

DETERMINE THE PREVALENCE OF SEVERAL DEMOGRAPHIC FACTORS IN CHINA THAT MAY HAVE A SIGNIFICANT IMPACT ON ADOLESCENT ACADEMIC STRESS, DEPRESSION, AND ANXIETY SYMPTOMS

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Abstract

A study conducted in "Shenzhen, China, found that academic stress was consistently the most significant risk factor for depressed and anxious symptoms in teenagers. This study emphasizes the need of developing effective treatments to minimize academic stress in Chinese teenagers, which should be pursued as soon as possible. For all three variables examined – academic stress, depression, and anxiety symptoms – the gender and grade level were found to be significant predictors. It is possible that these findings will be utilized to advice professionals, such as teachers and psychologists, in the development and implementation of specialized strategies for teenagers. In addition, it is advised that future research continue to explore the influence of demographic moderators on the mental health concerns of Chinese teenagers. Academic stress, depression, and anxiety were the dependent variables in the linear regression analysis, which were conducted. In terms of academic stress, it was discovered that studying at higher grade levels, having worse academic success, and having a smaller quantity of pocket money were all risk factors. Being female, having less years of experience living in Shenzhen, having low academic performance, having high levels of academic stress, having higher grade levels, not having one's own lodging, and coming from a broken family were all identified to be risk factors for depressive symptoms. Concerning anxiety symptoms, being female, having high amounts of academic" stress, and being at higher grade levels were all identified as risk factors for the condition.

Keywords: Academic stress, adolescents, anxiety symptoms, depressive symptoms, gender, grade level.

1. INTRODUCTION

Adolescence is a critical "period in the development of the human being, during which biological, psychological, and social development take place. Adolescence is a time of transitions and challenges that can result in mental health disorders such as depression and anxiety. These issues are widespread in adolescence and have been shown to have long-term consequences throughout adulthood (Patton & Viner, 2007). The World Health Organization (WHO) (2014b) has identified depression and anxiety as two main mental health disorders that typically emerge during adolescent years. As a result, it is critical to determine the underlying causes of these mental health disorders in teenagers in order to

develop effective therapies.

Attendance in primary and secondary schools is a key developmental experience for most teenagers, and it has the potential to have an impact on their mental health. Academic-related events are thought to be important stresses for teenagers in primary and secondary schools, particularly in Asian nations such as China, Korea, and Singapore (Guo, Yang, Cao, Li, & Siegrist, 2014; Huan, See, Ang, & Har, 2008; Zhang & Du, 2005). A significant relationship between academic stress and mental health condition among students has been found in several studies conducted around the world (e.g., Jayanthi, Thirunavukarasu, and Rajkumar, 2015; Sun, Dunne, Hou, and Xu, 2013), indicating that students' perception of academic stress as well as time spent on schoolwork and poor academic performance were associated with their mental health condition (Bjorkman, 2007; Liu & Lu, 2012; Sun et al., 2013). Studies focused on the kind of residence of teenagers, on the other hand, are limited, and the current study seeks to address this gap.

Other social variables, in addition to mental health disorders, have been discovered to be associated with academic stress in recent research. Academic stress has been found to be related with personal variables such as gender; family factors such as poor financial status and parent's divorce; peer factors such as bullying; and engaging in risky behaviors (for example, smoking) among students" (Gutman, Sameroff, & Eccles, 2002; Patton & Viner, 2007).

A substantial portion "of the research on academic stress, depression, and anxiety has been conducted in Western nations, and this is reflected in the literature. Some of these Western research discovered that university students were suffering from mental health issues and academic stress. However, only a few researches have taken into account pupils who are in their adolescent years. As a result, the current research is limited to teenagers.

According to reports, Chinese teenagers devote more time to schoolwork than adolescents in Western countries in order to achieve particular goals such as improving academic performance and passing certain tests, among other things (Sibeoni, Harf, Huang, & Moro, 2014). When it comes to Chinese teenagers, the senior high school entrance test (Zhongkao) and the college entrance exam (Gaokao) are the two most crucial exams they may take. More information on Zhongkao and Gaokao may be found in Section 1.1.1 of this document, which covers the Chinese educational system. The outcomes of these two tests are used to determine the future education of teenagers by ranking the results of the examinations in descending order. Adolescents who earn the greatest scores in Gaokao, for example, may be admitted to some of China's most prestigious academic institutions. Not only are teenagers under immense strain from the intense rivalry for the two examinations, but they are also under immense pressure from their parents or themselves. As" a result, Chinese teenagers are subjected to high amounts of academic pressure.

