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Parental Educational Expectations, Academic Pressure, and Adolescent Mental Health: An Empirical Study Based on CEPS Survey Data

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ABSTRACT

Background: This study aimed to investigate the relationship between parental educational expectations and adolescent mental health problems, with academic pressure as a moderating variable. **Methods:** This study was based on the baseline data of the China Education Panel Survey, which was collected within one school year during 2013–2014. It included 19,958 samples from seventh and ninth graders, who ranged from 11 to 18 years old. After removing missing values and conducting relevant data processing, the effective sample size for analysis was 16344. The OLS (Ordinary Least Squares) multiple linear regression analysis was used to examine the relationship between parental educational expectations, academic pressure, and adolescents' mental health problems. In addition, we established an interaction term between parents' educational expectations and academic pressure to investigate the moderating effect of academic stress. **Results:** The study found that adolescents whose parents had high educational expectations reported less mental health problems. ($\beta = -0.195$; $p < 0.001$). Additionally, adolescents who had high academic pressure reported more mental health problems. ($\beta = 0.649$; $p < 0.001$). Furthermore, the study found that academic pressure had a significant moderating effect on the relationship between parental educational expectations and adolescents' mental health problems ($\beta = 0.082$; $p < 0.001$). **Conclusion:** Parental educational expectations had a close relationship with adolescents' mental health problems, and academic pressure moderated this relationship. For those adolescents with high levels of academic pressure, the association between high parental educational expectations and mental health problems became stronger. On the contrary, for those adolescents with low levels of academic pressure, the association between high parental educational expectations and mental health problems became weaker. These findings shed new light on how parental educational expectations affected adolescent mental health problems and had significant implications for their healthy development.

KEYWORDS

Parental educational expectations; academic pressure; adolescent mental health problems

Introduction

The United Nations Children's Fund and the World Health Organization released a report in 2019 stating that approximately 20% of the world's 1.2 billion adolescents aged 10 to 19 had mental health problems, and about 16%

of the diseases and injuries suffered by this age group were caused by mental health problems [1]. A large amount of research data also indicated that mental health problems became a common issue faced by a large number of adolescents during puberty [2,3], and mental health problems among adolescents became increasingly apparent



with the advent of the information age and rapid economic development [4]. A study from Vietnam showed that out of 1159 middle school students, 22.8% and 41.1% reported symptoms of anxiety and depression separately, 26.3% considered suicide, and 12.9% developed suicide plans. The reasons for the above problems were family and academic pressure [5]. A study from the United Arab Emirates showed that the mental health problems of adolescents in the UAE were increasingly influenced by parents' academic expectations and the school climate [6]. Another study from Sweden also stated that Swedish teenagers also had mental health problems, and girls had significantly higher mental health problems than boys [7]. In the face of such a severe reality, preventing, and timely diagnosing possible mental health problems in adolescents, providing objective and realistic recommendations, as well as providing necessary treatment solutions, were key focuses of related research. Current research showed that the mental health of adolescents was mainly influenced by three important structural factors: family, school, and society [6]. In the microsystem of family, different factors had different degrees of influence on the mental health of adolescents, among which parental educational expectations were an important influencing factor [8]. Existing research showed that parental educational expectations could have an impact on the mental health problems of adolescents, but there was relatively little research on the mechanism by which parental educational expectations affected adolescent mental health. This article sought to reveal the specific mechanism by which parental educational expectations influenced the mental health of adolescents.

Parental educational expectations and adolescent mental health problems

Conceptually, parental educational expectations referred to the highest level of education that parents believed their children could achieve in the future [9,10]. Previous research has shown that parental educational expectations significantly contributed to adolescents' future academic achievements and social development [11]. However, most studies focused on academic or future achievement and overlooked the impact of parental educational expectations on the mental health problems of adolescents who were in a phase of physical and intellectual development.

In theory, the living environment and individual growth were important factors that affected mental health. The ecological systems theory proposed by developmental psychologist Bronfenbrenner provided important theoretical support for studying the relationship between the environment and individual psychological development [12]. It stated that the influence of the environment on individuals could be summarized as a nested system centered on the individual. The core of the system was the individual's physiological and psychological characteristics, encircled by the microsystem, which directly affected the individual, including family, school, peers, etc., then the mesosystem, exosystem, macrosystem, and the chronosystem located in the outermost layer due to the environmental changes. According to this theory, we could see that the family microsystem was the most direct factor

that influenced the physiological and psychological development of individuals. Compared with other types of microsystems, the family was an important source of adolescent role shaping and emotional regulation, not only providing help in the initial stage of adolescent socialization but also continuously playing a role in their subsequent growth and development.

