

The Impact of Teacher-student Relationships on Academic Engagement in Chinese High Schools

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Abstract. "Teacher-student relationship and academic engagement" have always been important parts of research. Nevertheless, for Chinese high school students, teacher-student relationships can influence on their academic engagement importantly. The research results indicate that teacher-student rapport significantly enhances the academic engagement of Chinese high school students. Based on the findings, the researcher encourages teachers to pay more attention to marginalized students in the classroom. As there are many external influences in the study, such as class size, family background, and psychological factors. Through the interviews, class size was the main reason why not every student was able to establish a positive teacher-student relationship. Because it holds the limitations of classroom size, a 45-minute classroom makes it difficult for teachers to focus on every student. Policy makers need to reduce classroom size is the key to solving the problem. In summary, this study provides important insights into the impact of teacher-student relationships on Chinese high school students' academic engagement.

Keywords: Teacher-student relationships, Academic Engagement, Chinese High School.

1. Introduction

The impact of teacher-student has got a lot attention in educational research. The relationship between students and teachers has a significant impact on students' engagement. High school education is especially important school experience for student's academic outcomes and future success in China. In Chinese High school, understanding the dynamics of teacher-student relationships and their impact on academic engagement becomes more essential.

1.1. Research Background

In China, High School education is a pivotal step in a student's academic process. Also, Chinese high school education is known for their rigorous academic environment and high expectations placed on students. This process prepares students for an important college entrance exam called "Gao Kao", which impacts their future educational and career prospects importantly. During this period, student engagement and "Gao Kao" results are influenced by the quality of teacher-student relationships. However, achieving academic success not only just relies on teaching methods and curriculum, but also is influenced by the teacher-student relationships in academic engagement. Academic engagement refers to the level of interest, involvement, and positive participation. A positive and supportive teacher-student relationship could foster a beneficial learning environment, improve students' motivation, and facilitate their academic engagement.

1.2. Literature Review

The impact of teacher-student relationships on academic engagement has been widely studied in various educational situations. Some studies already provided valuable insights into the significance of positive teacher-student relationship and their influence on their academic engagements.

The teacher-student relationship affects students' emotional and social learning behaviors and therefore influences the level of academic engagement [1]. In the classroom, the teacher's attitude towards the students and the students' dependence on the teacher are aspects that have a pivotal role in the level of students' academic engagement. Teacher support is defined into several aspects, such as academic, affective and competence, assessment, tool support, etc. However, teacher support does

not only have an impact on students' academic engagement, but rapport and student-teacher relationships also have an impact on this. As stated by Aldrup, teacher-student relationships are an important part of the educational environment [2]. However, building and maintaining good positive teacher-student relationships is also a challenging task for teachers. How to maintain a good positive teacher-student relationship is important for teachers; therefore, many studies have been conducted on the methods of maintaining teacher-student relationships.

Academic engagement is a multidimensional concept that includes students' motivation, cognitive processes, and behaviors in the educational context [3,4]. As a result, many researchers have studied academic engagement from different dimensions, which has different definitions and aspects involved in different studies. Although researchers have different understandings of academic engagement, the quality of participation, level of engagement, commitment and identification with school and its related activities are the same. In the existing literature, few studies have investigated the impact of teacher-student relationships on Chinese high school students' academic engagement. For Chinese high school students, the amount of time spent in school far exceeds that of students in other countries. Therefore, teacher-student relationship is a significant factor affecting academic engagement. As parents and teachers have high expectations for them, they hope that they will succeed in the college entrance examination and go on to have a brilliant life in the future. "The GaoKao is a "one-wood bridge" for Chinese high school students, and they are in a very vulnerable situation [5].

"Teacher-student relationship quality, school psychological capital, and academic engagement in Chinese EFL learning context: a mediation analysis", this article examines whether school psychological capital mediates the link between teacher-student relationships and academic engagement through mediation analysis [6]. Using Structural Equation Modelling (SEM) analysis, the researchers conclude that teacher-student relationships predict school psychological quality, which in turn predicts the level of academic engagement of EFL learners. This study provides new evidence for the link between teacher-student relationships and academic engagement and contributes to the related literature by revealing the mediating mechanism between these two constructs. In addition, this study discusses its theoretical and practical implications, which provide some reference and reference value for improving students' academic engagement and school psychological capital.

