

A Conceptual Paper: Study on the Effect of Peer Relationships on the Academic Achievement among College Students

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Abstract

The aim of this paper is to examine the relationship between peer relation influences on the college students' academic achievement. The study assessed peer relation influences in terms of the level of academic achievement impact they have on learners. This study will introduce peer relationships, learning engagement, and positive academic emotion as variables to analyse their effects on the academic achievement of university students. This study will adopt quantitative research methods. The respondents were selected using simple random sampling technique. Questionnaires were used to collect data, which were analyzed by multiple regressions. It is hoped that the findings of this study will be useful to teachers, principals and parents to gain more insight into the psychosocial factors that affect college students' academic achievement and therefore help improve their academic achievement. Providing theoretical support and practical basis for improving undergraduate education.

Keywords: Peer Relationship, Academic Achievement, College Student.

Introduction

In present society, Liu et al (2022) argued that academic achievement is one of the most important indicators for assessing student's achievement and educational attainment. More and more attention is paid to them. From studying abroad, employment to scholarship evaluation, academic achievement is indispensable. The social status of highly educated talents and the employment facilities for some high-level talents are envied by college students, which stimulates a considerable number of college students to make efforts to improve and maintain their good academic performance during their school years in order to seek a bright future.

The Chinese story of Mencius' mother's three moves tells us that the quality of peer relationships affects children's social, emotional, and cognitive functioning, and that "those

who are close to ink are black and those who are close to vermilion are red" is a testament to the ecological theory that multiple environmental factors influence individual human development, and a key component is the peer environment. One of the key factors is the peer environment. From childhood onwards, interpersonal relationships continue to shape a range of social skills, behaviours, attitudes and emotional responses. As adolescents become less dependent on their parents as they grow older, the influence of their peers becomes more pronounced as an important socialising environment outside of the family. A growing number of researchers are pointing to a positive correlation between positive peer relationships and academic achievement (Anna et al., 2017). On the contrary, peer victimization was negatively related with academic achievement peer through school engagement (Iyer et al., 2010; Nakamoto and Schwartz, 2010). There are many reasons for poor academic achievement, among which being rejected by peers or ignored by peers can affect the emotional changes of secondary school students, which can lead to a decline in their academic achievement. Or Students whose friends engage in negative activities such as use of drugs, sneaking out of school and being absent from school chronically are likely to have lower academic performance (Korir et al., 2014). Is the academic achievement of today's college students, who are moving out of adolescence and into young adulthood, affected by their peer relationships as much as it is at the secondary school level?

Therefore, the exploration of the bi-directional relationship between college students' peer relationships and academic achievement can not only improve our understanding of college students' peer relationships, but also help to help them establish good peer relationships, better adapt to school life, and obtain good academic achievement.

This study will enrich the relevant theoretical and empirical research on peer relationships and academic performance of college students by studying the effects of college students' peer relationships on academic performance, and will also verify whether peer relationships are an important variable affecting college students' academic performance. Through this study, we can have a better understanding of the influence of college students' peer relationships on academic performance, a broader understanding of the reasons affecting college students' academic performance, a more comprehensive understanding of the importance of college students' peer relationships, and a further investigation of the relationship between peer relationships and academic performance, which are important guides for the timely detection and regulation of college students' interpersonal problems and the improvement of their academic performance. academic performance.

Problem Statement

In the context of school education, A study conducted by Yang (2018) found that peer relationship is the most basic and important interpersonal relationship in the school, and the emotional interaction and communication between peers is conducive to influencing the development of college students in all aspects, especially the development of learning psychology. The higher the peer relationship satisfaction, the more harmonious the interpersonal relationship and the more social interaction, the more conducive to the improvement of students' learning ability and the development of good learning behaviours, and the more conducive to the creation of a good learning atmosphere and environment for individual students, thus improving their academic performance. However, most of the existing studies have investigated the direct mechanism of peer relationships and academic performance, while the existence of other mechanisms, such as mediation, has yet to be investigated.

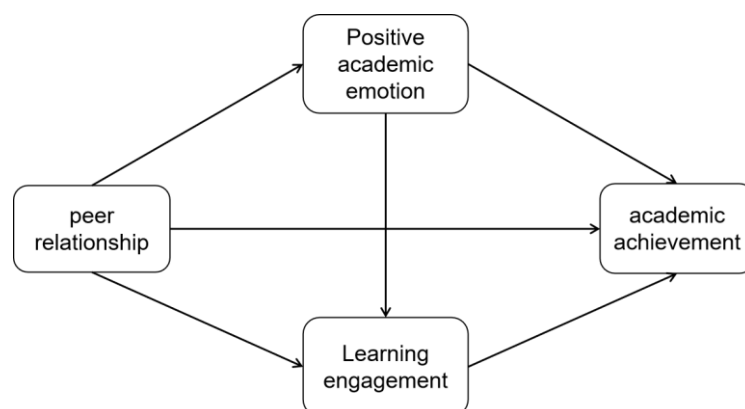
Cao (2023) pointed out that positive academic mood is the passion that college students put into their studies, and positive academic mood influences individual learning engagement, which in turn affects students' academic performance. The higher the positive academic mood, the higher the learning engagement. At the same time, positive academic emotions can also have a direct effect on college students' academic performance. Learning commitment is the time, energy and effort that college students put into achieving educational goal activities. From the study of Li (2017), it was found that learning engagement also directly affects academic achievement.