The behavior, ideas, and thoughts of parents in the family microsystem, including parent-child relationships, parent-child interactions, parenting styles, and parental educational expectations, significantly affected the psychological development of adolescents [13,14]. Based on Swedish survey data, Almroth found that there was only a weak association between parental educational expectations and internalization problems (such as depression and other negative psychological outcomes) in adolescents [15]. However, more evidence indicated that parental educational expectations significantly affected the mental health problems of adolescents, but there was still controversy on the specific direction of their effects.

On the one hand, some scholars believed that high parental educational expectations did not lead to mental health problems in adolescents. The earliest evidence came from Resnick and his colleagues, who found a negative correlation between parental educational expectations and adolescent depression and other psychological problems based on data from the US National Longitudinal Study of Adolescent Health. As parental educational expectations increased, the emotional depression levels detected in adolescents significantly decreased [16]. However, it should be noted that in their model, parental educational expectations only served as a control variable. Building on this work, Gerard and Booth further investigated parental educational expectations as the core explanatory variable and found a negative correlation between parents' educational expectations and adolescent depression, which was consistent with Resnick's findings [14]. A study from Ireland also supported this view. McCoy et al. found that when parents' educational expectations were lower, Irish children with disabilities had a worse self-concept (measured by indicators such as physical appearance, anxiety-free, intelligence and school status, behavioral adjustment, happiness and satisfaction, and popularity) [17].

On the other hand, more empirical research indicated that high parental educational expectations harmed adolescent mental health. For example, some scholars indicated that adolescents might experience stress to meet their parents' high educational expectations, which in turn increased the risk of internalizing problems [18]. Research by Lee et al. found that some young people in China and Vietnam displayed negative emotions such as shame, embarrassment, and frustration in response to their parents' high educational expectations [19]. Ma et al.'s study on Hong Kong adolescents also found a positive correlation between parental educational expectations and adolescent depression [20].

From a sociocultural perspective, scholars believed that Asian culture was deeply influenced by Confucian philosophy, which not only encouraged parents to have higher expectations for their children and cost more money

for their learning but also educated children to obey and satisfy their parents' expectations and needs [21,22]. Because Asian families emphasized the beliefs of family honor, filial piety, and hard work, these beliefs were transferred to their children as a hope for them to achieve higher academic achievement, which might put significant psychological pressure on adolescents and cause more mental health problems [23–25]. A cross-cultural study by Oishi et al. further supported this view [26]. Their research compared Asian American adolescents, especially Japanese American with native American adolescents and found that the happiness levels reflected by adolescents facing their parents' high expectations varied across cultural differences. Overall, adolescents deeply influenced by Asian culture had lower levels of happiness than those influenced by Western culture. Of course, the negative impact of parental educational expectations was not only present in Asian families but also appeared in Western countries. There were studies indicating that high educational expectations from parents in Western countries could cause more mental health problems for teenagers [27,28].

To sum up, parental educational expectations were an important factor that affected adolescent mental health problems, but their specific effects were still controversial.

Parental educational expectations, academic pressure, and adolescent mental health problems

In psychological research, Lazarus defined stress as a cognitive process in which an individual subjectively perceived external stimuli or events, environmental factors, or other elements as a threat to oneself [29]. Individual's experiencing stress might suffer from internalized problems such as psychological tension and physical discomfort. Evidence from medical research showed that long-term stress could have persistent negative physiological and psychological effects on individuals [30]. Empirical studies found that there were many causes of stress in adolescents, including family, academic performance, social networks, and community environments [31–33]. Academic pressure was the most significant source of stress for adolescents during their developmental years [34]. Evidence from a survey of 15,055 high school students in Henan, China, supported this view, with 58.9% of students reporting academic pressure [35]. This type of academic pressure reached its peak in the final years of junior and senior high school [34], while the possible reason for this might be that Chinese society placed great emphasis on the education of young people. However, evidence from Western countries also supported that academic pressure was the most significant source of stress for adolescents [36], compared to adolescents in Western countries, Chinese students had faced greater academic pressure [37].

