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Influence of Mental Health Curriculum Form on College Students' Academic Adaptation: Chain Mediating Effect of Social Adaptation and Self-Efficacy

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Abstract: *Background:* Mental health education is an education that improves the psychological quality of college students and promotes the harmonious development of their physical and mental health. *Objective:* The present study explores the influence of mental health curriculum forms on the college students' academic adaptation and the chain mediating effects of social adaptation and self-efficacy. *Methods:* The levels of academic adaptation, social adaptation and self-efficacy of students in the group counseling curriculum ($N = 14$) and the traditional teacher teaching curriculum ($N = 24$) were measured twice before and after the curriculum. *Results:* (1) the group counseling was better than traditional teacher teaching mental health curriculum in improving the college students' academic adaptation; (2) the form of the college students' mental health curriculum affected students' academic adaptation through the indirect path: curriculum form → social adaptation → self-efficacy → academic adaptation. *Conclusion:* The results show the effects of different mental health curriculum forms, and reveal the internal process of how mental health curriculum improving the college students' academic adaptation. Our findings provide an important reference for improving college students' academic adaptation by increasing group counseling forms to promote the improvement of social adaptation and self-efficacy. That is, to promote their social adaption and self-efficacy, for which group counseling makes the big sense.

Keywords: Mental Health Curriculum, Group Counselling, Academic Adaptation, Social Adaptation, Self-Efficacy

1. Introduction

Academic adaptation refers to the good state that students achieve through physical and mental adjustment when their original adaptive balance is broken during the transformation of the academic stage and then produce new learning incentives and motivation [1]. Academic adaptation is an indicator of consciousness of intellectual development, which refers to mental health and plays a major role in students' life and affects their success and sustainability of academic performance [2]. Many studies have explored the influential factors on students' academic adaptation, and found that academic adaptation is influenced by many factors such as mental health, personal life, as well as society and family [3-5]. Since mental health also reflects students' personal experiences and their social and family environments, simply, academic adaptation is closely associated with students' mental health. Thus, it is expected that mental health education improves not only students' mental health, but also their academic adaptation.

Mental health curriculum assumes the important role in mental health education, which is dedicated to help students to solve their psychological problems in relationships, love, school and environmental adaptation, and promote their overall development [6-8]. Yet, it remains unclear about whether and how mental health curriculum improves students' academic adaptation. In particular, if mental health curriculum assumes the role in improving academic adaptation, what is the underlying mechanism of this process? In other words, how does it play the role?

The present study explores how mental health curriculum influences college students' academic adaptation. We are

particularly concerned with how the forms or types of mental health curriculum differently influence students' academic adaptation. We roughly divide the teaching forms of mental health curriculum into two types: traditional teacher teaching and emerging group counseling. The traditional teaching is teacher-centered and theory- rather than practice- based. In many cases, teacher leads the teaching process and students passively receive what the teacher taught. Thus, it is often difficult to let the students mastering mental health skills and improve their own mental health level in traditional teaching curriculum [8-10]. Group counseling is student-centered and practice- rather than theory- based. In many cases, the teacher and students together take in charge of the teaching process. Thus, students no more just passively receive what the teacher taught but they can actively practice mental health skills in the course. It avoids the one-way theory indoctrination and boring knowledge imparting, which is more suitable for the law of college education and college students' mental development [8]. Moreover, in group counseling curriculum, students are encouraged and trained to explore themselves, to learn new ways of behavior, to improve interpersonal relationships and social adaptability. It sounds clear that these are two different forms of mental health curriculum. However, we are concerned with whether and how these two forms of mental health curriculum differently influence students' academic adaptation.

First, self-efficacy refers to the belief that an individual can perform the actions needed to obtain the desired results [11]. Bandura et al. [12] pointed out that academic self-efficacy enhanced academic adaptation. Stover took 285 students from Texas Southwestern University as samples and studied academic self-efficacy, academic achievement and personality traits. The results showed that academic self-efficacy could significantly predict academic adaptation [13]. The research of Martin et al. [14] and Abood et al. [3] also supported a significant positive correlation between self-efficacy and academic adaptation. Furthermore, mental health curriculum involves the contents of self-consciousness and confidence improvement, which is useful to enhance students' self-efficacy. Therefore, mental health curriculum may affect academic adaptation through self-efficacy.

