

# ***Boarding School Experience, Academic Performance, and Personality Development among Chinese Adolescents in Urban Area***

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**Abstract:** Previous research found that boarding students are more likely to experience higher levels of mental problems such as eating disorders, depression, and anxiety. As personalities are highly associated with mental problems, this research examined if boarding school experience before adulthood was related to an individual's personality development, which could probably contribute to the consequence that boarding students have more mental problems in early adulthood. Participants (N = 361), whose age was between 18 to 24 years old, conducted a personality test and reported boarding school experience, including whether they had boarding school experience, the length of boarding school experience before 18 years old, and the starting age of attending boarding schools, and academic performance in high school. The results of this research indicated that the agreeableness, openness and consciousness of given gender was impact by boarding school experience. It also indicated the potential negative mental consequences of attending boarding school before adulthood, which can help educators in boarding schools to improve mental health care for students to mitigate the negative impact of the boarding school experience.

**Keywords:** boarding school, personality, adolescents mental health

## **1. Introduction**

### **1.1. Boarding School**

In China, boarding schools constitute a major mode of education. Similar to some boarding schools in the United States [1], Chinese boarding schools involve a comprehensive and elaborate system to regulate students' both academic experience and daily life as well. Students study and live at schools on weekdays. The system requires students to follow a timetable to wake up and sleep, have meals, take classes, do physical exercises, and do leisure activities. Different from the academic systems in the US, most Chinese primary and middle school students take all courses with the same classmates in the same classroom, while teachers move between classrooms to teach. In this case, boarding school students easily develop a strong bond with each other as they spend most of their time together both in the classroom and after-school life. The development of personality can be impacted by abrupt events and daily experiences [2]. Spending much time with peers and less time with parents during

childhood or adolescence is a unique experience that shapes individuals who have attended boarding schools.

As a significant component of education in China, “boarding school” is not just a form of elite school, schools for defectives, or schools for poor people. According to the report published by the Ministry of Education in 2012 [3], 21.85% of primary and middle school students have boarding school experience. The education resources in China are distributed unfairly, and there are more good education resources in urban areas than in rural areas [4]. In some undeveloped rural areas, many children live far away from their schools while many of them are taken care of by older people as their parents have to work in big cities to support the family financially. For students’ safety and convenience, central and local government grants money to build boarding schools to make sure these children can get compulsory education [5]. In an urban area, many primary and middle schools enroll both boarding students and day students, and most of the boarding students choose to live in schools because they do not want to waste much time commuting every day [6]. These boarding students have much better-living conditions than boarding students in rural area, and some high schools even strongly suggest that students live at school so that the students can save more time studying for National College Entrance Examination. In addition, some parents believe that attending boarding schools allows their child to develop leadership, good communication skills, life skills and an outgoing personality, so they send their child to primary boarding school or junior high boarding school. Most commonly, these boarding students are allowed to go back home once a week and parents are allowed to come to pick them up if parents intend to do it. These boarding students are allowed to call parents during weekday time as well.

## 1.2. Personality and Mental Health

The model of the “Big Five”, proposed by Goldberg in 1992 [7], is a widely accepted model of personality whose core factors are extraversion, agreeableness, openness, conscientiousness, and neuroticism [8]. In this model, extraversion refers to an individual’s comfort level in the environment, so people who have high extraversion are more assertive and outgoing, while people who have low extraversion are more task-oriented and reserved. Agreeableness is the level of individuals’ willingness to get along with others. People with high agreeableness are tolerant and compassionate, while people with low agreeableness are more likely to make objective judgments and show uncooperative. Conscientiousness is the degree to describe individuals’ efficiency and dependability in the workplace. Individuals with high conscientiousness are organized and disciplined, while individuals with low conscientiousness prefer to be spontaneous and do multitask. Openness is to describe individuals’ openness to experience. More specifically, people with high openness are more creative, imaginative, and adventurous, while people with low openness are more straightforward and prefer the things that they are familiar with. Neuroticism is the degree of individuals’ emotional stability. People with high neuroticism are more emotionally reactive and self-conscious, while people with low neuroticism can handle stressful situations well and easily calm down when unexpected things happen [9].

Personality construction is a significant part of mental health [10]. Much research indicated that personality development is associated with emotional health, self-esteem development, and many kinds of mental disorders such as depression, eating disorders, and anxiety [8][11][12][13]. Previous research has demonstrated that the factors of the model “Big Five” personality traits are associated with some mental health disorders. A higher level of neuroticism is a risk factor of depression, anxiety, and suicidal behavior, while a higher level of extraversion is associated with more positive mental health [8]. A higher level of openness is associated with happiness [14], and both agreeableness and conscientiousness are positively related to happiness as well [15].