Empirical research identified the relationship between academic pressure and adolescent mental health. Specifically, Tang conducted a systematic analysis of social and psychological risk factors for mental health issues among Chinese middle school students and found that the greater the academic pressure experienced by adolescents, the more severe their depressive symptoms [38]. Similarly,

Quach found a strong link between academic pressure and the psychological distress of adolescents [39]. Jayanthi's research in India also showed a significant association between academic pressure and depression among adolescents [40]. Consequently, Zhu found that academic pressure could predict adolescent mental health issues well [41]. The above studies indicated that academic pressure had a serious negative impact on adolescent mental health. When adolescents faced academic pressure that exceeded their ability to cope, it often resulted in some negative outcomes, including depression, anxiety, low self-esteem, and suicidal thoughts [42], and might even lead to the emergence of externalizing problems.

Furthermore, we needed to identify the sources of academic pressure. One scholar believed that academic pressure stemmed from two aspects: internal psychological states such as fear of failure, worry about the future, and fear of exams; as well as external pressure events such as parental educational expectations, teacher expectations, and peer pressure [43]. Subramani's survey also indicated that the biggest sources of academic stress for high school students were parental expectations and fear of exams [44]. Among these, we could see that parental educational expectations were an important source of academic pressure for adolescents [43]. Especially in the Chinese cultural context. For a long time, The Chinese people thought that there was a close relationship between educational achievement with economic success and social status in their cultural and educational concept and parents often had high educational expectations for their children. The academic pressure caused by high parental educational expectations could lead to negative outcomes for adolescents, including academic burnout, psychological distress, and suicidal thoughts [45]. Therefore, it was important to pay attention to the educational expectations of parents and the potential impact on their children's mental health.

Unfortunately, there has been little discussion regarding the moderating effect of academic pressure on the impact of parental educational expectations on adolescent mental health problems. Existing literature mainly focused on the mediating effect of academic pressure between parental educational expectations and adolescent mental health, which suggested that the academic pressure caused by high parental educational expectations could cause more adolescent mental health problems [39,45]. We believed that academic pressure might moderate the effect of parental educational expectations on adolescent mental health, which was overlooked in previous research. According to the self-difference theory developed by Higgins, when there was a conflict between the ideal self of important others and the actual self of oneself, individual would experience more mental health problems [46]. For this study, parental educational expectations were derived from the ideal selves of important others, and the academic pressure perceived by adolescents was their real selves. The authors estimated that for adolescents who perceived high academic pressure, the high educational expectations of parents would cause more mental health problems.

A new analytical framework and hypotheses

Ecological system theory partially explained the influence of parental educational expectations on adolescent mental health in the family microsystem. However, in previous research, there was controversy about the relationship between parental educational expectations, academic pressure, and adolescent mental health. On the one hand, some scholars believed that high parental educational expectations could reduce the likelihood of adolescents experiencing internal problems. On the other hand, most scholars believed that high parental educational expectations in the family microsystem had a serious negative impact on adolescent mental health and led to the occurrence of internal and external problems. Our study provided support for this controversy from a Chinese background, and we constructed a new analytical model that covered learning pressure and parental educational expectations (Fig. 1).

Existing ecological system theory research only discussed the relationship between parental educational expectations and adolescent mental health problems, lacking consideration of the academic pressure brought by parental educational expectations. However, according to the self-difference theory developed by Higgins, the influence of parental educational expectations on mental health problems might be moderated by academic pressure. Specifically, high parental educational expectations might cause pressure on adolescents. When the perceived pressure was too great, it would cause more mental health problems. However, when the perceived pressure was within a tolerable range, high parental educational expectations might cause fewer mental health problems. Therefore, we proposed the following hypotheses:

Hypothesis 1: *There was a significant relationship between parental educational expectations and adolescent mental health problems.*

Hypothesis 2: *Academic pressure on adolescents would affect their mental health problems, and the greater the perceived pressure was, the worse their mental health status would be.*

Hypothesis 3: *The influence of parental educational expectations on adolescent mental health problems was moderated by academic pressure. When parental educational expectations were higher and adolescents perceived greater pressure, their mental health status would be worse. When parental educational expectations were higher but adolescents perceived less pressure, their mental health would be promoted.*