Second, social adaptation refers to the ability of individuals to fulfill their professional and social roles, which reflects the interaction between individuals and the environment [15]. Interpersonal interaction is the principal form of group counseling. On the one hand, group counseling can foster cohesion among members, that is, the feeling of being part of a warm, supportive and comforting relationship. On the other hand, the generalization effect of group counseling is helpful for students to learn from the experience of others who struggle with similar problems [16, 17]. Therefore, group counseling provides more social support and social adaptation than teacher teaching mental health curriculum. In addition, previous studies have found that social adaptation can promote academic adaptation [18]. As a component of social adaptation, social support can predict self-efficacy [19, 20]. Therefore, social adaptation may be an important mediating variable in the difference between the traditional teacher teaching form and the emerging group counseling form on academic adaptation. Based on the above analysis, the following hypothesis is obtained that the form of college students' mental health curriculum affects students' academic adaptation through the chain mediation: curriculum form → social adaptation → self-efficacy → academic adaptation.

2. Method

2.1. Participants

According to students' voluntary curriculum selection, 17 students participated in group counseling curriculum and 26 students participated in teacher teaching curriculum. Students voluntarily filled in the "psychological assessment" questionnaire immediately after the first and the final classes, respectively, and the data were collected for analysis. Finally, we obtained data from 14 students in group counseling class and from 24 students in teacher teaching class (22 males, 16 females, M_{age} = 18.87 years, SD = 1.04). Using G*Power 3.1 [21], we determined that the current sample size was sufficient to obtain an adequate power of $1–\beta > 0.80$ to detect a medium effect size, $d = 0.5$ ($\alpha = 0.05$, t tests, two-tailed). Participants' electronic informed consent was obtained before the experiment, and the study was approved by the ethics committee of the university where the study was conducted.

2.2. Curriculum Provision

2.2.1. Curriculum Objective

The objectives of both group counseling curriculum and teacher teaching curriculum are to impart professional knowledge of health psychology, personality psychology and social psychology, cultivate the ability and quality of self-consciousness, emotion regulation and relationship building, and shape the values of pleasing oneself, understanding others and growing continuously, so as to help students realize adaptation and growth.

2.2.2. Curriculum Arrangement

The credits of group counseling and teacher teaching are 1 credit, including 8 courses and 90 minutes each time. The grade is assessed on a hundred mark system, including class performance (30%), homework (30%) and final summary (40%).

2.2.3. Curriculum Content

Both group counseling and teacher teaching curriculum focus on the three major themes of self-consciousness, emotion regulation and relationship building, which are the important parts of college students' mental health [7, 16]. In particular, both of the curriculums include the contents as follows: 1) Course introduction; 2) Self-consciousness; 3) Emotion regulation; 4) Interpersonal communication; 5) Family relations; 6) Love exploration; 7) Career planning; 8) Course summary. That is, the contents of the two courses are basically the same.

2.2.4. Curriculum Form

The main form of group curriculum was structured by group counseling. For example, "Interpersonal Communication" consisted of two activities: the single and double communication practice [22] and the rejection practice [23]. In the process, the communication between students was emphasized, and the methods and skills of interpersonal communication were discussed as the conclusion. The main form of the traditional curriculum was teacher teaching. Taking “Interpersonal Communication” as an example, the teacher mainly taught the definition and process of communication (introducing single and double communication), the Satya’s theory of inconsistent communication (introducing the necessity and appropriate methods of reasonable refusal in insinuating communication), and the methods and skills of interpersonal communication. Thus, the forms of the two courses are different.

2.2.5. Other Control

The group counseling class and teacher teaching class was taught by the same teacher.

2.3. Materials

In the present study, the standard scales were used to measure the academic adaptation, social adaptation and self-efficacy of students in group counseling and teacher teaching before and after the curriculum, and the chain mediation effect was analyzed.

2.3.1. Academic Adaptation Measurement

Ten items from the dimensions of academic adaptation in the Student Adaptation to College Questionnaire (SACQ) were selected to measure the academic adaptation [1]. The specific items include: (1) I adapt to the current learning pace and difficulty. (2) I am satisfied with my study. (3) I have a clear study goal. (4) I'm not interested in the curriculum content. (5) I enjoy the process of learning. (6) I lack motivation to study. (7) I am satisfied with the curriculum arrangement and the quality of the curriculum in the university. (8) I like my major. (9) I don't study hard enough. (10) I have trouble concentrating on my studies. Each item is valued from 1 (completely inconsistent) to 5 (completely consistent). Items 4, 6, 9 and 10 were scored in reverse, and the total score was taken as the academic adaptation level of the students.