A number of studies "have looked into the link between academic stress and mental health among Chinese students in elementary and secondary schools around the country (Ding

& Wang, 2003; Li, 2013; Liu & Lu, 2012; Sun et al., 2013; Xiao et al., 2014; Zheng, Wan & Li, 2001). They did not, however, conduct a thorough investigation into the adolescent years. One Chinese study looked at the link between scholastic stress and mental health among teenagers in mainland China; however, it focused more on depression and suicidal behaviour among adolescents from Shandong Province, China, rather than the whole population (Sun et al., 2013). A void exists in academic literature, as a result, when it comes to studies evaluating academic stress and mental health disorders among teenagers in different parts of mainland China. The current study has three primary objectives. We want to look at the link between scholastic stress, depression, and anxiety among Chinese teenagers, first and foremost. Second, to look at the demographic characteristics that might have an influence on teenagers' levels of academic stress, depression, and anxiety symptoms, among other things. Third, we wanted to see if there were any moderating effects of teenagers' gender, residence type, and grade level on the relationships between demographic variables, levels of academic stress, depression, and anxiety symptoms in the study participants.

2. LITERATURE REVIEW

When adolescents are at a "critical stage of growth and transition, both physically and psychologically they are more likely to endure high levels of stress than other people their age. The World Health Organization (2015) defines adolescence as the period between the ages of 10 and 19 years. The presence of mental health difficulties, such as depression and anxiety symptoms (Feld and Shusterman, 2015; Siddique and D'Arcy, 1984), as well as suicidal thoughts and behaviour (Wilburn and Smith, 2005; Zhang, Wang, Xia, Liu, and Jung, 2012), as well as health-risk behaviours, such as smoking, drinking, and drug use (Feld and Shusterman, 2015; Zhang, Wang, Xia, Liu, and (Finkelstein, Kubzansky, & Goodman, 2006).

Apart from these concerns, teenagers might encounter difficulties linked to their everyday lives events as well as academic challenges. Adolescent stressors were classified into ten categories by Byrne, Davenport, and Mazanov (2007). These categories included romantic relationships, home life, and uncertainty about the future, the presence of emerging adult responsibility, financial pressures, and four other factors related to academic events. Education-related events fell under four categories, which were as follows: school performance, school attendance, conflict between schoolwork and free time, and teacher contact (Byrne et al., 2007). According to a cross-sectional survey conducted in the United States, the most common source of stress for teenagers is thought to be academic issues (Menon, 2013).

Additionally, comparable discoveries have been discovered in China, in addition to Western countries. Zhang and colleagues (2007) "conducted a cross-sectional study in Hefei city, China, in which they examined 3,798 secondary school students ranging in age from 11 to 19 years (50.9 percent male and 49.1 percent female), using the adolescent self-rating life events check list as the primary instrument. According to the findings of the

survey, low academic performance (87.1 percent) and a heavy study load (82.1 percent) were identified as the second and third most prevalent stresses among teenagers, respectively (Zhang et al., 2007). A similar finding was found in Zhou, Fan, and Du's (2012) cross-sectional study of 1,818 students aged 12 to 19 years (48.3 percent male and 51.7 percent female) in Shanghai, China, who used the adolescent self-rating life events check list to report the most common life event they experienced (74 percent). The evidence suggests, then, that the majority of stresses in teenagers' life in China are connected to academic events, whether good or negative in nature.

Academic stress was initially characterized by Verma and Gupta (1990) as mental anguish caused by a sense of annoyance over poor academic performance and the expectation of it, as well as the knowledge of a projected probable failure. Verma and Gupta (1990) did not, however, discuss the impact of study burden and excessive workload on students' academic stress, as they did in their previous study. Additionally, academic stress has been defined as a student's subjective sensations of stress that are associated with academic events (Akram & Khan, 2012). In addition to physical health problems (such as somatic complaints), academic stress has been proven to be related with psychological problems as well (such as depression) (Gillihan, Samter, & Macgeorge, 2005).

