.90	0.05	0.216	0.000
DE (Direct effect)	0.263	0.048	5.48	0.164	0.352	0.000
TE (Total effect)	0.385	0.065	5.92	0.252	0.508	0.000

Note: Confidence intervals computed with method: Bootstrap percentiles.

5. Discussion

This research has provided theoretical value for the school adaptation of vocational college freshmen during COVID-19 control period. The results of this study showed that there was a significant positive correlation between self-efficacy, social support and adaptation. More importantly, social support plays a mediated role in the relationship between self-efficacy and school adaptation. It not only supports by the Social Cognition Theory [21], but also provides new perspective for

understanding the role of social support in the development of school adaptation among vocational colleges freshmen during COVID-19 control period.

First, the findings found that self-efficacy was positive related to school adaption of vocational colleges freshmen. The result was consist line with the previous studies, Logically speaking, if an individual has high self-efficacy level, it means that people with high level of confidence can easily to adapt to the new environment. Shek's (2001) finding indicated that among middle school students, those who with high academic self-efficacy are more confident than students with low academic self-efficacy, better peer relationships, and social adaptation is relatively better. Namely, high self-efficacy level will strength the individual's ability to integrate conditional resources, thereby increasing adaptation level.

Second, the results found that self-efficacy could be a predictor of vocational colleges freshmen's social support during the COVID-19 control period, which supported hypotheses 1. It provided necessary empirical support for the study of the social support. Students with high self-efficacy are more confident than students with low self-efficacy and receive more social support. According to the Bandura's Social Cognition Theory^[21], individuals who receive higher levels of social support showed higher levels of happiness^[22], which suggested that social support can promote positive psychological outcomes. In addition, social support can promote positive psychological outcomes, which indicated that environment and personal factors influences behavior factors, as the psychological intervention or behavior modification.

Lastly, social support played a mediating effect on the relationship between self-efficacy and vocational colleges freshmen's school adaptation during COVID-19 control period. The study's finding well-supported hypotheses 3 and hypotheses 4. Besides to the direct effects between self-efficacy and school adaptation confirmed, it was worth mentioning that the mediating effect of social support was partial. This finding were in line with the previous studies, confirming the mediating role of social support. Social support would also affect school adaptation and make them better adapt to school learning and life. Specifically, the positive relation between self-efficacy and adaptation was stronger for participants with higher social support level than those who reported lower social support level. Vocational college freshmen face great challenges after entering school during COVID-19 control period, adaptation is an important self-regulation resource for freshmen to adjust to college life in the first year^[23]. The mediate results imply some ways to improve the adaptation level of vocational college freshmen during COVID-19 control period. A good social support system can help with the psychological stress of the new environment which enables freshmen to experience understanding and care, and their negative emotions are released. Teachers can change students' perceptions of themselves through conversation and guidance to enhance their sense of self-efficacy. Alternatively, provide necessary support for these students with adaptation problem. Individuals with a high self-efficacy level believe that they can better possess social adaptive behaviors, and this belief will motivate individuals to be more proactive in producing social adaptive behaviors that can effectively complete social adaptive behaviors.

6. Limitations

This study also has some limitations. Firstly, this study mainly adopts a cross-sectional, lacking a vertical research design. There is a lack of dynamic tracking research on the development process of five-year vocational school adaptation during COVID-19 control period. Any future research can introduce the longitudinal tracking research, and relevant measurements at a fixed time in each grade to compare and analyze the test data. Secondly, the data may not be generalized to all vocational college in China due to the limitation of convenience sampling. Finally, there are many factors can influence behavior variables (feedback, self-regulation, goals, ect), the extent of the effects of these factors on adaptation was not examined. Therefore, models addressing this limitation should be established in future studies, more complex models should be designed.

7. Summary

Self-efficacy is often regarded as a predictor of freshmen's school adaptation. However, the effect mechanism has not been sufficiently determined. Our study aimed to determine the influence mechanism of self-efficacy on school adaptation of Chinese vocational colleges freshmen during COVID-19 control period through social support. Data were collected from 432 vocational college

freshmen from WL vocational college in Mainland China. Structural equation model was used to analyze the collected data and path analysis was applied to analysis the relationships between self-efficacy, social support and school adaptation. Results showed that self-efficacy could positively predict children's problem behavior. Social support could also predict freshmen's self-efficacy and school adaptation use partly mediated the relation between self-efficacy and problem behavior. The study's findings help to understand the interrelationship between self-efficacy, social support, and various dimensions of adaptation, meanwhile, provides a new perspective for the study of the influencing factors of self-efficacy and social support. This enlightens us that increasing the vocational colleges freshmen's self-efficacy and provide some social support will help to improve their school adaptation. In addition, policy makers, faculty, teacher and parents can develop and plan valuable strategies to help China vocational college freshmen quickly get through the inadaptation period during COVID-19 control period. The results deemed valuable in the findings of this study should be considered by policy makers and vocational education planners. In the future, longitudinal study or experimental study should be used to further verify the conclusions of this paper.

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