

# Impacts of Parent-Child Relationship on High School Students' Academic Anxiety Level in an International School Setting

## Chong Si

Rossier School of Education,  
University of Southern California,  
Los Angeles, USA  
Corresponding author Csi1csi1@  
outlook.com

### Abstract:

Past research has established that academic anxiety level can be negatively predicted by parent-child relationship; whether such relations existed in an international education setting remained unknown due to limited research. To bridge the gap, the current study aimed at examining such prediction in an international education system and further analyzed whether such pattern varied based on parental gender roles. A total of 458 high school students from an international high school in Shenzhen, China, completed the questionnaire that measured self-reported parent-child relationship and academic stress. Results showed a similar prediction exists in the current population, in which better parent-child relations, specifically paternal relations, predicted a lower level of academic anxiety. Mother-child relation was not significantly related to academic anxiety, suggesting varied effects from fathers and mothers. Current results highlight the impact of parental roles on international high school students regarding schoolwork-related stress, emphasizing the need for further research focusing on this population to create better academic stress prevention across education settings.

**Keywords:** Academic anxiety, International high school students, Parent-child relation, Father-child relation

## 1. Introduction

One impact of globalization is that more educational settings have been established beyond traditional public schools, creating the concept of "third culture kids"--kids who grow up in cultural environments different from their parents [1]. However, when discussing international students, people often refer to kids who study abroad for college or those who grew up in another culture. Adolescents who study in an

international education system but live in the host culture have been overlooked. These students could also be experiencing significant stress, as research has shown that students who studied in a culturally different setting reported higher stress across all domains and varying magnitudes of stress in certain domains than students from their local culture [2]. Though educational resources may be more available to families with higher incomes and those attending international schools, prior findings indicate that fam-

ily income may not necessarily serve as a buffer against academic anxiety. Xue's study indicated that higher SES did not protect students from the possible adverse effects of parental academic stress in an international school setting [3]. Past research has also found that children with more educated parents may be at a higher risk for developing anxiety [4]. In sum, students in international schools could be experiencing a higher level of academic anxiety compared to those in public schools. This niche population should be brought to light in research with the growing number of international schools in China.

The present study intends to center on the parent-child relationship and how it impacts students' academic anxiety. Moreover, previous studies have established that academic stress is linked to the stakes of academic outcomes and parental expectations [5]. In addition, findings suggested that students with stronger parent-child relations reported lower academic anxiety and burnout in public school settings [6,7]. From reviewing the prior research, there is an obvious lack of focus on students who received international education but live in the local/host culture. Therefore, the goal of the current study was to explore the relation between parent-child relationship and academic anxiety in international high school students, with the intention to answer these questions:

Firstly, whether a similar pattern from public school settings between parent-child relations and adolescents' academic anxiety can also be found in an international school setting.

Secondly, how does the parent-child relation impact academic anxiety in an international education setting?

Thirdly, whether parental gender role impacts academic anxiety differently.

## 2. Methods

This was a cross-sectional, quantitative study design that discussed whether a prediction exists between parent-child relationship and academic anxiety level by collecting self-reported data in a Chinese international high school in Shenzhen, China. Data was collected via an online survey system in September 2025.

### 2.1 Questionnaire Design

#### 2.1.1 Parent-child relationship

The current study used the Chinese-translated version of the Parent-Child Cohesion Questionnaire to measure parent-child relation, which has been defined as a stable emotional bond between adolescents and parents and characterized by emotional connectedness, quality of interactions, support and monitoring, conflicts and resolu-

tions [8]. Furthermore, a healthy parent-child relationship in the past has been defined as comprised of acceptance, encouragement, love, trust, and democracy [6]. This questionnaire has also been widely used in prior research on Chinese adolescents, which has demonstrated good internal consistency and validity [9].

#### 2.1.2 Academic anxiety

Students' experiences related to assignments, tests, or other forms of evaluation in educational settings can be characterized as academic anxiety, contributing to heightened levels of stress and anxious feelings [10]. According to Bronfenbrenner's ecological system theory, adolescents are influenced by environmental factors, including school, home, and culture [11]. To align with the current cultural context, academic anxiety in the current study was measured using the Academic Stress subscale of the Middle School Mental Health Inventory (MMHI-60), which was created by Wang and his colleagues [12]. MMHI-60-AS is a self-reported questionnaire purposefully developed for Chinese students based on Chinese culture and adolescents' characteristics in school settings and widely used in prior research focusing on questions related to schoolwork and tests [13].

### 2.2 Survey Content and Instrument

Demographic information, including age, gender, grade level, and student ID, was included in the survey. The survey comprised 26 questions: the full set of 20 from the Parent-Child Cohesion Questionnaire and the full set of 6 from the MMHI-AS.