Methods

Data

The data used in this study was from the China Education Panel Survey (CEPS) 2013–2014 baseline data. CEPS was a large-scale longitudinal survey project designed and implemented by the National Survey Research Center (NSRC) at Renmin University of China. The baseline survey took the average education level of the population and the proportion of the floating population as stratified variables. The specific methods of Probability Proportionate to Size Sampling (PPS), which included four stages of investigation, were used for the survey. The first stage involved the selection of 28 counties in China. In the second stage, four schools were sampled from each of the aforementioned 28 counties, with a focus on schools that enrolled both seventh and ninth-grade students. The third stage involved the sampling of four classrooms from each of the selected schools, including two seventh-grade classes and two ninth-grade classes. Among the selected counties, 112 schools and 438 classes were randomly selected for the survey. The students in the sampled classrooms constituted the final survey sample. The CEPS 2013–2014 baseline student data included 19,958 samples from seventh and ninth graders. After removing missing values and conducting relevant data processing, the effective sample size for analysis was 16344.

Dependent variable

The dependent variable in this study was the mental health problems of adolescents. The A18 scale from the CEPS student questionnaire was selected to measure this variable. The scale consisted of five related questions, which asked respondents how they perceived the following emotions over the past seven days, including “feeling depressed,” “feeling down,” “feeling unhappy,” “feeling that life is meaningless,” and “feeling sad.” The responses to these questions were scored on a five-point scale from “never” to “always.” The reliability of the scale was tested and found to be good ($\alpha = 0.85$). Each response was assigned a score of 1 to 5, with a total score ranging from 5 to 25. A lower score indicated less mental health problems, while a higher score indicated more mental health problems.

Independent variable

The main independent variable in this study was parental educational expectations. B31 from the CEPS student

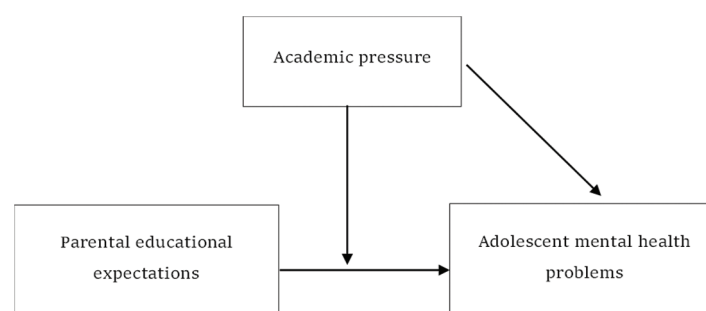


FIGURE 1. The conceptualized analytical framework of adolescent mental health.

questionnaire was selected to measure this variable. There were nine response options (with option 10 as a missing value) for the question, and the score was assigned from 1 to 9, with a higher score indicating higher parental educational expectations and a lower score indicating lower expectations. Additionally, academic pressure was included as a moderating variable. B32 from the questionnaire was used to measure academic pressure, with responses ranging from “no stress” to “very high stress.” The responses were scored from 1 to 5, with a higher score indicating higher academic pressure and a lower score indicating lower academic pressure.

Control variables

The control variables in this study included age, gender, household registration type, whether the participant was an only child, the father’s education level, and the mother’s education level. Gender was transformed into a dummy variable, with males assigned a score of 1. Household registration type was also transformed into a dummy variable, with agricultural household registration assigned a score of 1. By the same token, the only child was transformed into a dummy variable, with being an only child assigned a score of 1. Father’s and mother’s education levels were transformed into the number of years of education completed and formed a continuous variable (See Table 1).

Analytical strategy

Stata 16.0 statistical software was used for data processing in this study. First, ordinary least squares (OLS) linear regression analysis was conducted, using the following formula:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_i X_n + \mu_n$$

Here, X represented all independent variables that affected adolescent mental health, Y represented the dependent variable of adolescent mental health, and β represented the coefficient. Next, moderated effect analysis was conducted to further examine the relationship between parental educational expectations and adolescent mental

health under the influence of academic pressure. The following formula was used:

$$Y = \beta_0 + \beta_1 X + \beta_2 M + \beta_3 MX + e$$

Here, Y represented the dependent variable, X represented the centered parental educational expectations, M represented the centered academic pressure, and MX represented the moderating variable, which was the interaction between parental educational expectations and academic pressure.

In addition, the authors established four regression models to analyze the relationship between parental educational expectation, academic pressure, and adolescent mental health. Firstly, control variables were added to the model to generate Model 1, which aimed to examine the specific situation of the control variables. Then, the core explanatory variable of parental educational expectation and the moderating variable of adolescent academic pressure were added to the model to generate Model 2 and Model 3 respectively, in order to examine the impact of the core explanatory variable “parental educational expectation” and the moderating variable “adolescent academic pressure” on adolescent mental health.

