Rising Adolescent Mental Health Challenges in Post-Pandemic Era: A Comparative Analysis of Its Influential Factors in China and the U.S.

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Abstract. This paper explores the contributing factors that lead to adolescent mental health in China and the U.S., two countries with high and increasing cases of mental health issues. Specifically, the paper focuses on depression since it is the most significant mental health challenge globally, and its prevalence has been on the rise in the post-pandemic era. By identifying four major factors that contribute to adolescent mental health: 1) social media use, 2) academic pressures, 3) COVID-19 and quarantine impact, and 4) family structure, this paper compares the negative impacts caused by the four factors in adolescent mental health in China and the US. This paper concludes that the Chinese academic system and lockdown policy had a more negative effect when compared to that in the U.S. Considering the social media environment and familial structure, the U.S. has experienced more negative impacts on adolescent mental health than China has. While both nations have a similar prevalence of depression, the paper concluded that the level of significance of each factor in causing adolescent depression varies based on a country's societal, cultural, educational, and ideological situations. This comparative approach sheds light on the nuance of adolescent mental health. It provides policy and program implications to needed stakeholders, such as families, schools, and policymakers, to address the increasingly severe mental health challenges among teenagers.

Keywords: adolescent mental health, depression, social media, comparative study.

1 Introduction

Mental health issues have become an increasingly prevalent issue globally. Recent global challenges, such as the Covid-19 pandemic, as well as the rise of social media use, have only exacerbated the issue of mental health. According to a statistical study, "one in three women and one in five men have an episode of major depression by the age of 65" and depression is the most common mental health issue globally [1].

Adolescents are especially vulnerable and subject to mental health challenges. The unique age and experience of adolescence opens and exposes teenagers even further to

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mental health issues. Considering recent mental health concerns, it is crucial to specifically examine the impact on adolescents. Recent global changes have already had an impact on adolescent mental health. In the U.S., for example, the American Academy of Pediatrics (AAP) declared a state of national emergency on adolescent Mental Health [2]. The AAP outlined factors such as the COVID-19 pandemic as well as racial struggles as intensifying the issue of mental health challenges. Furthermore, adolescent mental health plays a significant role in the challenging topic of self-harm and suicide among adolescents. According to the statistics by NIH, in 2024, suicide is 3rd leading cause of death in the U.S., highlighting the impact on mental health [3].

Both Nations that are included in this paper face significant rates of adolescent mental health conditions. In the U.S., it is estimated that 20% of adolescents experience depression [4]. Comparatively, in China, it is estimated to be 22.2% [5]. Comparing the prevalence of depression between the U.S. and China, both rates are pretty similar. It is also significant to consider that the nuance of mental health disorders makes it difficult to quantify mental health conditions accurately. However, these statistics show a similar rate of depression within both nations. This paper aims to analyze the differing factors that influence adolescent depression within both nations, comparing the differences between China and the U.S.

2 Research Question

The primary research question of this paper is to comparatively analyze how adolescent mental health is impacted by different factors in China and the U.S. – to understand if certain factors cause more mental health challenges in one nation compared to the other.

3 Methodology

As outlined in the background, the four factors of Academic experience, Culture and family, COVID-19 pandemic impact, and social media environment will be analyzed. Each specific factor will be compared between the two nations of the U.S. and China.

Focusing specifically on depression as the mental condition that is analyzed in this paper, four categories will be studied to see how adolescent mental health is influenced. These four factors consist of Academic experience, cultural and family, COVID-19 impact, and finally, social media environment.

3.1 Academic Experience

A large part of the adolescent years includes attending school, specifically primary and secondary education, also called middle and high school. School time and work comprise a large amount of an adolescent's time, thus making them a significant factor in adolescent mental health. Academic experiences contain various factors, including academic performance, such as grades, college planning, and school relations, including

social connections with students and teachers. These have been shown to have a correlation with mental health, with negative school relations having a negative correlation to mental health [6]

The academic environments of the U.S. and China, although influencing adolescent mental health in similar ways, also have many glaring differences that could impact adolescents in differing ways. Both nations have significantly different academic experiences, with some key factors including student social relations, higher education, and academic pressure. This difference may provide insight to how adolescent mental health is impacted differently by the academic experience in each nation

3.2 Family

During the adolescent years, family is a significant factor in mental health. There are strong links between family and adolescent mental health conditions. A study done on adolescents hospitalized for mental health conditions showed that 89% came from families that experienced some kind of disruption [7]. Another study showed a strong connection between parental mental health conditions with their adolescent children's mental health.