#### 2.2.1 Parent-child relationship

Zhang and colleagues translated and revised the Parent-Child Cohesion Questionnaire based on Olsen's Family Adaptability and Cohesion Evaluation Scale II [14,15]. This questionnaire comprises 20 items, with two dimensions: 10 items for the father and 10 for the mother. Items are identical for both subscales, for example, "I feel very close to my father" and "I feel very close to my mother". Responses are rated on a 5-point Likert scale, where "never" was answered as 1 and "always" was answered as 5. The higher the scores, the stronger the parent-child relationship. Items 3, 4, 8, and 9 were reverse-coded to ensure consistency during coding. Previous studies have demonstrated reliable internal consistency for this survey, with a Cronbach's alpha of 0.83 for the complete set; subscale internal consistency for the father-child subscale was 0.81, and for the mother-child subscale was 0.75, based on prior results [9,16].

In the present study, parent-child scales as well as each subscale demonstrated satisfactory reliability: the par-

ent-child scale demonstrated Cronbach's  $\alpha=0.91$ , the father-child subscale showed Cronbach's  $\alpha=0.901$ , and the mother-child subscale showed Cronbach's  $\alpha=0.898$ .

### 2.2.2 Academic stress

MMHI-60 is a comprehensive questionnaire comprising 10 dimensions and six questions per dimension. For this study, only the six questions related to Academic anxiety were used in the data analysis. Sample questions for MMHI-AS include "I feel the study burden is very heavy", "I feel nervous when I hear that I am going to take an exam", and "I worry that the teacher will ask me a question during class". Answers were collected via a 5-point Likert scale from 1-meaning "never", to 5-meaning "severe". The overall score was determined by summing the items from the entire survey and dividing by the number of questions asked; higher scores indicated a higher level of academic stress. The internal consistency of the MMHI-AS was satisfactory, as evidenced by a previous study reporting a Cronbach's alpha of 0.82 [13]. MMHI-AS exhibited a good internal reliability (Cronbach's  $\alpha=0.82$ ) in the present study.

### 2.3 Participants

The present study collected self-reported data from an international high school in Shenzhen, Mainland China. A total of 458 questionnaires were collected, and 456 were analyzed after excluding two incomplete surveys. Participants were from 4 grade levels--freshmen (Y1), sophomores (Y2), juniors (Y3), and seniors (Y4). Age ranging from 13 to 20.

The survey was administered to students via a secure link during a 35-minute session under mentors' supervision. All class mentors received standardized training beforehand and were provided with written scripts. Parental consent and participants' assent were obtained. Students were informed beforehand that their participation was completely voluntary, and they could withdraw from the survey at any time without any penalty from the school. Lastly, students whose scores were higher than the clinical cut-off were followed up by school counselors for additional support.

## 3. Results

Descriptive statistics and correlation analyses in this study were performed using SPSS 31.0. Frequency analysis was used to describe the data, including grade level, age, and gender. Descriptive statistics were computed for the key variables, including parent-child relationships (maternal and paternal) and academic anxiety. Additionally, the significance of the parent-child relation and academic

anxiety was examined through Pearson correlation. Lastly, multiple linear regression was employed to further explore whether father or mother played a different role in predicting academic stress. Statistical significance was set at  $p < 0.05$ .

### 3.1 Descriptive Statistics

There were 175 (38.4%) boys and 281 (61.6%) girls out of the 456 participants with valid data. Each grade level had the following numbers of data: 169 from Y1 students (37.1%); 116 from Y2 students (25.4%); 85 from Y3 students (18.6%); and 86 from Y4 students (18.9%). The sample age mean was 15.94 years ( $SD = 1.27$ ).

The average score for Academic stress from this sample was 2.58 ( $SD = 0.95$ ), indicating that students reported having a medium level of academic stress. The Parent-child relationship had a mean score of 3.16 ( $SD = 0.74$ ), demonstrating that students reported having a relatively good relationship with parents. The mean score of the father-child relationship was 2.86 ( $SD = 0.91$ ). The average scores for the mother-child relationship was 3.45 ( $SD = 0.90$ ). Based on these descriptive results, students reported a slightly higher level of academic stress and stronger relationships with their mother than with their father.

### 3.2 Pearson's Correlation

The next step was to examine whether a relationship exists between the parent-child relation and academic anxiety. Results illustrated that Academic anxiety was significantly correlated with Parent-child relation ( $r = -0.179$ ,  $p < 0.001$ ). A negative correlation was also found between academic anxiety and father-child relation ( $r = -0.210$ ,  $p < 0.001$ ). However, results did not show a significant correlation between academic stress and mother-child relationship ( $r = -0.087$ ,  $p = 0.063$ ) based on two-tailed tests, indicating no linear relationship between the two variables. Both Parent-child and father-child relationships were inversely associated with academic stress, as indicated by the Pearson correlation analysis.