2.3.2. Social Adaptation Measurement

Six items from the dimensions of social adaptation in the SACQ were selected to measure the social adaptation [1]. The specific items include: (1) I am well integrated into the university environment. (2) I get along well with my college roommates. (3) I don't get used to the dormitory life in college. (4) I find it hard to be at ease with the people around me. (5) I get to know some good friends in college. (6) I am satisfied with my social life at university. Each item is valued from 1 to 5, which is the same as the measure of academic adaptation. The third and fourth items were scored in reverse, and the total score was taken as the social adaptation level of the students.

2.3.3. Self-Efficacy Measurement

The General Self-Efficacy Scale (GSES) was used to measure the self-efficacy [24]. There are 10 items in this scale, and each item is valued from 1 (completely incorrect) to 4 (completely correct). The total score was taken as the self-efficacy level of the students.

2.4. Procedure

A professional platform called “Sojump” was used to program and run the above scales, which were voluntarily filled out by students at the end of the first and last class.

3. Results

3.1. The Influence of Curriculum Form on Academic Adaptation

The paired sample *t*-tests showed that the scores for the group counseling curriculum increased significantly between the pretest and posttest for academic adaptation (M_{pre} = 30.07, SD_{pre} = 4.83, M_{post} = 36.36, SD_{post} = 5.15, $t(13) = -2.366$, $p = 0.034$, $d = 0.657$), while no significant difference emerged for the teacher teaching curriculum (M_{pre} = 31.83, SD_{pre} = 6.47, M_{post} = 32.50, SD_{post} = 6.61, $t(23) = -0.582$, $p = 0.566$, $d = 0.102$). Moreover, the independent samples *t*-tests revealed that the group counseling curriculum scored much higher than the teacher teaching curriculum on the posttest of academic adaptation ($t(36) = 1.874$, $p = 0.069$, $d = 0.651$) but not on the pretest of academic adaptation ($t(36) = 0.621$, $p = 0.539$, $d = 0.217$).

3.2. The Influence of Curriculum Form on Social Adaptation

The paired sample *t*-tests showed that both the scores for the group counseling curriculum (M_{pre} = 20.57, SD_{pre} = 2.82, M_{post} = 24.14, SD_{post} = 2.41, $t(13) = -6.719$, $p < 0.001$, $d = 1.353$) and for teacher teaching curriculum (M_{pre} = 21.75, SD_{pre} = 3.03, M_{post} = 23.13, SD_{post} = 3.39, $t(23) = -3.114$, $p = 0.005$, $d = 0.426$) increased significantly between the pretest and posttest for social adaptation. Moreover, the independent samples *t*-test revealed that the group counseling curriculum scored much higher than the teacher teaching curriculum on the difference between posttest and pretest of social adaptation (M_{group} = 3.57, SD_{group} = 1.99, $M_{teaching}$ = 1.38, $SD_{teaching}$ = 2.16, $t(36) = 3.107$, $p = 0.004$, $d = 1.057$).

3.3. The Influence of Curriculum Form on Self-Efficacy

The paired sample *t*-tests showed that both the scores for the group counseling curriculum (M_{pre} = 20.57, SD_{pre} = 2.82, M_{post} = 24.14, SD_{post} = 2.41, $t(13) = -6.719$, $p < 0.001$, $d = 1.353$) and for teacher teaching curriculum (M_{pre} = 21.75, SD_{pre} = 3.03, M_{post} = 23.13, SD_{post} = 3.39, $t(23) = -3.114$, $p = 0.005$, $d = 0.426$) increased significantly between the pretest and posttest for self-efficacy. The independent samples *t*-tests revealed no significant differences between the group counseling

curriculum and the teacher teaching curriculum in the pretest, posttest and change (the difference between the posttest and the pretest) of self-efficacy ($p > 0.05$).

3.4. The Influence of Curriculum Form on Self-Efficacy: The Mediating Role of Social Adaptation

A mediation analysis was conducted (Model 4, based on 5000 bootstrap samples) [25] with Curriculum Form (group vs. teaching) as the independent variable X (the group counseling curriculum was coded X = 1, and the teacher teaching curriculum was coded X = 2), Self-efficacy (the difference between the posttest and the pretest, continuous variable) as the dependent variable Y, and Social Adaptation (the difference between the posttest and the pretest, continuous variable) as the mediator M.