To further explore the moderating effect of academic pressure on the relationship between parental educational expectations and adolescent mental health, the authors generated a new variable, which was the interaction term between parental educational expectations and adolescent academic pressure, and included it in Model 4 to form the overall model. Before creating the interaction item, the authors have centralized these two variables. The purpose of Model 4 was to investigate whether adolescent academic pressure moderated the effect of parental educational expectations on adolescent mental health.

Results

Descriptive analysis

Table 2 presents the results of descriptive statistics and correlation analysis. It could be observed from Table 2 that the mean score for male adolescent mental health was 10.31,

TABLE 1

Basic information of variables

Variables	Mean	SD	Min	Max	N
Mental health	10.39	4.04	5	25	16344
Parental educational expectation	6.63	1.56	1	9	16344
Academic pressure	3.06	1.1	1	5	16344
Age	13.91	1.33	11	18	16344
Father’s education level	10.21	3.11	0	19	16344
Mother’s education level	9.43	3.48	0	19	16344
		Percentage		Percentage	
Sex	Male	50%	Female	50%	16344
Household registration	Rural	54%	Urban	46%	16344
Only child	Yes	44%	No	56%	16344

Note: The data in this table are all from the CEPSS2013–2014 baseline survey data.

TABLE 2

Tentative description results

Variables		Mean of mental health	Sig	N
Sex	Male	10.31	$p < 0.01$	16344
	Female	10.54		
Only child	Yes	10.20	$p < 0.01$	16344
	No	10.61		
Household registration	Rural	10.48	$p > 0.05$	16344
	Urban	10.37		
		Cor. coef. between variables and mental health	Sig	
Age		0.105	$p < 0.01$	16344
Father's education level		-0.050	$p < 0.01$	16344
Mother's education level		-0.078	$p < 0.01$	16344
Parental educational expectation		-0.080	$p < 0.01$	16344
Academic pressure		0.171	$p < 0.01$	16344

while the mean score for female adolescent mental health was 10.54. The correlation test result showed a significance level of $p < 0.01$, indicating a significant difference in mental health levels between male and female adolescents. In terms of only children, the mean mental health score for only children was 10.20, and for non-only children, it was 10.61. The correlation analysis result was significant with a p -value of less than 0.01, indicating a significant difference in mental health levels between only children and non-only children. As for household registration, the mean mental health score was 10.48 for rural household registration and 10.37 for urban household registration. The correlation test result showed a p -value greater than 0.05, indicating no significant difference in mental health levels among adolescents with different household registrations. In terms of age, the correlation test result was significant with a p -value less than 0.01 and a coefficient of 0.105, indicating a positive correlation between age and adolescent mental health. In terms of the father's education level, the correlation test result was significant with a p -value less than 0.01 and a coefficient of -0.050, indicating a significant negative correlation between the father's education level and adolescent mental health. However, in terms of the mother's education level, the correlation test result was significant with a p -value less than 0.01 and a coefficient of -0.078, indicating a significant negative correlation between the mother's education level and adolescent mental health. In terms of parental educational expectations, the correlation test result was significant with a p -value less than 0.01 and a coefficient of -0.080, indicating a significant negative correlation between parental educational expectations and adolescent mental health. Finally, in terms of academic pressure, the correlation test result was significant with a

p -value less than 0.01 and a coefficient of 0.171, indicating a significant positive correlation between academic pressure and adolescent mental health.

Basic analysis results

The aforementioned correlation analysis was only a preliminary exploration of the relationship between independent and dependent variables. To further analyze the causal relationship between the two, the authors established four regression models.