### 3.3 Regression

Furthermore, a multiple regression was performed to explore the predictive effect of the parent-child relationship on academic stress. Findings in Table 1 showed a negative impact of parent-child relationship on academic stress ( $F(1,454) = 15.064$ ,  $p < 0.001$ ), indicating that the better parent-child relationship, the lower level of academic anxiety ( $B = -0.23$ ,  $\beta = -0.179$ ,  $p < 0.001$ ). Results showed that the parent-child relationship explained 3% of the variance in academic stress scores ( $R^2 = 0.032$ , Adjusted  $R^2 = 0.03$ ), in-

dicating it can partially account for academic anxiety.

**Table 1. Regression Analysis of the Effect of Parent-Child Relationship on Academic Stress.**

Predictor	B	SE	$\beta$	t	p
Constant	3.303	0.192		17.203	< 0.001
Parent-Child	-0.230	0.059	-0.179	-3.881	< 0.001

\*The dependent variable was Academic Stress. B = unstandardized coefficient; SE = standard error;  $\beta$  = standardized coefficient.

To further elucidate the nuances, the current study also examined the relation between father-child relationships and academic stress. Results indicated that the father-child relationship significantly predicted academic stress ( $F(1,$

454) = 20.87,  $p < 0.001$ ). The results revealed that students who reported better father-child relationships tended to exhibit lower levels of academic stress, as shown in Table 2 ( $B = -0.219$ ,  $\beta = -0.210$ ,  $p < 0.001$ ). The finding also revealed that the father-child relationship explained 4.2% of the variance in academic stress ( $R^2 = 0.044$ , Adjusted  $R^2 = 0.42$ ).

**Table 2. Regression Analysis of the Effect of Father-Child Relationship on Academic Stress.**

Predictor	B	SE	$\beta$	t	p
Constant	3.204	0.144		22.27	< 0.001
Father-Child	-0.219	0.048	-0.210	-4.568	< 0.001

\*The dependent variable was Academic Stress.

Lastly, the result exhibited a high tolerance value (Tolerance = 0.837) when mother-child was excluded from the analysis to assess the potential contribution. This demonstrated that no issue was found with multicollinearity.

In summary, the present study's findings evidenced that poorer parent-child relationships predict higher level of academic anxiety in international high school students. Findings also supported that the father played a more important role when it comes to predicting academic anxiety in this educational setting than to mother, highlighting the unique paternal role.

## 4. Discussion

The current results further supported that academic anxiety could be negatively predicted by parent-child relationship, aligned with previous findings in a public-school setting [6,7]. However, results also discovered that parent-child relation is not a very strong predictor, and the difference between father-child and mother-child relations when it comes to predicting academic anxiety is worth discussing.

The present study found that parent-child relations accounted for 3.2% of academic anxiety, suggesting that parents may not be as involved with adolescents' academic work as they were in the past. Parents, especially those from higher SES, may be becoming less involved in adolescents' schoolwork due to busier work schedules, less time for parent-child interaction, and greater educational

resources, in which parents have outsourced their role to tutors or online tools as technology has developed. A meta-analysis conducted by Erdem and Kaya indicated a decline in parental involvement in academic achievement in recent years, illustrating that potential parental roles may be influenced by environmental factors, wealth, and locations [17].

In addition to parental roles changing, fathers and mothers may also play different gender-based roles in child-rearing, which could explain the paternal versus maternal differences observed in the current study. Traditional Chinese fathers are often perceived as more assertive and playing an active role in child-rearing, in which they are only reached for help when a child is struggling or shows a decline in grades. A prior study also found that paternal later school involvement was negatively related to student achievement [18]. What's more, fathers may place more expectations on academic outcomes than mothers, especially for families where fathers are the primary income source. Though Chinese mothers are often perceived as warm and supportive, they could also play a complex role when it comes to academic anxiety. Studies have found that maternal warmth and support positively impact academic achievement, yet mothers' psychological control also harms it [19,20].

Lastly, the familial characteristics of students studying in an international setting, while living in the local culture, should also be addressed. These students typically attend public schools from preschool through middle school and may feel overwhelmed by the English-language learning

environment once entering high school. Studies have found that language differences could create an extra barrier to stress in comprehending class material and contribute to anxiety as well as maladjustment [2]. Therefore, environmental factors uniquely related to international high schools could also contribute to reported academic anxiety and reduce parental influence at home.

In sum, expanding programs and training for fathers and recognizing the unique challenges posed by the international system within the host culture could be crucial to preventing academic anxiety in this setting.

## 5. Conclusion

The current study is limited by its cross-sectional design, single-region sample from one international school in Shenzhen, Guangdong, and single-informant measurement. Future research could use longitudinal or experimental designs to clarify the directionality of these associations. Including multi-informant data could also provide a comprehensive overview of parent-child relationships.

The present findings indicate that parent-child relations, specifically father-child relations, negatively predict academic stress, consistent with prior results from public schools. Surprisingly, there was no significant association for the mother-child relationship, which implied that a parental gender role difference may impact how it influences adolescents' academic anxiety. The current study is a small step towards bridging the gap between public school and international school settings. Future research could examine the underlying mechanisms by which paternal versus maternal roles influence academic stress among international high school students living in the local culture.

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