Adolescents in secondary schools "are thought to be one of the most significant sources of anxiety and stress, particularly in Asian nations such as China, Korea, and Singapore, where academic events are seen as one of the most important worries (Guo et al., 2014; Huan et al., 2008; Zhang & Du, 2005). Chinese civilization is built on a lengthy tradition of Confucian legacy culture that dates back thousands of years. Education is highly regarded by the entire society, according to the Confucian legacy culture's central notion of education (Tan & Yates, 2011). Academic performance (such as the rank of a university graduate, the highest education level attained, and the grade point average) is one of the most significant factors for evaluating an individual's competence in Chinese culture, particularly in the work market. According to reports, Chinese teenagers spend more time on schoolwork and attend more cram schools as compared to their counterparts in Western nations (Sibeoni et al., 2014). Cram schools are designed to assist students in achieving certain academic goals and passing specific tests by providing intensive tutoring. If they did not earn high marks or grades in school, they reported feeling humiliated and that they had failed their parents, compared to American students. When compared to American students, Chinese students showed more concerns about losing pride in relation to academic events (Zhang, 2014). When confronted with failure, American pupils, on the other hand, expressed" sentiments of irritation (Ang & Huan, 2006a; Mortenson, 2006; Tan & Yates, 2011).

In terms of factors associated with "academic stress, Zhang (2014) discovered that high levels of self-expectations, the fear of poor academic performance, the embarrassment of a lower ranking, pressure from parents, and competition with peers were the most common sources of academic stress among students. For the sake of this discussion, it might be stated that academic stress is caused by the strain of" severe rivalry with peers

as well as high expectations from themselves and their parents.

Consequently, the variables "connected with academic stress appear to differ from one nation to another, and it is therefore necessary to investigate the factors associated with academic stress that are specific to China. Particularly prevalent" in teenagers, who are subjected to significant physical and psychological changes.

3. RESEARCH GAP

Even while this study "offers a lot of advantages, such as a large sample size and a high response rate, it also has significant drawbacks. First and foremost, memory bias is an unavoidable aspect of utilizing self-report surveys as research tools. It is possible that under- or over-reporting will occur as a result of this. Second, because the questions contained information regarding academic achievement (grades in tests), it's possible that students reported their desired grades rather than their real grades, because the questionnaire was anonymous, rather than their actual grades. Because the participants were only recruited from schools in Longhua New District, Shenzhen, the sample may not be typical of all teenagers in China, which is a third limitation of the study. Shenzhen has a male to female ratio of 109:100, which is higher than the national average (Shenzhen Bureau of Statistics, 2014). Although male participants outnumbered female participants in the current study, the gender ratio in the sample was 58.1 percent male and 41.9 percent female, which was not consistent with the gender ratio in Shenzhen. Fourth, it is possible that missing data in the current study will have an impact. Finally, the current study" design was a cross-sectional study in which all of the data was obtained at a single point in time. It might be worthwhile to look into how the findings have changed over time.

4. RESEARCH OBJECTIVE & METHODOLOGY

The purpose of this study was

- To determine the prevalence of a variety of demographic variables in China that had the potential to have a substantial influence on teenagers' levels of academic stress, depression, and anxiety symptoms, based on the findings" of prior research studies.

The survey's "demographic characteristics included gender, age, social economic status (SES), family residence type, dwelling type, number of years spent in Shenzhen, family structure (parents' marital status), and whether or not siblings lived with the respondents. Academic achievement was evaluated based on the marks received on examinations (out of a possible 100 points) and the student's overall academic position in the class. Academic ranking is also a reflection of a student's overall achievement in the classroom. Academic ranking in China is often based on the total of points obtained across all major courses. An individual student will be rated first in his or her class if that student receives the greatest possible score on an examination. Higher the ranking number, the higher the student's academic achievement, and the reverse is also true. The term "academic ranking" refers to the perceived academic rankings of participants in their respective classes in the current study. The reason for this is because the data in the current study

was gathered using self-completed questionnaires, which may not accurately reflect real-world" events.

There were six "categories in which students perceived their academic standing: first through tenth, second through twenty-first, third through thirty-first, fourth through forty-first, fifth through fifty-first, sixth through fifty-first, seventh" through fifty-first, and more than fifty-first.