The bootstrap results indicated that the indirect effect of Curriculum Form on Self-efficacy through Social Adaptation was significant, with a 95% CI that excluded zero (*Effect* = −1.2019, *SE* = 0.7969, 95% CI = [−3.4476, −0.0868]). Meanwhile, the direct effect of Curriculum Form on Self-efficacy was not significant when Social Adaptation was included in the model (*Effect* = −0.7624, *SE* = 1.3201, 95% CI = [−3.4423, 1.9175]). This pattern of results indicated an indirect-only mediation. Thus, the social adaptation mediated the influence of curriculum form on self-efficacy.

3.5. The Influence of Curriculum Form on Academic Adaptation: The Chain Mediating Effect of Social Adaptation and Self-Efficacy

A chain mediation analysis was conducted (Model 6, based on 5000 bootstrap samples) [25] with Curriculum Form (group vs. teaching) as the independent variable *X* (the group counseling curriculum was coded X = 1, and the teacher teaching curriculum was coded X = 2), Academic Adaptation (the difference between the posttest and the pretest, continuous variable) as the dependent variable Y, Social Adaptation (the difference between the posttest and the pretest, continuous variable) as the mediator M1, and Self-efficacy (the difference between the posttest and the pretest, continuous variable) as the mediator M2.

The bootstrap results indicated the direct effect of Curriculum Form on Academic Adaptation was not significant when Social Adaptation and Self-efficacy were included in the model (*Effect* = −1.8253, *SE* = 2.0231, 95% CI = [−5.9367, 2.2862]). The chain mediation effect of social adaptation and self-efficacy was significant. The chain mediation effect was generated through the only mediation chain: curriculum form → social adaptation → self-efficacy → academic adaptation (*Effect* = −0.3020, *SE* = 0.2626, 95% CI = [−1.4441, −0.0230]).

4. General Discussion

4.1. Main Findings

The central aim of the present study was to investigate the influence of group counseling and teacher teaching mental health curriculum on college students' academic adaptation and the internal process. In the present study, students' academic adaptation, social adaptation and self-efficacy of students in the group counseling curriculum and the traditional teacher teaching curriculum were measured twice before and after the curriculum. The results showed that: (1) the group counseling was better than traditional teacher teaching mental health curriculum in improving the college students' academic adaptation and social adaptation; (2) the form of the college students' mental health curriculum influenced students' academic adaptation through the indirect path: curriculum form → social adaptation → self-efficacy → academic adaptation.

4.2. Effect of Curriculum Form on Social Adaptation

College students' social adaptation typically means to establish the new university-centered interpersonal relationships and to transform their original community relationships from the center. However, young people may experience significant difficulties in adapting this period [26, 27]. In the process, college students may experience emotional distress in the face of many personal and academic difficulties, which may make the adaptation process more complicated [28-30]. In addition to these difficulties encountered in college life, college students who lack of interpersonal interaction may feel lacking in their heart and gradually withdraw from their social environment [27, 31]. The present study found that both group counseling and teacher teaching mental health curriculum could improve students' social adaptation, which provided empirical support for the improvement of students' social adaptation through offering mental health curriculum.

In addition, the present study also found that group counseling improved students' social adaptation more than teacher teaching, which is consistent with the findings of previous studies that group counseling is conducive to the establishment of interpersonal support among members and the improvement of social adaptation [16, 17]. The theoretical model of social support points to two key dimensions. First, there is a structural dimension, including the size of the support network and the frequency of social interactions. The second dimension is the functional dimension, which contains emotional elements (such as receiving and giving love or empathy) and instrumental elements (such as receiving and giving time, gifts and quantifiable help) [32]. The group counseling mental health curriculum is student-centered, emphasizing the interpersonal interaction among students and providing the functional dimension of social support. The teacher teaching curriculum focuses on teachers, emphasizing students' passive listening to the curriculum and providing the structural dimension of social support. Research has found that the quality of relationships (functional dimension) is a better predictor of health than the quantity of relationships (structural dimension) [33]. This is also consistent with the findings of the present study that group counseling mental health curriculum was more conducive to improving students' social adaptation and

other mental health indicators.

4.3. Effect of Curriculum Form on Self-Efficacy: Mediating Role of Social Adaptation

The present study found that both group counseling and teacher teaching mental health curriculum had an effect on students' self-efficacy. The direct effect of different curriculum forms on students' self-efficacy was not significant, but mediated by social adaptation. According to Bandura [11], people with different self-efficacy have different ways of feeling, thinking and acting. At the sensory level, low self-efficacy is often associated with depression, anxiety and helplessness. A number of studies have shown that self-efficacy is correlated with various aspects of mental health, and academic achievement of college students after they enter the society [3, 12-14]. On the one hand, the results of the present study confirm the role of mental health curriculum in improving students' self-efficacy, and provide empirical support for the subsequent improvement of students' self-efficacy through mental health education.