Additionally, other cultural experiences can impact mental health. These can range from specific cultural values that affect mental health conditions, including stigma on talking about mental health in certain cultures or even the fear of seeking out help [8]. Additionally, there is the possibility of disparity in mental health conditions and even support within different ethnic or cultural groups within a nation [9]. This is another factor that should be considered.

3.3 Covid Pandemic Impact

The global COVID-19 pandemic has undoubtedly had a substantial impact on mental health around the world, not just adolescent mental health. Globally, it is reported that the pandemic has led to a 25% increase in the prevalence of depression and anxiety [10]; thus it is important to analyze the impact of the COVID-19 pandemic and its specific impact in both China and the U.S. Adolescents have also been especially vulnerable to the challenges created by the Covid pandemic. Many factors, including school closures and isolation due to quarantine, affect adolescents in a significant way.

There also exists significant differences between the Covid experience within China and the experience in the U.S. These disparities will be analyzed through the lens of their effect on mental health. An example of this is China's stricter quarantine practices, including full-on lockdowns in certain cities [11].

3.4 Social Media Environment

Social media use has risen within adolescents and has become extremely common, with around 90% of adolescents using social media [12]. Although social media use can be either beneficial or negative for adolescent mental health, it certainly influences adolescents significantly. With social media use still being on the rise, the differing social

media environments of China and the U.S. can account for differences in mental health conditions for adolescents between both nations [13].

4 Analysis

4.1 Academic Experience

The first aspect of Academic Experience that will be compared between China and the U.S. will be the college admissions process - a process that differs significantly between both nations and thus is significant. In general, college admission has a major effect on adolescent mental health; the pressure of college admission often has negative effects on mental health [14]. By analyzing the differences between the Chinese and U.S. processes, it can be understood how they contribute to the mental health of the students in each prospective country.

The U.S. college admission process includes a few significant components, which can be summarized as Grades throughout high school as reflected on your transcript, standardized test scores from either the SAT or ACT, extracurriculars and activities, letters of recommendation, and finally, essays [15]. As seen from the extensive list that factors into college admission, the U.S. college admissions process focuses generally on students from a holistic perspective. This process can often encourage students to explore their passions, such as sports or the arts, in addition to academics. Alternatively, it can also introduce extra pressure among multiple fields.

The Chinese college admissions process is quite simply determined by a student's score on a standardized test known in Chinese as the "Gao Kao." The test is administered to all students across the nation seeking to attend a university in China [16]. This process thus places extreme importance and significance on one single exam; oftentimes, students even believe that this single exam determines their future. This system of college admissions also places significantly more academic pressure on Chinese students than those in the U.S. This incentivizes students to focus solely on academics neglecting extracurriculars and sports as they don't factor into college admissions.

Understanding the stark differences between the U.S. and China's college admissions processes, this paper will look at the effects of the different college admissions processes on their students' mental health. Beginning with China, the "Gaokao" has been shown to have a significant impact on student mental health. The stress of performing on just one exam increases mental health challenges; 65% of students reported feeling of anxiety, and 45% reported feeling of depression [17]. At the same time, the "Gaokao" inherently created a system of inequality - Students from Urban areas with more resources perform better than those from rural areas. This is also reflected in the mental health impact, with students from rural areas feeling more stress. On a scale of 10, students from rural areas reported feeling 0.5 more stress than those from urban areas. Thus, with the high amounts of stress and narrow academic focus, the Chinese college admissions system contributes more towards negative adolescent mental health than the U.S. system.

4.2 Family Structure

Comparing typical family structure and security can reveal important differences. This is largely due to the significant effect families have on adolescent mental health. Now, in this section, the paper will focus mainly on differences in traditional family structure and related factors, comparing China and the U.S

The typical U.S. family remains the married couple household, otherwise often described as the "nuclear family." Although declining in recent years, families with married couples still make up the majority of all family households [18]. Another way to evaluate the effect of family on adolescent mental health is divorce rates. Divorce has significant impacts on adolescents' emotional and mental well-being, with adolescents who experience divorce being at higher risk for mental health issues [19]. Currently, the divorce rate in the U.S. per 1000 marriages is 6.9 [20]. Although this number has decreased over the past decade, it is still quite high.

In China, the typical family can often look similar to the U.S. "nuclear family" with a married couple household Chinese families often live with and include much more extended family [21]. Comparing the divorce rate in China to the U.S., however, it can be found that China has a significantly lower divorce rate than the U.S., with China having a divorce rate of 2.04 per 1000 marriages. This suggests that adolescents in the U.S. tend to be affected more by familial factors in regard to their mental health since Chinese families tend to stay together more often.

