

A Study to find out the Association between Academic Stress and Mental Health Disease Symptoms in Chinese Teenagers in Late Elementary And Secondary Schools

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Abstract

Adolescents in China and other Asian nations face significant amounts of academic stress, despair, and anxiety as a result of this. Academic stress has been linked to depression and anxiety, according to several research. Limited research has examined these factors over the whole teenage age range, however (10 to 19 years). It would also be useful to look into the possible moderating effects of residence type on Shenzhen residents' "levels of academic stress, depression, and anxiety, given the city's substantial non-Shenzhen resident" population.

Researchers in Shenzhen, China, conducted this study to see if there was a link between high "academic stress and depression and anxiety" symptoms in young people. It was also a goal to find out which demographic factors are associated with higher "levels of academic stress, depression, and anxiety. Third, the" research sought to determine if gender and type of residence had any moderating influence on the academic stress, sadness, and anxiety experienced by teenagers.

Graduate student sadness and anxiety were found to be correlated with high levels of academic stress in the linear regression studies. Studying at a higher grade level, having a lower GPA, and not having "enough pocket money were all found to be risk factors for academic stress, according to the research. Female gender, less years in Shenzhen, low academic achievement, high levels of academic stress, higher grade levels, not living in one's own housing, and coming from a broken family were shown to be risk factors for depressive symptoms, according to the research. A woman's vulnerability to anxiety symptoms was exacerbated by high levels of scholastic stress and being in higher" grades.

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

Introduction

Adolescence is defined by the World Health Organization ([WHO], 2015)) as "the phase in human growth and development that comes after childhood and before adulthood" ([WHO], 2015)). Adolescents (those between the ages of 10 and 19) make up around 17% of the global population (WHO, 2015). According to China's Ministry of Education, the country's sixth national population census showed that teenagers made up 13.1% of the overall population. As a result, doing research to safeguard such a huge number of teenagers is beneficial.

Adolescence is a critical period in human development, during which time the body, mind, and social faculties all grow. Mental health disorders like sadness and anxiety, which are prevalent throughout adolescence and persist into adulthood, might arise as a result of these developmental changes and obstacles (Patton & Viner, 2007). Anxiety and depression are important mental health issues that often begin in adolescence, according to the WHO (2014b). Because of this, identifying the causes of teenage mental health problems is critical for subsequent therapy.

"Academic stress has been linked to a variety of social variables, including mental health disorders. Academic stress has been linked to a variety of personal and familial issues, including gender, poor income, and parental divorce, as well as peer and environmental concerns, such as bullying and risky behaviours

like" smoking).

Academic stress, sadness, and anxiety make up a major portion of the body of research done in the West. Some of these Western research found that university students suffered from "mental health issues as well as academic stress. However, there are just a few studies that have looked at adolescents. As a result, the current investigation focuses on" teenagers.

Literature Review

Stress was initially defined by Selye (1956) as "the common denominator of all adaptive reactions in the organism," "and the events that naturally cause stress are referred" to as "stressors." Selye was the first to clearly define stress. An external stressor acts as a catalyst for the body's own stress response, as well as additional reactions including physical adaptations. Aside from physical stimuli, every single experience in life has the potential to generate varying degrees of stress and, as a result, a stress reaction. Stressors, according to Selye (1985), can include anything "other than natural physical stimuli (happy, fear, anger, etc.). Furthermore, stressors" (or triggers) can be external or internal, and include environmental, physiological, and psychological variables, as summarised by Aldwin (2007) As a result of both physiological and psychological stress, a human experiences stress.

Individuals must deal with stress since it is unavoidable; nevertheless, their reactions and consequences to stress vary (Lazarus & Folkman, 1984). Individuals may be exposed to the same stressor, but their reactions and adaptation processes might be vastly different due to variations in coping mechanisms and stress thresholds. Because of this, everyone's level of stress is different..

Selye (1974) classified stress as either "eustress" or "distress" based on how it made people feel. Positive stress is seen as a motivator, but negative stress is defined as tension that is too much for a person to handle. An inverted u-shaped graph represented stress. The highest point was labelled "the ideal stress level," indicating the maximum amount of stress that individual should be exposed to in order to serve as incentive for others. If the person is still under stress after this stage, the effects of stress might be detrimental. An individual may experience physical or psychological issues as a result of negative stress or excessive stress (Selye, 1974). Chronic stress, such as lack of sleep, can worsen anxiety symptoms, for example (McEwen, 2011). Excessive stress that exceeds a person's capacity to manage has been linked to harmful physical and mental health effects.

Research Gap

China's "School of Public Health, Sun Yat-sen University, in Guangzhou, obtained ethical clearance for the original study from the Institutional Review Board. Through the Human Research Ethical Committee at Queensland University of Technology, an exemption from ethics approval was requested. The owner of the data has given permission for its use.