This study will introduce peer relationships, commitment to learning, and positive academic emotions as variables to analyse their effects on college students' academic performance, in the hope of promoting college students' academic achievement by providing a few suggestions and recommendations, with a view to enriching the theory of the institutional model of the effects of college students' academic achievement.

This study enriches the exploration of the current situation and characteristics of college students' peer relationships, positive academic emotions, learning engagement, and academic achievement by investigating and analysing the characteristics of these variables among contemporary college students. Then, through the relationship of several variables and their predictive effects on academic performance, the mediating roles of academic learning input and positive academic emotions in peer relationships and academic performance are further clarified through the construction of a model, which enriches the theoretical research and mechanism of factors influencing college students' academic performance, and provides theoretical support and practical basis for the improvement of the level of undergraduate education.

Conceptual Framenwork

To further enrich the correlation research between internal factors of positive academic emotions and external factors of peer relationship, study input and academic achievement, to deeply examine the mediating role of positive academic emotions and study input in their relationship, and to expand the research scope of college students' study psychology. We will explore the mediating role of learning engagement and positive academic emotions in the relationship between peer relationships and academic achievement, provide feasible advice and suggestions for college students' academic achievement, give more suggestions for the development of colleges and universities to improve the level of education and teaching, and provide references for the school's teaching management.



Literature Review

Peer Relationship

Definition of peer relationship

The research on peer relationship first began in the 1930s and 1940s in foreign countries. The Wechsler English Dictionary interprets "peer" as "other people belonging to the same age group or social organisation", and the definition of "peer relationship" in China is generally adopted by Zhang,W,X., which refers to a kind of interpersonal relationship that is established and developed during the process of interaction between people of the same age group or individuals with comparable level of psychological development. Zhang (1999) further categorised peer relationships into peer acceptance and friendship relationships from both group and individual perspectives, encompassing both group-directed attitudes and perceptions of acceptance or rejection of a particular individual, and individual-directed emotional connections between two people.

The peer relationship of college students in this study adopts Zhang's definition, which mainly refers to the interpersonal relationship that an individual establishes and develops with classmates and friends who are frequently contacted and interacted with in daily life and study during the college period. Influenced by factors such as age, experience, environment, etc., the peer relationship of college students has the characteristics of being more equal, free, and open as compared with the teacher-student and parent-child relationships.

Measurement of Peer Relationship

The measurement methods of peer relationship mainly include questionnaire measurement method, rating method and peer nomination method. The most frequently used methods of peer relations are questionnaire measurement, mainly the friendship quality questionnaire for adolescents compiled by Parker & Ashen, the peer relations scale for students compiled by Asher, and the main scales in China are the children and adolescents' peer relations scale by Guo Boryang and the peer relations satisfaction scale for college students compiled by Wei Yunhua.

This study will use the Peer Relationships Scale developed by Yang (2018),who is based on the peer influence theory and significant others theory in peer relationships as the research basis for the relevant issues, to conduct the subsequent research on peer relationships, and combined with the relevant references, drawing on the questionnaire developed based on the Network of Relationships Inventory and the Self-Description Questionnaire and the Friendship Quality Questionnaire on the status of college students' peer relationships and academic performance.

Academic Achievement

Definition of Academic Achievement

Academic achievement is the main expression of college students' learning achievements, which can reflect the degree and level of students' development in the learning process in moral, intellectual and physical aspects; it can comprehensively measure the breadth, depth and proficiency of students' mastery of knowledge and skills, as well as their ability to use knowledge in practice. Broadly speaking, academic achievement includes both comments and ratings, but in actual research, ratings are usually used to implement the judgement, which is usually referred to as the percentage system. Using this form of examination, students' individual performance can be compared with the teaching objectives in order to judge the degree of mastery of knowledge and its distance from the teaching

objectives, and thus, the academic achievement can be judged according to the number, percentage or grade of students' achievement of the predefined teaching objectives. Yao (2020) pointed out that college students' academic achievement is the comprehensive performance of students throughout their college years, which consists of the dimensions of academic performance, communication and coordination skills, self-awareness, management skills, and interpersonal facilitation skills. Her definition of academic achievement will be used in this study.