In conclusion, the recent literatures on teacher-student relationships and academic engagement in Chinese High School has kept emphasizing the importance of promoting student engagement and academic success. These studies have emphasized the role of teacher support, care, and warmth in fostering a positive learning environment and increasing student motivation and engagement. Overall, these research results bring many valuable insights into the meaning of positive teacher-student relationships and their contribution to academic engagement in Chinese high schools.

1.3. Research Topic

The purpose of this study was about the impact of student-teacher relationships on academic engagement in Chinese high schools. It tries to find out important factors of student-teacher relationships that influence students' academic engagement. It also identifies the underlying mechanisms by which these relationships operate. The research also studies how cultural and contextual factors influence teacher-student relationships.

2. Method

This research will use Quantitative Study, including quantitative surveys and qualitative interviews with teachers and students. The sample will consist of students from various high schools to make sure the diversity. The result of the research could bring valuable insights to school manager and policy makers to design better policies or behaviors to enhance the teacher-student relationships to promote Chinese high school academic engagement. The research is aimed to change current situation and help students achieve their dreams and get success in academic.

2.1. Research Design

The study uses a cross-sectional research design, which combines with questionnaires and interviews. It researches the relationship between teacher-student relationships and academic engagement. Data is collected at one period to know their perspectives about the relationships between teacher-student relationships and their level of academic engagement.

2.2. Sampling in questionnaires

The sample is combined by 90 Chinese high school students from different grades and schools.

1. Sample source: Chinese High schools from different regions

2. Sample size: The sample size was based on statistical power analysis and considerations of practical feasibility. The sample size should be $N=X$, where X represents the specific number of participants included in the study.

3. Geographic Distribution: The sample includes students from urban, and rural areas across different provinces or regions in China.

4. Grade Distribution: The participants are selected from various grade levels, including 10th, 11th, and 12th grades. Thus, researchers can capture the diversity of experiences across different stages of high school education.

Sampling in interviews: The sample is combined by 90 Chinese high school students and high school teachers from different grades and schools.

The participants are selected through a stratified random sampling method. This could make sure representation from various regions and backgrounds. The sample size is determined based on statistical power analysis to make sure adequate sample representation and generalizability of the findings.

2.3. Measurement Scales and Variables

"The Teacher-Student Relationship Scale" was created by Pianta, La Paro, and Hamre (2008) in their book, Classroom Assessment Scoring System (CLASS) Handbook, Version K-3 [3]. This widely endorsed and validated scale is designed to capture students' perceptions of teacher support, communication, and caring behaviors. It contains multiple items to assess the quality of the teacher-student relationship in areas such as warmth, responsiveness, and mutual respect. The scale provides a valid tool in assessing teacher-student relationships by revealing students' understanding of teacher support and interaction, providing a powerful tool for studying the impact of teacher-student relationships.

"School Engagement Measure" (School Engagement Scale, SEM) was created by Appleton, Christenson, and Furlong [7]. The source of this scale is the article they authored, Student engagement with school: critical conceptual and methodological issues of the construct. The scale is used to assess student engagement with school, including students' perceptions of teachers' supportive, communicative, and caring behaviors. In addition, there is a separate scale for academics that assesses students' motivation, engagement, effort, and interest in academic activities. These scales provide valid tools for measuring student engagement in school and help provide insight into students' involvement and engagement in school-related activities.

2.4. Research Process

The researcher used stratified random sampling for participant recruitment, selecting participants from a variety of high school and grade levels. The data collection phase involved interviewing participants during school hours. The researcher then entered the collected data into a secure database or statistical software for further collation and cleaning for subsequent analysis.

This research process involves several stages, including ethical approval, participant recruitment, data collection, and data entry. Before collecting data, people need to get agreements from participants and their parents. Researchers should explain the purpose of the research and make sure

confidentiality and anonymity of the data. Self-report questionnaires are used to collect data during school time.

2.5. Correlation Analysis

Correlation analysis is used to examine the relationship between teacher-student relationships and academic engagement in Chinese high schools. First, collect data on teacher-student relationships and academic engagement from chosen samples. Second, identify the dependent variable and select the independent variable. Third, check for assumptions of correlation analysis. Forth, use appropriate model based on your research question and the nature of your variables. At the end, explain the results.

3. Results

In this research, we used the research method of correlation analysis. The research quantitative sample was 90 students from three different grades in high school. The following table shows the Pearson's correlation coefficients between the five dependent variables in SEM and the three independent variables in TSRS, as well as the significance levels of these correlation coefficients.