## 2. Method

### 2.1. Participants and Procedures

This study was conducted in the July of 2022 in China. The online survey required participants to be between 18 to 24 years old and used to have experience studying in China before college. The online survey provided participants with both English and Chinese items for participants to fully understand the survey. The online survey was published on Tencent Questionnaire and spread through WeChat to collect data. Participants were allowed to do this survey on smart devices. Participants were ensured of anonymity as they would not provide their names or other identifying information in the survey. They were allowed to skip the items that they preferred not to answer, such as their gender or academic performance, which was their college name if they were currently undergraduate students in college. Additionally, they were allowed to withdraw from the research at any time.

Since there were a real-name registration system to test participants' identities on the Tencent Questionnaire app, all participants could fill out the survey for only one time. There were some tricky items were set in the survey to test if participants had filled the survey seriously, and participants could get a one-dollar bonus if they provided valid data for the research. The surveys done by participants who were not in the age range did not have experience studying in China, or were tested to do the survey with unseriousness would be viewed as invalid data and would not be included in the sample.

380 participants took the survey, and 361 pieces of valid data were collected in the end. The sample consisted of 119 males, 230 females and 12 persons preferred not to tell their gender. 284 of 361 participants (78.67%) were undergraduate students in colleges, 248 participants (68.70%) used to have boarding school experience and all of the sample who used to have boarding school experience attended boarding school in urban area.

### 2.2. Survey Design

#### 2.2.1. Personality Measurement

The personality measurement of this study was a well-accredited questionnaire, the 50-item International Personality Item Pool (IPIP) representation of the Goldberg [7] markers for the Big-Five factor structure. The scale of this questionnaire was provided as well, which indicated that each 10 items of the questionnaire were responsible for each of the five factors: extraversion, agreeableness, openness, conscientiousness, and neuroticism [16]. The Chinese translation of the questionnaire is provided by Sih-Ci Jhu approved by the IPIP. There were 50 items for participants to scale from 1 to 5, in which 1 stood for "very inaccurate," 2 stood for "moderately inaccurate," 3 stood for "neither accurate nor inaccurate," 4 stood for "moderately accurate," and 5 stood for "very accurate" [16].

#### 2.2.2. Boarding School Experience

Whether the participants had boarding school experience was assessed with a single item "Do you have boarding school experience before 18 years old?" The response was binary with "Yes" or "No." Once participants answered they used to have boarding school experience, the following three items would pop out for them to provide further information about boarding school experience: the starting age of attending boarding school, whether they used to study in urban boarding school or rural boarding school and the length of boarding school experience before adulthood, which is 18 years old. In addition, they would be asked to describe their boarding school experience from the perspective of peer interaction in boarding school.

### 2.2.3. Academic Performance

The item of academic performance was set for undergraduate participants as academic performance would impact personality as well [17]. In China, students can only attend college by joining the National College Entrance Examination (NCEE), while all universities set the minimum passing scores for all students to choose which university they would like to attend. Since there are different versions of the NCEE for different regions in China, the college undergraduate participants attended was viewed as the ranking of college would be a considerable item to categorize their academic performance according to the “2022 best Chinese universities ranking” provided by ShanghaiRanking Consultancy [18]. In this study, the academic performance included four levels: the top 50 universities of the ranking were in the “A” level; the universities in the ranking from 51 to 200 were in the “B” level; the universities in the ranking from 200 to 400 were in the “C” level, and the rest of universities in China were in the “D” level. There were 590 universities on the list of “2022 best Chinese universities ranking”.

### 2.2.4. Demographic Information

Gender and whether participants were between 18 to 24 years old were collected through the survey as well.

## 2.3. Analytic Strategies

The analyses were composed of two parts: comparisons and correlations. Comparisons on the “Big Five” personality traits in young adulthood were made between individuals for each gender who had and individuals who did not have boarding school experience before adulthood. A two-sample t-test would be used here as personality traits were continuous variables while having boarding school experience was two categorical variables. The other comparison, for only undergraduate participants who had boarding school experience, was conducted on the “Big Five” Personality traits in young adulthood and academic performance in high school. The last comparison was conducted to see if academic performance would impact personality development in boarding schools. An ANOVA test was applied in this comparison since the five personality traits were continuous variables while the academic performance was four categorical variables. The difference with a p-value < 0.05 would be reported as a significant difference.

The relationship between the length of attending boarding school before adulthood and the “Big Five” personality traits in young adulthood, and the starting age of attending boarding school before adulthood and the “Big Five” personality traits in young adulthood separately for given gender were analyzed using Pearson correlation coefficients when the p-value of Pearson’s product-moment correlation smaller than 0.05, which indicated that true correlation of the two variables was not equal to zero with 95% confidence interval, the relationship of two variables would be reported as significant.

## 3. Result

### 3.1. The Difference of the “Big Five” Personality Traits in Young Adulthood between Individuals

In this study, 248 participants (53.6% males) reported that they used to attend boarding schools before adulthood. By applying a total of 10 t-test for five factors of the “Big Five” personality traits for given gender, there was a significant difference of agreeableness between females who had and did not have boarding school experience before adulthood ( $t = 2.321$ ,  $df = 227$ ,  $p = 0.02117$ ). Females who had

boarding school experience had significantly lower agreeableness than female who did not have boarding school experience.