Families "might choose between two different types of residency: 1) Shenzhen citizens or 2) non-Shenzhen citizens.

- The number of years that teenagers have spent in Shenzhen.
- Living arrangements were divided into three categories in the questionnaire: 1) family-owned residence, 2) rented residence, and 3) other.
- There were two possibilities for sibling status: There are two types of children: 1) the only kid and 2) the non-only child.

When it came to family structure, there were two options to choose from: 1) intact and 2) disturbed relationships between parents.

Among other things, participants' social economic status (SES) was determined by their parents' profession and highest obtained" educational degree, as well as their monthly pocket money.

- The six groups "with the greatest degree of education obtained by participants' parents were as follows: 1) Primary school, 2) junior high school, 3) senior high school, 4) technical secondary school/vocational high schools, 5) junior college, and 6) a university/college degree or above are all acceptable options.
- Chinese yuan was used to measure pocket money, which was divided into seven categories: (0) no pocket money, 1) less than 50 yuan, 2) 51 to 100 yuan, 3) 101 to 150 yuan, 4) 151 to 200 yuan, 5) 201 to 250 yuan, 6) 251 to 300 yuan, 7) greater than 300" yuan 8) More than 300 yuan in value.

For the purposes of this study, pocket money was divided into three categories to allow for further investigation. These categories were as follows: 1) 0 to 50 yuan, 2) 51-200 yuan, and more than 200 yuan are the different price ranges.

Despite the fact that a large "number of measures have been created and used to assess stress or variables in relation to academic issues, only a few questionnaires could be utilised in the present study, as mentioned in Chapter 2. Abouserie (1994), Bjorkman (2007), Burnett & Fanshawe (1997), Lavae (2009), Zeidner (1992), and others were developed and validated in Western countries, and some were used with college or high school students (Abouserie (1994), Burnett & Fanshawe (1997), Lavae (2009), Xu et al. (2010), and Zeidner" (1992).

Using data from a "pilot research conducted in Shandong, China, with 347 teenagers in

grade 8 and grade 11, Sun et al. (2011) created the Educational Stress Scale for Adolescents (ESSA). It was determined that the subfactors of expectations/pressure from others, study burden, depression, and anxiety about grades (Cronbach alpha coefficients=.80, .80, .71, and .70) were found using an exploratory factor analysis (EFA) in this validation process. The results of the pilot study revealed that the ESSA total score had good reliability (Cronbach's alpha=.81), two-week test-retest reliability (intraclass correlation coefficients) (ICC=.78), and adequate predictive validity, as evidenced by the fact that it "was significantly correlated with the academic expression stress inventory (AESI) score in the study.

The ESSA was used to "assess the levels of academic stress experienced by teenagers in the current investigation. Each of the 16 ESSA issues was rated on a five-point Likert scale, with the following options: 1) strongly disagree, 2) disagree, 3) neutral, 4) agree, and 5) strongly agree. The ESSA ranges from 16 to 80 years of age. During the current investigation, the ESSA total score had an internal consistency of .83, which was considered good. ESSA sub-factors were not examined since the current study concentrated on the impact of demographic variables and their moderating effects, including gender, residence type, and grade level on the overall amount of ESSA data collected. We will refrain from discussing the ESSA subscales in this study because it is outside the scope of the" current investigation.

5. DATA ANALYSIS & FINDINGS

The t-test or ANOVA "were used to analyze the mean differences in academic stress levels between various groups (for example, male and female teenagers) while doing bi-variate analysis of data. Table 4.1 shows the findings of the bi-variate analysis.

In contrary to hypothesis H1.1, there was no statistically significant difference in the levels of academic stress experienced by male and female teenagers. Students in grade 11 reported the highest mean academic stress score, which was substantially greater than the scores given by students in all other grade levels, which was consistent with hypothesis H1.2. Comparing academic stress levels between top 10 and bottom 10 in the class, students who placed among the top 10 in the class reported the lowest levels (M=47.02, SD=11.54) compared to the rest of the class, which is consistent with hypothesis H1.7. Those who lived in their family's own home reported considerably greater levels of academic stress as compared to those who lived in rented housing. Students who did not get any pocket money or who received less than 50 yuan reported substantially greater levels of academic stress than those who earned 151 to 200 or more than 300 Yuan in pocket money, according to the researchers. This is in direct opposition to hypothesis H1.6. There was no statistically significant difference in academic stress between males and females, between residence types, between sibling status, between parent's marital status, and between parent's educational" levels.