4.3 Covid Pandemic Impact

As the COVID-19 pandemic affected China and the U.S. in different ways, its impact on the mental health condition of adolescents in both nations will differ as well. First, understanding the difference in the impact of the COVID-19 pandemic and other policies, such as quarantine and online learning, will reveal their impacts on mental health.

The global Covid-19 pandemic began in Wuhan, China, in 2019 [22]. Soon, the entire city of Wuhan would be placed into a state of lockdown in order to prevent the spread of the Covid-19 virus [23]. The city-wide lockdown would seal off the entire city, including all forms of transportation into and exiting the city. The lockdown would last for a total of 76 days, over two months long [24]. Wuhan would not be the only city in China to experience full city-wide lockdowns. As Covid cases increased and spread throughout China, over 45 cities experienced some form of lockdown or restrictions [25]. Most severely, another major city, Shanghai, experienced a two-month-long lockdown due to Covid outbreaks. This lockdown, however, was even more extreme than in Wuhan, confining residents to their homes for the majority of the time. [26]. The impact of the Covid pandemic extended to students facing the pandemic over 600,000 schools faced extended closure due to Covid protocols [27]. Online learning meant limited social interactions between students, with almost none or extremely little in-person interactions between students and teachers. Although it is impossible to summarize all of the effects of the COVID-19 pandemic on China, it is clear that China was

very significantly affected like most nations, but more importantly, took upon incredibly strict policies to combat Covid, including extended online learning and harsh lockdown procedures.

Similarly to China, Covid first appeared in the U.S. at the start of 2020 meaning that both China and the U.S. experienced the first cases of Covid at similar times. Unlike China, however, it would take longer for COVID-19 to emerge as a national emergency in the U.S., with a national emergency being declared in March of 2020 [28]. During the Covid pandemic, the U.S. also experienced lockdown and quarantine policies implemented to combat the spread of the virus. This mainly included activity restrictions, first beginning with a neighborhood in New York, these orders mainly asked residents to stay at home and to only leave for essentials. The U.S. response to COVID-19 also differed from China as individual states implemented their own responses and policies. The U.S. federal government, under Trump's administration, asserted that they would support state governments instead of having a national strategy. [29]. Thus, the response to COVID-19 in the U.S. would differ largely between states nationwide. Thus, the U.S. quarantine policies were far less restrictive than the Chinese lockdown, never reaching as far as locking down whole cities as China did with Wuhan or Shanghai [30]. Similarly to China, schools were affected by the COVID-19 pandemic, and most of them moved to online learning. By the spring of 2020, it was reported that 77% of public schools had moved to online distance learning due to the COVID-19 pandemic [31].

To compare the impact of COVID-19 on adolescent mental health, the total cases of COVID-19 can be taken into account. According to the Covid cases reported to the World Health Organization, the U.S. had 103 million confirmed cases, whilst China had 99.4 million. [31]. Although this cannot be a completely accurate measure of Covid cases, it suggests that both nations suffered similar amounts. However, considering China's larger population, the U.S. had more Covid cases in relation to their population, suggesting that adolescents in the U.S. could have been impacted more than those in China. Analyzing both the nation's quarantine and lockdown policies, it is evident that China implemented harsher and more strict policies, including full lockdown of cities. Comparatively the U.S. did not have one national policy varying based on states. China's harsher lockdown policy would have limited social interactions far more than in the U.S., thus having a larger impact on adolescent mental health. An example of China's extremely strict COVID-19 protocols can be demonstrated through the "health code" and "itinerary code" developed by the government. The health code ranged from green, signifying low risk of COVID-19, to red; such codes would be required to enter most public establishments such as airports or even shopping malls. The itinerary code would show one's travel history through tracking of a phone [32]. Comparing the online learning policies of both nations reveals that they are quite similar. Both nations were forced to use online distance learning during the height of the COVID-19 pandemic. Thus, the negative effects on mental health of online learning were experienced by adolescents of both nations.

4.4 Social Media

The social media environments in China and the U.S. differ drastically. The top social media platforms used by adolescents in the U.S. are Youtube, TikTok, Snapchat, and Instagram [33]. In China, the most popular social media platforms for adolescents are Douyin, WeChat, Weibo, and Bilibili [34]. Despite both nations using completely different social media platforms, their functions are quite similar. For example, Douyin and TikTok are almost the exact same apps, with one being the international version and one being Chinese. Considering that adolescents are using similar social media platforms this part will analyze how their usage and environments differ.