### **3.2. The Comparison between the “Big Five” Personality Traits in Young Adulthood and Academic Performance in High School**

Among participants who reported that they had boarding school experience, 164 participants (61.58% females) were undergraduate college students. By applying a total of 10 ANOVA tests, no significant relationship was found between high school academic performance and personality traits showing in young adulthood for given genders.

### **3.3. The Relationship between the “Big Five” Personality Traits in Young Adulthood and the Length of Attending Boarding School**

Participants who used to attend boarding schools had an average length of studying in boarding school of 4.27 years for males, and 4.48 years for females. By applying a total of 10 Pearson correlation coefficient tests, a significant relationship between the length of attending boarding school and the level of agreeableness for males ( $t = -1.992$ ,  $df = 83$ ,  $p\text{-value} = 0.049659$ ) was found. It indicated that males who had longer boarding school experience would develop lower agreeableness with correlation  $-0.22$ .

### **3.4. The Relationship between the “Big Five” Personality Traits in Young Adulthood and the Starting Age of Attending Boarding School before Adulthood for Given Gender who have Boarding School Experience**

Participants who used to attend boarding schools had an average starting age of 13.54 and 50.8% of them started attending boarding school at high school. By applying a total of 10 Pearson correlation coefficient tests, a significant relationship between the starting age of attending boarding schools and the level of conscientiousness for males ( $t = -2.0132$ ,  $df = 78$ ,  $p\text{-value} = 0.04755$ ) was found. It indicated that participants who started to go to boarding school at an earlier age would have a lower level of conscientiousness with a correlation of  $0.22$ .

## **4. Discussion**

This study aims to discover how boarding school experience impact personality by analyzing the relationship between academic performance in high school, the “Big Five” personality traits showing in young adulthood, and the boarding school experience before adulthood, including whether used to attend boarding school and the starting age and the length of attending boarding school. Since previous research indicated that the primary boarding school experience in a rural area of China had a negative impact on individuals’ mental health [19], and individuals with boarding school experience in the urban area of China were also more likely to have negative psychological symptoms [5], this study was done to discover how the boarding school experience in urban area negatively impact on individuals’ mental health by further studying how the experience impact on personality traits negatively. By analyzing how personality is impacted by boarding school experience, a psychological associate working at boarding schools could provide students with more concise mental support.

Since extraversion, agreeableness, openness, and conscientiousness are positively associated with mental health [8][14][15], individuals with a lower level of these four factors have a higher possibility to have mental health problems. Meanwhile, a high level of neuroticism is associated with some negative affect such as depression, anxiety, and suicidal behavior [8]. According to the results, there

was not any significant finding that boarding school experience was associated with the personality development of neuroticism, extraversion, or openness.

For females, the longer the individuals attended boarding schools, the lower consciousness the females showed in young adulthood. According to the female participants' description of peer interaction during studying in boarding schools, over half of female participants who had boarding school experience mentioned that the boarding schools applied many rules to restrict students' behavior. For example, they were not allowed to perm or color their hair, do make-up, or have a romantic relationship. Therefore, some of them would do these things right after they graduated from boarding schools. The restriction and the "revenge" behavior after the restriction were probably the reasons for low consciousness showing in young adulthood.

Another finding for females was that females who had boarding school experience had lower agreeableness than individuals who did not have boarding school experience. In this research, more than 25% of female participants who had boarding school experience mentioned school bullying behavior in boarding schools. According to their description, they would be more likely to socialize within small groups, and most of the bullying was verbal abuse that happened between groups. Since they spent much time with peers on weekdays, they gained a sense of belonging from the groups when they were in school. This was the possible reason that led to the low level of agreeableness showing in young adulthood of females who had just finished attending boarding schools.

The last finding was that the starting age of attending to boarding school was positively associated with males' agreeableness showing in young adulthood, which meant that the earlier the males started to attend boarding schools, the lower-level agreeableness would show in young adulthood. According to the description of male participants who had boarding school experience, bullying behavior existed but was not that common as teachers applied strict rules to them. They did not have a steady group of people to hang out with, but they would like to socialize with all their classmates. They also expressed the feeling that they realized they were more mature than peers who did not have boarding school experience after graduating from high school. Though there was not a directly possible reason that led to this finding, the boarding school experience indeed led to the possible negative psychological consequence for males.

## 5. Conclusion

This research aimed to provide another perspective to help educators and psychological associate workers in boarding schools to provide mental support to students. Since some participants who started to attend boarding school from primary school and junior high school mentioned that their advisors, supervisors of dormitories, and teachers were more likely to act like their parents when they were young, the interaction between staff in boarding schools and students was even more important to impact on students' personalities.

Above all, the boarding school experience negatively impacted individuals' personality development in China's urban areas. However, compared to the individuals who have boarding school experience in rural areas, boarding school students in urban areas are allowed to have much more alienation from parents. Both educators and parents should pay more attention to boarding school students' personality development.

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