According to "section 5.1.22 of the National Statement on Ethical Conduct in Human Research, the QUT Human Research Ethics" Committee determined that this study met the requirements for exemption from HREC evaluation and approval (2007). There is an exception for this purchase: 150000116.

Research Objective & Methodology

Researchers in Shenzhen, China, hope to learn more about the connection between teenage sadness and anxiety, as well as demographics-related academic stress (as measured by self-reported surveys), and mental health disease symptoms (such as depression).

This study will add significantly to the corpus of information "on academic stress, mental health, and demographic factors in mainland China" because it is "one of the first of its kind. To put the findings of this study into practise, the "of Education, researchers, parents, and teenagers will have evidence to advise Chinese school authorities, as well as the Ministry of Education. It will also help build a better knowledge foundation for future treatments aimed at this population.

Following were the areas of investigation in this study::

- "Academic stress, depression, and anxiety symptoms" among adolescents: the role of demographic factors.
- Adolescent depression and anxiety symptoms are impacted by academic stress.
- Academic stress, depression, and anxiety symptoms in teenagers are moderated by residency type, gender, and grade level.

Using a self-reported questionnaire, the researchers performed a cross-sectional survey with 6,156 students from 24 schools in the Longhua New District of Shenzhen on Dalang Street, Guanlan Street, Longhua Street, Minzhi Street, and Fucheng Street. As of 2014, Shenzhen has a "total population of 18 million people, with 0.79 million pupils in elementary school and 0.38 million enrolled in secondary school (Shenzhen Statistical Yearbook, 2015). Located in Shenzhen's centre north, the Longhua New District was" inaugurated at the end of 2011. Longhua New District has 60 primary and secondary schools with a land area of 175.58 square kilometres.

In China's "Longhua New District, a random stratified cluster sampling was used to choose 6,638 primary and secondary school pupils. First, a street sampling was utilised, with 24 schools (ten primary, ten junior secondary, and four senior secondary) being picked from a total of 59. Stage two involved selecting three classes from each of the 24 schools' grades 5, 6, 7, 8, 10 and 11, and all of the students from those courses took part in the study. Participants in this research ranged in age from 10 to 19, which the normal age for teenagers is set" by the WHO (WHO, 2014c).

An overall "response rate of 99.1% (N=6,575) was obtained" from 6,638 questionnaires sent. After being narrowed down based on inclusion criteria, 6,156 of the total 6,575 individuals took part in the data analysis. To be excluded, you must not have answered "gender" in the questionnaire and "grade level" as "gender" and "grade level" were critical to the study's questions. Missing data varied from 2.2% to 11.47% for variables used in the analysis of the current study.

"Gender, age, social economic status (SES), family residence type, living style, years in Shenzhen, family structure (parents' marriage status), and sibling status" were all included of the questionnaire's demographics. Exam marks (out of 100 points) and class standing were used to assess academic success. "The student's academic success is also reflected in his or her academic ranking. Academic rankings in China are often based on the total of a student's grades across all of their classes. The top student in a class is considered to be the best student in the class. The better a kid does academically, the lower their ranking will be. Academic ranking is used in this study to describe where participants" think they stand academically within their class. In this study, information was gathered through the use of self-completed questionnaires, which may not accurately reflect real-world circumstances.

Despite the fact that a large number "of measures have been created and used to quantify academic stress or variables, only a few questionnaires could be utilized in the current study, as mentioned in Chapter 2. While some of the measurement tools used in this study were developed and validated in Western countries; and some were used by college or high" school students.

Data Analysis & Findings

Invalid responses and duplicates were weeded out throughout the data cleaning process. The analysis was purged of any irrational outliers. Due to the limited sample size, certain variables had to be recoded. Before doing regression analysis, researchers checked for multi-collinearity. "ESSA, DSRSC, and SCARED total scores were missing data in the proportions of 6 percent, 2 percent, and 5 percent, respectively. Based on the sample size, imputation was unnecessary for three major dependent variables since the missing data was so minimal".

Counts and percentages were used to provide the fundamental information in univariate data analysis, "with continuous variables being represented using mean and standard" deviation.

Two-way ANOVA or independent t-tests were used to display "mean differences in groups with one-way ANOVA (analysis of variance) or according to various variable types for bivariate data analysis for academic stress, depression and anxiety values individually (continuous). There were" not enough people in each group to do t-tests due to the small sample size (less than 50 people in each group) (Lumley, Diehr, Emerson, & Chen, 2002). Highly linked variables (such as age and grade level, academic achievement, and academic ranking) were assessed using correlation coefficients to evaluate collinearity.