Measurement of Academic Achievement

The measurement of academic achievement of primary and secondary school students is mostly based on academic achievement, while the measurement indicators of college students are more diversified. The measurement of academic achievement is relatively mature in foreign countries. In 1998, the National Center for Higher Education Management Systems developed NSSE, which judges students' academic achievement from various aspects such as practice, cognition and emotion, which not only improves the level of students' academic achievement, but also improves the quality of school teaching. When we take college students as the object of study, we usually take students' academic performance and comprehensive quality as the measure of academic achievement. Wang (2011) divided college students' academic achievement into two parts: objective achievement and behavioural performance, behavioural performance consists of learning performance, interpersonal facilitation and dedication to learning, and objective achievement consists of intellectual, moral, cultural and sports and comprehensive ranking. Yang (2016) compiled her own scale to measure college students' academic achievement, which included four dimensions: cognitive ability to learn, communication ability, self-management ability, and interpersonal facilitation ability. Li and Bao (2016) used students' academic performance and comprehensive literacy as important measures of academic achievement.

This study will use Xiang (2023) College Student Achievement Scale, which she based on the College Student Achievement Scale developed by Yang Na to measure college students' academic achievement, and based on which the descriptions of individual questions were changed. This scale contains four dimensions: academic cognitive ability, communication ability, self-management ability, and interpersonal facilitation ability.

Learning Engagement

Definition of Learning Engagement

Learning engagement was first studied by researchers, led by Schaufeli, in the context of work engagement. As the scope of the research group expanded, Schaufeli used students as subjects and applied engagement in learning to evaluate the quality of education and understanding of students' learning at a school's level of education. Schaufeli categorised engagement in learning into three dimensions, namely vigour, dedication and absorption; Schaufeli considered engagement in learning to be an individual student's demonstration of vigour, dedication and absorption in the learning process. Vigour means that the individual remains energetic during the learning process and perseveres in learning even when difficulties are encountered. Dedication refers to the individual's willingness to learn, and can experience a sense of meaning and value of learning, and passion for learning. Concentration refers to an individual's ability to pay full attention to learning without being easily distracted by external distractions. According to Peak et al., "Learning engagement is the psychological investment and effort that facilitates students' learning, understanding of knowledge, and

mastery of skills and techniques".Wagtsuma et al. believe that the degree of learning engagement is a measure of the amount of energy that an individual student puts into the learning process and the perception of how much effort a school puts into engaging students in learning activities. Different scholars understand the definition and nature of learning engagement from different perspectives and sides. Many scholars' research on learning input is based on Schaufeli's viewpoints, so this paper mainly adopts the viewpoints of Schaufeli and others in the study of learning input. Learning input is an organic whole composed of three mutually independent and connected dimensions: behavioral input, emotional input and cognitive input.

Measurement of Learning Engagement

For the specific research subject group of college students, Schaufeli developed the (Utrecht Work Engagement Scale-Student) UWES-S Learning Engagement Scale, which consists of three dimensions: vigour (6 items), concentration (6 items) and dedication (5 items). Most scholars in China have developed a local learning engagement scale based on the UWES-S scale developed by Schaufeli. For example, Li Xiyang revised the Chinese version of UWES-S and divided the scale into three dimensions: experience, motivation and concentration.

In this paper, Zhou (2019) used the Learning Commitment Scale was developed by Schaufeli et al. The scale was later revised by domestic scholars to respond to the current status and state of students' learning in terms of the three dimensions of VITALITY, FOCUS and DEDICATION. The scale remains stable and good in terms of reliability and validity.

Positive Academic Emotion

Definition of Positive Academic Emotion

The term "mood" is derived from psychology and is a set of reactions to an individual's attitude and behaviour towards objective things, which are influenced by a variety of factors. In the course of its development, it has received attention from experts in the field of education, and the concept of academic emotions has been proposed. Pekrun et al. firstly proposed the concept of academic emotions, which are the emotions related to learning activities or academic achievements of students in school. For example, pleasure in learning, pride in academic achievement, anxiety in coping with exams, etc. Efklides has argued that academic emotions are the various emotions that students can produce during the learning process, but these emotions are not static and can change with time and context.

Yu, G,L.,and Dong,Y., based on Pekrun et al.'s view, suggest that academic emotions are accompanied by students throughout the learning process, not only the positive or negative emotions felt in the classroom. Sun,S,M. believes that academic emotions are the sum of emotions related to completing homework, listening in class, test scores, and peer interactions that students experience both in and out of school. According to Ma, H,X., academic emotions refer to all the emotions that students experience in the process of student learning.