Table 1. Correlations between dependent variable “Motivation to Learn” and independent variables

		Motivation to Learn	Closeness	Dependency	Conflict
Pearson Correlation	Motivation to Learn	1	0.412	0.349	-0.673
	Closeness	0.412	1	0.399	-0.587
	Dependency	0.349	0.399	1	-0.519
	Conflict	-0.673	-0.587	-0.519	1
Sig. (1-tailed)	Motivation to Learn	.	0	0	0
	Closeness	0	.	0	0
	Dependency	0	0	.	0
	Conflict	0	0	0	.

Table 1 shows the Pearson correlation coefficients between the four variables, and the significance levels of the correlation coefficients. The correlation coefficient between Motivation to Learn and "Closeness (TSRS)" is 0.412 which is significant ($p < 0.001$). This indicates that there is a moderate positive correlation between Motivation to Learn and Closeness. The correlation coefficient with "Dependency (TSRS)" is 0.349 which is significant ($p < 0.001$). It means that there is a moderate positive correlation between Motivation and Dependency. The correlation coefficient with "Conflict (TSRS)" is -0.673 which is significant ($p < 0.001$), which indicates that there is a strong negative correlation between learning motivation and sense of conflict.

Table 2. Correlations between dependent variable “Classroom Participation” and independent variables

		Classroom Participation	Closeness	Dependency	Conflict
Pearson Correlation	Classroom Participation	1	0.217	0.3	-0.536
	Closeness	0.217	1	0.399	-0.587
	Dependency	0.3	0.399	1	-0.519
	Conflict	-0.536	-0.587	-0.519	1
Sig. (1-tailed)	Classroom Participation	.	0.02	0.002	0
	Closeness	0.02	.	0	0
	Dependency	0.002	0	.	0
	Conflict	0	0	0	.

Table 2 shows the Pearson's correlation coefficients between the dependent variable "Classroom Participation" and the three variables, as well as the significance levels of the correlation coefficients. The correlation coefficient between "Classroom Participation" and "Closeness (TSRS)" is 0.217, but not significant ($p = 0.020$). It means that there is a slight positive trend of correlation between Classroom Participation and Closeness. The correlation coefficient with "Dependency (TSRS)" was

0.300 but not significant ($p = 0.002$). This indicates that there is a trend of some positive correlation between classroom engagement and dependency, but it is not statistically significant. The correlation coefficient with "Conflict (TSRS)" is -0.536 which is significant ($p < 0.001$). A strong negative correlation between classroom engagement and feelings of conflict was indicated.

Table 3. Correlations between dependent variable "Academic Satisfaction" and independent variables

		Academic Satisfaction	Closeness	Dependency	Conflict
Pearson Correlation	Academic Satisfaction	1	0.199	0.334	-0.48
	Closeness	0.199	1	0.399	-0.587
	Dependency	0.334	0.399	1	-0.519
	Conflict	-0.48	-0.587	-0.519	1
Sig. (1-tailed)	Academic Satisfaction	.	0.03	0.001	0
	Closeness	0.03	.	0	0
	Dependency	0.001	0	.	0
	Conflict	0	0	0	.

Table 3 revealed that it showed significant correlation with closeness, dependency, and conflict. Satisfaction was slightly positively correlated with closeness and strongly negatively correlated with dependence and conflict.

Table 4. Correlations between dependent variable "Academic Effort" and independent variables

		Academic Effort	Closeness	Dependency	Conflict
Pearson Correlation	Academic Effort	1	0.157	0.282	-0.367
	Closeness	0.157	1	0.399	-0.587
	Dependency	0.282	0.399	1	-0.519
	Conflict	-0.367	-0.587	-0.519	1
Sig. (1-tailed)	Academic Effort	.	0.07	0.004	0
	Closeness	0.07	.	0	0
	Dependency	0.004	0	.	0
	Conflict	0	0	0	.

There is a correlation between academic effort and teacher-student relationships in. Table 4. Academic effort was slightly positively correlated with closeness, moderately positively correlated with dependency, and negatively correlated with conflict.

Table 5. Correlations between dependent variable "Confidence and Positivity" and independent variables

		Confidence and Positivity	Closeness	Dependency	Conflict
Pearson Correlation	Confidence and Positivity	1	0.518	0.464	-0.803
	Closeness	0.518	1	0.399	-0.587
	Dependency	0.464	0.399	1	-0.519
	Conflict	-0.803	-0.587	-0.519	1
Sig. (1-tailed)	Confidence and Positivity	.	0	0	0
	Closeness	0	.	0	0
	Dependency	0	0	.	0
	Conflict	0	0	0	.