The results of Model 1 in Table 3 showed that among the demographic variables of adolescents, firstly, age had a significant impact on the mental health level of teenagers. For each increase in age unit, the mental health level of adolescents would decrease by 0.297 units. Secondly, the gender of adolescents had a significant effect on their mental health status. Specifically, male adolescents had better mental health than female adolescents, and the probability of female adolescents having mental health problems was 0.233 units less than that of male adolescents. Then, the household registration status of adolescents had a significant impact on their mental health status. It was found that the probability of mental health problems for adolescents with agricultural household registration was 0.249 units lower than that of adolescents with non-agricultural household registration. The status of being an

TABLE 3

Linear regression results

	Model 1	Model 2	Model 3	Model 4
Age	0.297*** [0.000]	0.268*** [0.000]	0.260*** [0.000]	0.260*** [0.000]
Sex	-0.233*** [0.000]	-0.266*** [0.000]	-0.354*** [0.000]	-0.360*** [0.000]
Household registration	-0.249*** [0.001]	-0.251*** [0.001]	-0.268*** [0.000]	-0.266*** [0.000]
Only child	-0.211** [0.003]	-0.203** [0.005]	-0.168* [0.018]	-0.159* [0.024]
Father's education level	0.002 [0.851]	0.020 [0.148]	0.030* [0.026]	0.032* [0.017]
Mother's education level	-0.072*** [0.000]	-0.062*** [0.000]	-0.045*** [0.000]	-0.045*** [0.000]
Parental educational expectation (PEE)		-0.157*** [0.000]	-0.197*** [0.000]	-0.195*** [0.000]
Academic pressure (AP)			0.661*** [0.000]	0.649*** [0.000]
PEE*AP				0.082*** [0.000]
Constant	7.278*** [0.000]	8.440*** [0.000]	6.581*** [0.000]	6.570*** [0.000]**
N	16344	16344	16344	16344
R ²	0.017	0.019	0.051	0.052

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

only child could also affect adolescents' mental health levels of teenagers. The mental health level of adolescents who were only children was 0.211 units higher than those who were not. Finally, the mother's education level had a significant effect on the mental health status of adolescents. Specifically, for each unit increase in the mother's education level, the probability of adolescents having mental health problems would decrease by 0.072 units.

The results of Model 2 in Table 3 showed that parental educational expectations had a significant negative impact on adolescents' mental health problems, for every 1-unit increase in parental educational expectations, adolescent mental health problems would decrease by 0.157 units. The statistical results confirmed the previous hypothesis 1. The results of Model 3 in Table 3 showed that academic pressure had a significant negative impact on adolescents' mental health problems, for every 1-unit increase in parental educational expectations, adolescent mental health problems would increase by 0.661 units. The statistical results confirmed the previous hypothesis 2.

Overall, the regression results indicated that higher parental educational expectations caused fewer mental health problems for adolescents and higher academic pressure caused more mental health problems for adolescents.

Moderation analysis results

The results of Model 4 showed that, from the main effect alone, parental educational expectations had a significant negative impact, that was, for every 1-unit increase in parental educational expectations, adolescent mental health problems would decrease by 0.195 units. The coefficient of the interaction term between parental educational expectations and adolescent academic pressure was significantly positive. When adolescents perceived academic pressure, for every 1-unit increase in educational expectations, its negative effect on mental health would increase by 0.082 units.

This result suggested that academic pressure had a negative moderating effect on the relationship between parental educational expectations and adolescent mental health. Specifically, the association between high parental educational expectations and mental health problems became stronger for those adolescents with high levels of academic pressure. On the contrary, the association between

high parental educational expectations and mental problems became weaker for those adolescents with low levels of academic pressure. It can be seen that the slope change direction of the two-line segments was different in Fig. 2, which indicated the aforementioned analysis. The statistical results confirmed the previous hypothesis 3.

Discussion

Through the analysis of the data from the China Education Panel Survey, this study explored the impact of parental educational expectations on the mental health of adolescents in the microsystem of the family. Based on the results of data analysis, this paper identified a new pathway through which parental educational expectations affected the mental health of adolescents.

Firstly, we found that academic pressure would cause more mental health problems for adolescents, which was consistent with previous research, especially in countries with an Asian cultural background where the internalization of academic pressure was particularly prominent. For example, Juon found that academic pressure was one of the predictive factors for suicide behavior among Korean adolescents [47]. Similarly, evidence from Singapore showed that 220 high school students in Singapore viewed "being forced to keep up with academic work" as their primary concern [48]. Evidence from Vietnam, the United Arab Emirates, and India also indicated that high academic pressure could cause more mental health problems for adolescents [5,6,43]. The main reason for this was that in Asian culture, school education was considered very important, and parents had high expectations and demands for their children's education [49].