Multiple linear regression was employed in the multivariate data analysis to find predictors of "academic stress, depression, and anxiety symptoms. Multiple linear regression Variables were selected for inclusion based on literature reviews and clinical considerations: gender, grade, academic ranking, residency type, living type, years in Shenzhen, siblings, pocket money received each month, parents' marital status and the highest educational level attained by both parents were all taken into account before the final" variables were determined: Because academic achievement and academic ranking were so closely linked, they couldn't be included in the same model to avoid collinearity. As a result, in the multiple linear regression tests, grades and academic rankings were used instead of age and academic performance. The categorical variables were analyzed using a dummy coding approach. In this study, the regression coefficients and corresponding 95% confidence intervals.

Data management was handled by storing confidential digital copies of all data on the QUT H drives of the researcher and supervisor. Prof. Weiqing Chen, of China's Sun Yat-Sen University, provided the data via official business email.

Among the 6,156 people who took part, there were 3,578 males and 2,580 girls, with a 16.2 percent disparity in the percentage of boys and girls. "All of the participants in the study were between the ages of 10 and 19, with the median being 13 and the standard deviation being 1.84. Grades 5, 6, 7, 8, 10, and 11 had mean ages of 11.47, 12.38, 13.41, 14.44, 15.99, and 17.12 years, respectively. A total of 43.7% of" the participants were in elementary school, 40.7% were in junior high school, and 15.7% were in high school (senior secondary schools). When it came to academic ranks, 22.8% of participants were in the top 10%, 24.3% were in the top 11-20%, 23.6% were in the top 30%, 15.5% were in the top 31-40%, and 4.9 percent were in the bottom 51 percent. Academic ranking in Chinese schools is based on the decreasing total of a student's exam grades. The better a student does on tests, the lower his or her academic ranking should be. The student will be rated first in the class if, for example, he or she received 100 percent on all of his or her examinations.

There were 74.4 percent of participants who were not Shenzhen residents, and there were 798.8 percent of participants whose family had more than one child. Shenzhen residents lived an average of 8.86 years (standard deviation: 4.32). About 54.6 percent of the participants leased their homes, "while 378.8 percent lived with their family. Of those polled, the majority (92.1%) said their parents were married and living

together; 3.0% said their parents were married but split; and 3.2% said their parents were divorced". A second study recoded the marital status of the parents into two categories: "intact" and "disrupted or separated," respectively. 93.7% of pupils were found to be from intact households, according to the findings. About a quarter (25.2 percent) of the participants said they received no pocket money each month, while 31.3 percent said they received 50 yuan or less on average each month.

Of the dads surveyed, 38.0% had completed junior high school and 25.2% had completed senior high school, the two highest levels of education available to them. Mothers' educational attainment was 39.3% junior high school and 23.1% primary school, respectively.

37.2 percent of dads were self-employed company owners, while 23.2 percent were employed by companies, according to the data. More moms than dads (22.6 percent) were found to be in charge of home responsibilities, while less than a quarter of mothers (24.4 percent) were found to be self-employed. In the absence of more information, "Other" accounted for a sizable share (26.7 percent). Instead of including parents' jobs, regression models included their educational degrees for statistical and practical reasons, allowing for interpretations.

Conclusion

The importance of this research, as well as its contributions, will be discussed in more detail below. To begin, this research shows a link "between academic stress and mental health issues including depression and anxiety. Although the findings from a cross-sectional study limit the interpretation of causation, the findings nevertheless suggest that reducing Chinese teenagers' perceptions of academic stress may be an essential and effective strategy for reducing depression and anxiety symptoms in China".

Secondly, the results of a linear regression analysis were used to estimate the likelihood that students will experience symptoms of academic "stress, sadness, or anxiety. Participants with worse academic achievement and fewer monthly pocket money were more likely to feel considerably greater levels of academic stress, according to regression results" in higher grades. Studies have "found that depression symptoms are more likely to occur in women who have higher levels of academic stress, are in older grade levels and have poor academic performance, as well as those who receive less monthly pocket money, have lived in Shenzhen for fewer years, or do not have their own housing and come from disorganized families. Higher levels of academic stress, being female, and studying" at a higher grade level have all been linked to an increase in anxiety symptoms.

As a result, this research shows that greater levels of academic stress are linked to mental health problems including despair and anxiety. "Gender and teenage grade level were revealed to be important predictors for academic stress, sadness, and anxiety symptoms among" all demographic variables.

The third finding was that the "effects of gender and residence type on teenage academic stress, depression and anxiety symptoms varied depending on whether they were Shenzhen or non-Shenzhen citizens, as well as whether" they were female or male. Adolescent-specific treatments might therefore be designed depending on unique requirements

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