On the other hand, the results reveal the internal process of the effects of mental health curriculum on self-efficacy, namely, the mediating role of social adaptation. Previous studies on the direct relationship between self-efficacy and social adaptation are few, and most of these studies considered social support as a component of social adaptation. Actually, self-efficacy and social support are often regarded not only as predictive variables, but also outcome variables or mediating variables aiming at college students' mental health [34-36]. The present study indirectly confirmed the effect of social adaptation on self-efficacy, which is expected to provide an important reference for improving students' self-efficacy by increasing their social adaptation.

4.4. Chain Mediating Effect of Social Adaptation and Self-Efficacy in the Relationship Between Curriculum Form and Academic Adaptation

The present study found that the form of group counseling mental health curriculum could significantly improve students' academic adaptation, while teacher teaching mental health curriculum had no such effect. Meanwhile, we also found the chain mediation of social adaptation and self-efficacy. These results are consistent with previous studies about the independent effects of social adaptation [18] and self-efficacy [3, 12-14].

Learning is a process in which individuals change their behavior and acquire knowledge and skills in a certain situation due to practice. Adaptation is the process of adapting to changes in the object by enriching or developing the actions of the subject [37]. The dynamic psychological process of academic adaptation is formed when students keep their psychology and behavior in harmony with the internal and external environments through active self-adjustment. The results of the present study explain this dynamic process empirically, that is, students form social adaptation through interaction with the environment, and then feel self-efficacy, and finally achieve academic adaptation. Furthermore, students' adaptation has a significant positive effect on their academic performance. Social adaptation and academic performance complement with each other and together enhance students' motivation to participate in school work and develop relationships with peers. Thus, students' overall psychological quality gradually enters a stable and healthy development, which leads to the successful completion of their learning tasks and high academic achievement [38].

In addition, the results of the present study suggest that campus activities and curriculum aimed at developing relationships between students should be supported [39]. In fact, in a good university environment, the implementation of school mental health education should contribute to the development of a wide range of social networks, including students, teachers and staff [40].

4.5. Implications and Future Research Trends

The main contributions of the present study are below. First, offering empirical evidence for the effect of mental health curriculum with the form of group counseling and teacher teaching, which confirms the important role of mental health education in strengthening students' social adaptation, self-efficacy and academic adaptation. The results of the study enrich the content of school mental health education and provide an empirical basis for mental health education and intervention. Second, revealing the internal process of how mental health curriculum improves students' academic adaptation, which enriches the research on the influencing factors of college students' academic adaptation. These results provide a critical reference for improving college students' academic adaptation through enhancing their social adaptation and self-efficacy, for which group counseling curriculum makes the big sense. The present study also provides reference for the targeted and purposeful development of college students' learning guidance.

Future research can be carried out in the following areas. First, the curriculum content involved in the present study is just around self-consciousness, emotion regulation and relationship building to carry out the general knowledge transmission, ability training and value building. We are not sure whether the results found in the present study can be achieved simply by developing course content around these three themes, or whether the two courses involved in the present study are special in terms of specific activity design and course arrangement. In the future, the stability of the results can be further tested, and the activity design and content arrangement of the courses can be further refined to explore the influencing mechanism. In the future, studies can further refine the curriculum content and explore its influencing mechanism. Second, the present study reveals the chain mediation model of college students' mental health curriculum affecting academic adaptation: curriculum form → social adaptation → self-efficacy → academic adaptation. Through the mediating effect, numerous relationships among social adaptation, self-efficacy and academic adaptation have been found. Future studies can further verify the relationship

among these variables by manipulating variables in the laboratory, so as to confirm the stability of the findings of the present study and provide suggestions for more interventions to improve self-efficacy, and enhance academic adaptation.

5. Conclusion

The present study provides evidence suggesting that the group counseling is better than traditional teacher teaching mental health curriculum in improving the college students' academic adaptation; and the form of mental health curriculum affects students' academic adaptation through the indirect path: curriculum form → social adaptation → self-efficacy → academic adaptation. Our research contributes to the understanding of the effects of form of mental health curriculum and the roles that social adaptation and self-efficacy play in the effects of curriculum form on students' academic adaptation, which provides an important reference for improving college students' academic adaptation by increasing their social adaptation and self-efficacy.

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