Secondly, we found that adolescents whose parents had high educational expectations reported fewer mental health problems. There was a debate in previous research on the direct impact pathway of parental educational expectations on the mental health problems of adolescents. Most scholars believed that high parental educational expectations would harm the psychological development of adolescents and lead to internalization and externalization problems [18–20]. For example, foreign scholars compared Chinese immigrant families with families in the United States, Canada, and other countries and found that Chinese immigrant families

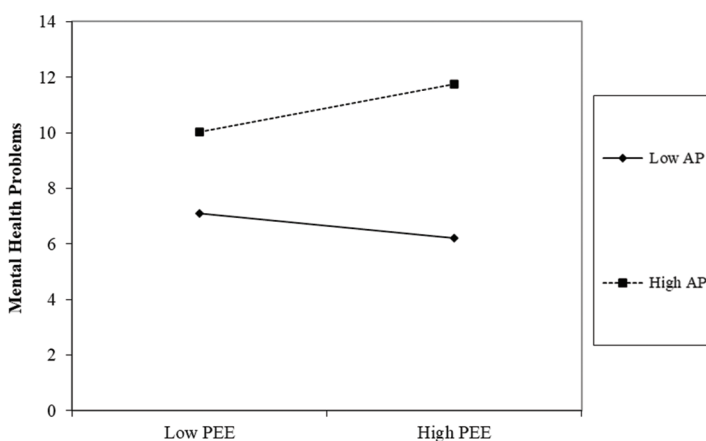


FIGURE 2. The moderating effect of Academic Pressure (AP). Note: The value of high parental educational expectations was the mean plus one standard deviation, while the value of low parental educational expectations was the mean minus one standard deviation.

placed more emphasis on the education of adolescents, thus having higher educational expectations. This excessive educational expectation not only caused psychological distress to children with lower educational achievements but also affected children with higher educational achievements. The latter believed that their parents only focused on education and neglected other aspects of development, such as the social and emotional needs of themselves [50,51]. Lucia Ciciolla and others also found that when mothers had high expectations for their children's education and harsh criticism at the same time based on survey data from affluent white communities in the United States, the stress levels and social risk management abilities of adolescents would decrease [27]. However, some scholars believed that high parental educational expectations did not have an impact on the psychological development of adolescents but were more conducive to their mental health management, and even low educational expectations could lead to internalization problems among adolescents [14,16,17]. As these studies were conducted in the Western world, there was a lack of evidence from China. This paper provided support for the claim that high parental educational expectations were more conducive to the mental health management of adolescents based on survey data from China.

Thirdly, the study further provided reasons why high parental educational expectations could cause fewer adolescent mental health problems, which was due to the moderating effect of academic pressure perceived by adolescents on the impact of parental educational expectations on adolescent mental health problems. We only have found in the existing literature that Lu's research was closest to our research results, which indicated that high academic pressure perceived by adolescents was likely to attenuate the beneficial impact of high parental educational expectations on adolescent subject well-being [52]. Our study indicated when adolescents felt highly pressured, parents' high educational expectations caused more mental health problems. When adolescents did not feel high pressure, high parental educational expectations only caused fewer mental health problems and might even help promote better mental health status. High parental educational expectations could provide positive motivation, reflecting parents' concern for their children's lives and learning. Based on feedback from this positive motivation, adolescents could regulate their mental health levels. When the motivation became pressure that was too strong for the adolescent to handle, it would cause a decrease in their mental health level, and increase more mental health problems. Therefore, we could see that an individual's response to stress did not only depend on external factors but also on their perception and evaluation of the stress event. In other words, when different individuals faced the same stressful event, some people could handle it well, while others might feel unable to cope with it, leading to emotional instability and a decline in their mental health. This discovery provided new ideas for preventing and alleviating adolescent mental health problems.

The above research conclusion suggested that the relationship between parents and children in family life was not a one-dimensional influence. There was a "stimulus-

response" model between parental behavior and children's reaction, where parents' words and actions stimulated children, and children responded accordingly. Moreover, even children resisted their parents, and they still understood and appreciated their parents' efforts based on their parents' behavior. According to Rachel Seginer, based on research experience in Europe and America, adolescent-parent conflicts were only exceptions and did not have generality [53]. In Chinese traditional family, children seldom expressed their troubles and psychological problems to their parents directly, the authors suggested that schools should hold activities to facilitate intimate dialogues between parents and children as a mediator. In this way, parents and children could gain a deeper understanding of each other and thereby alleviated the mental health problems that had already occurred or were about to occur in adolescents. Compared with the family, schools were the second most important place where individuals were socialized, the behavior and actions of teachers and classmates in schools would greatly affect students' cognitive thinking and actions.