In Table 5, correlations between "Confidence and Positivity" and other variables: positive correlation with "Closeness", positive correlation with "Dependency", negative correlation with "Conflict".

4. Discussion

The major purpose of this study was the impact of teacher-student relationships on academic engagement of Chinese high school students. This topic was revealed a direct and strong correlation between teacher-student relationship and academic engagement through the content of two scales. Second, positive teacher-student relationships are positively related to academic engagement. Regarding the apparent association between academic engagement and teacher support, this finding is consistent with Sadoughi and Hejazi's study [8]. The research is given the different questionnaires and interviews conducted with three different grades of high school. Students depend on their teachers in the third year more than other two years. On the contrary, most students did not have any conflict with their teachers. At last, a few of them had conflicts with their teachers. Just as the environment of the teacher-student relationship affects the psychology of students and gives them psychological stress [9]. Teacher support and good teacher-student relationship help students to explore on their own and thus face the challenges of learning positively. Engels stated that positive teacher-student relationships contribute to adolescents' academic engagement [10].

In addition, this study demonstrates the value of positive student-teacher relationships in promoting students' academic engagement. Since Chinese high school students spend most of their lives studying, students who receive adequate and timely help from their teachers are likely to enjoy their studies. They also tend to spend more time on their studies and eventually achieve academic success. For students in different grades, teachers' help and concern have made a significant impact on their academic engagement. Negative teacher-student relationships can affect students' motivation towards their studies, and as a result, there were encounters with individual students who were bored with school and those who were considering dropping out. Some students at the bottom of the academic ladder have developed an aversion to certain subjects because of suppression by certain teachers. Particularly on the eve of the Hong Kong Advanced Level Examination, immature psychology led a few students to commit suicide, self-harm and other behaviors. On the contrary, students who are cared for by their teachers are more willing to spend time into academic inputs including attendance, academic endeavor, and academic satisfaction, etc. The view of Ruzek is that teachers should give timely feedback to their students both academically and emotionally cared for when students are in a negative psychological situation, similarly, research has shown "a dynamic link between teachers and students' motivation to learn" [11].

Positive teacher-student relationships can lead to positive academic engagement and increased interest in learning for students, consistent with Cooper's findings [12]. In comparison to this study and Cooper's study, Cooper used a large sample size to allow the differences to be narrowed [12]. Due to research constraints, it was not possible to conduct sample surveys and interviews in different high schools throughout China. The study mentioned that Chinese high school students spend more time in school. But the different cultural backgrounds that arise under different policies and regions were not considered. There may be differences in students' expectations, attitudes and behaviors under different cultures that need to be further considered. Similarly, there will be other factors affecting students' academic engagement, such as family influence, social support, and students' psychological resilience.

Teachers need to focus on individual differences. Nonetheless, given that Chinese high schools are basically large classrooms, it is difficult for teachers to focus on each student. As a result, school administrators and policy makers need to reduce the size of classes so that teachers can attend to every student. Teachers need to similarly build positive communication and trust with students. Students need to take the initiative to participate in school and classroom activities and cultivate a positive outlook.

5. Conclusion

The primary aim is to figure out the impact of teacher-student relationship on Chinese high school students' academic engagement. According to correlation analysis, teacher-student rapport

significantly increased the academic engagement of Chinese high school students. Therefore, if students receive sufficient support and encouragement from their teachers. Then, they have positive teacher-student relationships. They will be engaged in their learning and thus achieve their academic success. For Chinese high school students, their academic engagement determines their future academic direction and future life direction. It is difficult for teachers to establish and maintain relationships. Hence, maintaining a harmonious teacher-student relationship is a challenge for teachers. The researcher suggests that teachers proactively engage with marginalized students in the classroom. This proactive approach aims to foster positive teacher-student relationships, thereby encouraging these students to become more involved in their studies. The goal is to enhance their academic participation and improve their chances of successfully passing entrance exams. There exist many reasons leading to negative teacher-student relationship, such as the size of the class, psychological problems among students and so on. In China, a large class is a major reason. A 45-minute classroom does not allow the teacher to focus on every student and build any relationships. For the policy makers, they need to reduce the size of the classroom.

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