It can be seen that, regarding the definition of academic emotions, various views at home and abroad are modified or extended on the basis of the definition proposed by Pekrun, and the content of the expression is similar, which is the sum of all kinds of emotions felt inside and outside the classroom. In this study, we selected positive academic emotions as the mediating variable to carry out the research, and adopted Cao (2023) definition of positive academic emotions, which considers positive emotions such as happiness, relaxation, and

sense of achievement produced by undergraduate students in their professional course of study as positive academic emotions.

Measurement of Positive Academic Emotion

At present, the commonly used foreign questionnaire for measuring academic emotions is the Academic Emotions Measurement Scale developed by Pekrun et al., which classifies academic emotions into four dimensions, namely, positive high arousal, negative high arousal, positive low arousal, and negative low arousal, and includes positive emotions such as cheerfulness and pride as well as negative emotions such as anger and anxiety. Most of the domestic developments on academic mood scales are based on the Academic Mood Questionnaire developed by Pekrun. The Adolescent Academic Emotions Questionnaire (AEQ), developed by Dong, Y. and Yu, G. L., contains 13 types of academic emotions such as happiness, contentment, and helplessness, and it has been widely used in the measurement of adolescent academic emotions. There are two main types of academic emotion measures for college students, one is the General Emotions Questionnaire for College Students developed by Ma, H. X., which includes 10 emotions such as shame, pleasure, and disappointment, and is divided into four dimensions, namely, positive high arousal, negative high arousal, positive low arousal, and negative low arousal; and the other one is the Academic Emotions Questionnaire for College Students developed by Xu et al., which covers the positive activity orientation, positive Outcome Orientation, Negative Activity Orientation, and Negative Outcome Orientation dimensions, and contains emotions such as pleasantness, autonomy, sense of accomplishment, anxiety, and boredom.

The Positive Academic Emotions Scale for this study was adopted from the Academic Emotions Scale for College Students compiled by Xu, X. C. and the Positive Academic Emotions section was selected to include two dimensions of positive activity orientated emotions and positive outcome orientated emotions.

Method

The purpose of this study is to enrich the research in the field of college students' academic achievement and to explore the current status of college students' peer relationships, academic engagement, positive academic emotions, and academic achievement with undergraduate students as subjects, to enrich the psychological research on developmental education in colleges and universities, and to contribute to increasing colleges and universities' attention to college students' academic achievement and to promoting the development of college students' individual learning qualities and psychology.

This study will take a quantitative approach to research, using SPSS software for statistical analysis, the statistical methods used are descriptive analysis, t-test analysis, correlation analysis and mediation effect analysis. Simple random sampling method was used for sample selection in this study. The research will employ both simple random and purposive sampling technique to select the respondents from college. Simple random sampling is a method of randomly selecting a sample from a total population, ensuring that each individual has an equal chance of being selected as a sample. The advantage of this sampling method is that it ensures the representativeness of the sample and reduces sampling bias, making the results of the study more generalisable and replicable. In this study, we take undergraduate students as the whole population and conduct random sample sampling under different grades, genders, majors and other factors.

Reliability test is one of the important indicators of the reliability of the questionnaire, which points to the repeated measurement of the data, the measurement results are basically the same or reach a certain critical value, in order to verify the scientific nature of the questionnaire, generally the Cronbach's coefficient (Cronbach's Alpha) is used to reflect the degree of reliability of the results of the questionnaire. According to Ning (2017), usually, when the value of Cronbach's coefficient reaches 0.7 or more, it means that the measured questionnaire data has a good reliability, and the higher the value of the coefficient, it means that the questionnaire's reliability is better. In this study, SPSS 26.0 software will be used to test the reliability of the scale of this study.

Validity test is one of the important indicators to measure the validity of questionnaires, which is usually evaluated by using factor analysis. Zhao (2019) argued that when the KMO reaches more than 0.8, it indicates very valid, between 0.6-0.8 indicates general validity, and below 0.5 indicates less validity. The Bartlett's spherical test measures the degree of correlation between variables, and indicates that the validity of the questionnaire performs well when the level of significance is below 0.05. The KMO and the Bartlett's value do not fully illustrate the validity of the questionnaire, and should continue to conduct validation factor analysis to reflect the scale validity by validating the correlation between the subscales and the total scale.

Conclusion

This paper focuses on the impact of college students' peer relationships on their academic achievement. Through literature review, this study found that college students' peer relationships have an impact on their academic achievement. And, this study wants to empirically investigate this finding through quantitative research methods. In this way, it will enrich the literature on the academic achievement of college students.

This study explores the impact of college students' peer relationships on their academic achievement on the theory of interpersonal relationships. This study not only verifies how college students' peer relationships affect their academic achievement, but also enriches the theoretical achievement of college students' academic achievement and provides suggestions for college teachers in improving college students' academic achievement from the perspective of interpersonal relationships.

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