In addition, parents should establish a comprehensive understanding of their children and be attentive to identifying any new psychological issues that might arise. Adolescents were in a critical period of learning and facing tremendous academic pressure, which might inevitably lead to psychological problems. This was why parental care was particularly necessary. Empirical research has shown that good parent-child interaction and a positive parent-child relationship had a positive impact on the mental health of adolescents [54]. Moreover, research showed that the absence of a good parent-child relationship and a weakened sense of family belonging could lead to mental health problems in college students [55]. So the absence of either the father or mother in the family structure would have an impact on the growth of children [56].

Limitations

Although this study has achieved some expected results, there were limitations due to objective conditions. Firstly, the data used in the study was from nearly 10 years ago and might not be able to explore changes in the mental health of adolescents today. Secondly, the mental health of adolescents was a continuous and easily fluctuating process, which required the introduction of tracking data for further analysis.

Presently, China's educational policy has evolved into a "double reduction" approach, aiming to alleviate the homework load on compulsory education students and lessen the off-campus training demands for this student group. This policy shift is anticipated to alleviate academic pressure on students, consequently mitigating mental health issues. However, it may concurrently elevate parental anxiety, fostering heightened expectations regarding their children's academic achievements and potentially contributing to increased mental health challenges among adolescents. As mentioned earlier, uncertainty persists regarding the specific alterations in the mental health status of adolescents resulting from these changes. We posit that exploring this aspect constitutes a novel and crucial direction for future research.

This study is based on the analysis of survey data from China. As is well known, East Asian societies, with China as a representative, have a tradition of placing high importance on education. The majority of parents have elevated expectations for their children, hoping they will excel and stand out in peers. However, excessive educational expectations can be a double-edged sword, leading to two completely different outcomes. Especially in the fiercely competitive contemporary society, if children perceive overwhelming pressure, high expectations may result in serious psychological issues. On the other hand, if children can endure and bear the pressure, it can be transformed into motivation, yielding positive effects without causing psychological burdens.

As widely known, the Han ethnic group constitutes the majority of China's population, and this survey predominantly reflects the situation of the Han people. Consequently, the data may not fully represent the circumstances of minority ethnic groups. In reality, there are significant differences between China's minority ethnic groups and the majority Han population. Minority groups have a smaller population and often benefit from various national policies such as bonus points in the college entrance examination, which reduces their educational competition pressure compared to the Han population. In this context, the impact of educational expectations on psychological health among minority groups lacks corresponding research. It remains to be seen whether the conclusions of this study align with the situations of minority groups, and further research is needed to explore this aspect.

Furthermore, although we compared research findings from relevant Western countries, these conclusions were also drawn from studies focused on the majority populations in those countries. Research on minority groups is relatively lacking, preventing us from knowing relevant conclusions. From a policy perspective, despite the importance of the majority, attention should still be given to the minority groups in society. This consideration is crucial when formulating policies to address their uniqueness.

Conclusions

This study found that parents' high educational expectations did not lead to a higher incidence of mental health problems among adolescents, which diverged from the majority of existing research. In order to investigate the reasons, the authors introduced the moderating variable of academic pressure and found when adolescents who perceived higher academic pressure, parents' high educational expectations led to more psychological health issues, while for adolescents who perceived lower academic pressure, parents' high educational expectations led to fewer psychological health issues. This research conclusion enriched the relevant research on the factors and mechanisms that affected the mental health of adolescents. The authors suggest that parents should promptly identify the mental health status of adolescents who perceive high academic pressure and appropriately lower their expectations for education, to reduce their negative

emotions and maintain a good mental health state. As this article is only a cross-sectional study, we suggest that future research should use panel data for longitudinal research on the relationship between parental education expectations and adolescent mental health issues.

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Availability of Data and Materials: The data presented in this study are available at <http://ceps.ruc.edu.cn/>.

Ethics Approval: Based on the important social value of this research and the public availability of the data, all subject information used is anonymized; the researcher's data use rights and privacy risk control measures meet the ethical review requirements; In addition, the public database involves a large number of people, and participants have not given informed consent since registration began many years ago, and the possibility of retrospective informed consent is low; the Ethics Committee of Zhejiang Normal University approves the implementation of the study and agrees to the application for exemption of informed consent.

Conflicts of Interest: The authors declare no conflict of interest.

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