The educational stress scale for teenagers "was used in the present study to assess the levels of academic stress experienced by the participants in their classes. The mean score

on the ESSA was 49.57 (standard deviation: 10.92), with a range of 16 to 80 points. Prior to completing the regression analysis, the Pearson correlation test was used to determine whether or not there was a significant relationship between demographic factors and academic stress. As a result of the correlations, participants' academic stress levels were significantly associated with their grade level ($r=.20$, $p.001$), residency type ($r=.04$, $p.001$), living type ($r=.05$, $p.001$), years of living in Shenzhen ($r=.08$, $p.001$), father's education ($r=.04$, $p.004$), mother's education ($r=.03$, $p=.003$), amount of pocket money.

An investigation into whether or not academic stress was impacted by the selected demographic factors was conducted in a sample of 6,156 teenagers using multiple linear regressions. The results of linear regression were compared with and without the inclusion of residence type and gender as moderators, and the findings are presented in the following table. Despite the fact that gender was not shown to be substantially associated with academic stress in the current study, it was included in the regression analysis since three previous studies discovered a significant difference in the degree of academic stress between males and females (Sun et al., 2013).

Before adding the hypothesized modifiers to the analyses, it is important to have a general understanding of the regression findings. Academic stress was investigated using multiple linear regression in a sample of 6,156 adolescents to see if it differed according to grade level, residency type, living type, years of living in Shenzhen, father's education and mother's education, the amount of pocket money they had, academic ranking, and gender. The sample included adolescents from all over the world.

6. CONCLUSION

The use of linear regression "analysis to predict academic stress, depression, and anxiety symptoms was looked at in this study, among other things. The results of the regression analysis revealed that participants who were in higher grade levels, had a low level of academic achievement, and received a smaller amount of pocket money each month were more likely to experience significantly higher levels of academic stress than those who were in lower grade levels. It has been discovered that being a female, having higher academic stress, studying in older grade levels, having poor academic performance, receiving lower amounts of pocket money each month, living in Shenzhen for fewer years, not having one's own accommodations, and coming from a disrupted family are all risk factors for developing depression-like symptoms. Higher levels of academic stress, being a female, and studying at higher grade levels were all revealed to be major risk factors for the development of anxiety symptoms.

As a result, the findings of the current study suggest that higher levels of academic stress are consistently associated with higher levels of depression and anxiety. Gender and grade level were revealed to be significant predictors of academic stress, depression, and anxiety symptoms among adolescents when all demographic characteristics were taken into consideration.

Gender and residency type had a moderating effect on adolescents' academic stress,

depressive and anxiety symptoms. The predictors for male Shenzhen citizens versus male non-Shenzhen citizens, female Shenzhen citizens versus female non-Shenzhen citizens, and male Shenzhen citizens versus female non-Shenzhen citizens were all different. Interventions might be tailored to meet the particular requirements of distinct groups of teenagers, as a result of this research.

The implications of the current study" would be provided in the order in which they corresponded to the research questions.

Despite the fact that the Chinese Ministry of Education has released several official papers encouraging students to lower their study load, certain particular treatments are proposed. For example, programmes or treatments geared toward teenagers who are in higher grade levels but whose academic performance is not very strong should be designed and implemented. In the current study, the moderating effects of gender and residence type were shown to be statistically significant. As a result, tailored treatments for certain groups of teenagers may be implemented.

7. Acknowledgements: NA (Not applicable).

8. Funding: NA (Not applicable).

9. Availability of data and materials:

The datasets used and/or analyzed during the present study are available from the corresponding author upon reasonable request.

10. Authors' contributions:

Zhi Chao Wang was principally responsible for the conception and design of the study. Chong Yuen Sang and Narasimha Rao Vennalakanti supervised and monitored the project.

11. Ethics approval and consent to participate: NA (Not applicable).

12. Consent Patient for publication: NA (Not applicable).

13. Competing interests: As Corresponding author, I on behalf of co-authors do state that there is no any conflict of interest involved in the paper.

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