First, regarding social media use in the U.S., a survey conducted with 1500+ adolescents found that they averaged 4.8 hours on social media platforms per day [35]. This suggests that adolescents in the U.S. spend a significant amount of time daily on Social media. Additionally, 90% of adolescents are on social media, demonstrating that not only do adolescents in the U.S. spend a significant amount of time, but also almost all adolescents use social media [33]. Looking at cases of cyberbullying in the U.S., it was reported that 46% of adolescents reported having experienced some form of cyberbullying. The most common included Offensive name-calling and spreading of false rumors [36]. Alarmingly, 10% reported receiving physical threats, and 7% had explicit images of them shared without consent. Studies in the U.S. have shown even more negative effects of social media use among adolescents. A study showed that adolescents using over three hours of social media use per day had twice the risk of negative mental health outcomes [37].

Similarly to the U.S. Chinese adolescents also spend large amounts of time on social media. In a 2017 survey, it was reported that around 70% of adolescents used social media [38]. Within the most popular social media platforms mentioned above, Chinese adolescents also make up a majority of the users [39]. Therefore, the social media use of Chinese adolescents can be comparable to that of adolescents in the U.S., or slightly less, considering that although a vast majority of Chinese adolescents use social media at 70%, it is far larger in the U.S. at 90%. This suggests that social media is more prevalent among adolescents in the U.S. than in China. Comparing the negative effects of social media on Chinese adolescents, studies have found that they are quite similar to the U.S. When studying the relationship between social media screen time and depression, it was found that greater media screen time was related to greater depression. [40]. When looking at cyberbullying, however, 37.5% of adolescents reported having experienced some form of cyberbullying, which is lower than the prevalence of cyberbullying in the U.S.

To conclude, although both adolescents in the U.S. and China consume large amounts of social media, social media use in the U.S. seems to have a larger negative impact on adolescents' mental health. Interestingly one explanation for decreased social media use in China compared to the U.S. can be attributed to China's strict screen time limitation on adolescents. The government has implemented strict screen time restrictions in China, including three-hour-per-week limitations for video games and strict social media filters [41]. And the Chinese government continues to move forward to implement even stricter screen time limitations with less workarounds. Considering

this it can explain how the Chinese social media environment is less impactful towards the mental health of Chinese adolescents.

5 Discussion

To make it clear, Table 1 compares the four different factors causing depression in China and the U.S. – academic experience, family structure, COVID-19 impact, and social media environment. A similar prevalence of depression in both nations' adolescents can be explained.

Table 1. Comparison of Four Factor's Contribution to Adolescent Mental Health With Each Other

Factor	China	U.S.
Academic Experience	-	+
Family structure	+	-
Covid impact	-	+
Social Media environment	+	-

Notes: - notates a more negative effect on adolescent mental health in relation to the other country. + notates a more positive impact.

Of the four areas that this paper looked at, academic experience in China had a more significant negative impact on adolescent mental health. This was concluded due to the Chinese college admissions system, which places immense pressure on a single college admissions test known as the Gaokao. This, compared to the more holistic U.S. application process, causes more stress on students, leading to mental health issues in adolescents. For family structure, although both nations had similar family compositions, by comparing divorce rates, the U.S. had a significantly higher divorce rate; therefore, it was concluded that family structure caused more mental health issues in U.S. adolescents. Looking at COVID-19's impact, with China and the U.S. being hit hard by the pandemic, China had a stricter nationwide lockdown policy and quarantine systems put in place when compared to the U.S. response to COVID-19. Thus, the stricter lockdown in China led to more social isolation for adolescents in China than those in the U.S., thus contributing more negatively to adolescent mental health. Finally, regarding social media use in China and the U.S., Chinese adolescents use less social media and have more filtered content with less cyberbullying: this indicates that the U.S. social media environment causes more adolescent mental health issues.

6 Conclusion

In conclusion, considering that both nations had a similar prevalence of depression among their adolescents, the causes for adolescent depression in both nations are different from each other. After analyzing four different factors that impact adolescent

mental health, this study concludes that although different factors contribute to mental health conditions in China and the U.S., the overall impact is similar.

Teenage mental health is a pressing issue, and as demonstrated is affected and influenced by a variety of different causes. Factors that contribute to teenage mental health conditions are multifactorial and can vary from country to country. Comparing China and the U.S. can also show more significant cultural issues between East Asian and North American nations; however, due to each nation's individual circumstances, there may still be many differences.

This information can be used to understand better the nuanced but essential issue of adolescent mental health. The difference between China and the U.S. can provide insight to create better approaches for families and schools and policies for institutions to deal with the rise in adolescent mental health challenges.

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