

The Interplay Between Mental Health and Academic Success Among Adolescents: A Cross-Sectional Study

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Abstract

A person is considered mentally healthy if they are free of psychiatric problems, feel good overall, perform at or close to their full biological ability, have good vitality, and can cope with their surroundings. Mental health is impacted by current conditions that are connected to environmental changes. Every stage of life is aided by a person's mental health, which also helps him manage his thoughts, feelings, behaviors, and attitudes toward his environment and current affairs. This study investigates teenagers' mental health in relation to gender, home location, and its relationship with academic accomplishment. The study used Singh and Sen Gupta's Mental Health Battery on a sample of 100 teenagers (11th class) from government senior secondary schools in Uttar Pradesh and measured academic achievement using standardized grades and performance markers. The study found no significant differences in mental health scores between male and female adolescents (T-value = 0.5131) or between rural and urban adolescents (T-value = 0.2044). There was a substantial positive association ($r = 0.703$, $p < 0.001$) between mental health and academic accomplishment, emphasizing the importance of mental well-being in educational success. The study emphasizes the necessity of providing adolescents, regardless of gender or location, with inclusive mental health services. In order to improve well-being and academic results, It also emphasizes how critical it is to integrate mental health services into educational frameworks. Future studies ought to look into more variables like socioeconomic status, cultural norms, and longitudinal impacts, as well as using bigger, more varied sample sizes. These results support holistic approaches to promote academic and personal growth, adding to the larger conversation on adolescent mental health.

Keywords: - Mental health, academic achievement, adolescents, gender, locale.

Introduction

In recent years, the area of school mental health has grown, highlighting the collaborative potential of educational institutions as hubs for improving students' well-being. To address mental health comprehensively and create an atmosphere that promotes each student's general well-being, this method entails collaboration between doctors, educators, administrators, students, families, and community members. A condition of balance with oneself and with the environment, the absence of disease, or the complete performance of an organism's tasks are all ways to define mental health, which is a crucial component of total health. The fulfillment of existential requirements including food, shelter, social support, and freedom from stress and exploitation is necessary for these definitions to exist. People who are in good mental health can manage their emotions, build self-worth and control, develop and sustain relationships and fulfill cultural duties. Along with involving elements like social standing, emotional fortitude, and integration, it also encourages constructive relationships with society. Mental health is influenced by biological, social, psychological, and environmental variables. Low self-esteem, loneliness, unfavorable social circumstances, and discrimination are all risk factors for mental illness. like self-awareness, empathy, psychological development, and the capacity to learn from adversity are all made possible by mental health. Although it differs from culture to culture and is influenced by social conventions and personal characteristics, fundamental elements like humor, competence, and trust are universally important. Creating wholesome communities can help to further advance mental wellness.

A person is considered mentally healthy if they are free of psychiatric problems, feel good overall, perform at or close to their full biological ability, have good vitality, and can cope with their surroundings. Existing conditions that are linked to environmental changes have an impact on mental health. A person's mental health not only helps him deal with adjustment issues at every stage of life, but it also helps him control his thoughts, feelings, behaviors and attitudes toward his surroundings and current events. According to the world health organization, mental health is a condition of whole physical, mental, and social well-being rather than merely the absence of disease (WHO,2007). Self-efficacy, autonomy, subjective well-being, and the fulfillment of one's emotional and cognitive potential are all included. Additionally, constructive self-evaluation, reality comprehension, personality coherence, self-sufficiency, group-oriented attitudes, and environmental adaptation are all components of mental health (Jagdish& Srivastava,1983) Mental health is a vital component of total health since it is influenced by the five dimensions of health-physical, emotional, moral, spiritual, and social-according to (Gill and Kaur 2005). Mental health awareness is essential for teenagers because ignorance can result in serious moral, ethical, and emotional problems. Adolescent mental health awareness must be prioritized in addition to treating mental diseases.

According to (Mental Health Foundation 2008), mental health includes people's thoughts and feelings about their lives and themselves.it affects their capacity to deal with difficulties, perform well, and participate in a variety of facets of life,

such as family, employment, and community. There is a strong relationship between mental and physical health, with both direct and indirect effects on one another. Academicians have been very interested in university students choosing to pursue multiple careers; their academic performance becomes increasingly important. The academic performance of pupils is used by policymakers to make suggestions for the enhancement of the educational systems. Researchers and academics from all over the world are trying to find a solution to the widespread mental health issue. A person's life completely changes when they are accepted to a university, in addition to being emotionally and intellectually stimulated, university students are -under a lot of pressure to fulfill deadlines and adapt to a competitive environment. Students' poor academic performance, low quality of life, decreased well-being, and most importantly poor general health are all linked to mental health.

Related paper

explored in various studies across different contexts. (**Shagufta Zada and Yuefen Wang 2021**) analyzed data from 540 senior students in Pakistan, highlighting how mental health positively impacts academic performance, while mental health problems adversely affect it. Similarly, Linda (**G. Castillo 2013**) emphasized cultural and identity factors influencing mental health in college students, based on a study of over 10,000 undergraduates across the U.S., addressing trauma, minority experiences, and the challenges of emerging adulthood. Contrary to popular belief, Karl R. White (1982) found a weak correlation between individual socioeconomic status (SES) and academic achievement ($r=0.22$), while family factors and aggregate SES levels had stronger associations. (**Khaldoun M. Aldaba 2014**) Academic achievement and mental health have been linked to widely (2014) underscored the importance of addressing university students' mental health issues to prevent adverse effects such as academic dropout and self-harm, advocating for culturally sensitive mental health initiatives.

In India, (**Amandeep and Taj Preet Kaur 2019**) discovered significant variations in mental health among teenagers by gender and location, while (**Dinesh Naik 2017**) reported that 43% of adolescents in a study from Indore exhibited poor mental health, emphasizing the evolving concept of school mental health. (**J. Michael Murphy 2015**) revealed that early mental health interventions, such as Chile's "Habilidades para la Vida" program, significantly improved academic outcomes in elementary students. (**Shweta Singh 2020**) examined the pandemic's detrimental effects on children's mental health, influenced by factors like education, socioeconomic status, and family separation. (**Gary W. Evans 2003**) highlighted how the built environment impacts mental health, with poor housing conditions exacerbating distress and features like daylight and social support playing mitigating roles.

Tej Preet Kang and Asha Chawla found notable disparities in physical but not mental health among rural teenage boys and girls, with boys showing better somatic health. (**Farahnaz K. Farahmand 2012**) stressed the need to destigmatize mental health issues, both in civilian and military settings, through policies like the (**Mental Health Care Bill 2016**). Lastly, (**Raman Preet Kaur 2017**) emphasized the importance of promoting good mental health among youth, identifying 14 key areas of well-being, including self-perception, social skills, and academic performance, as essential for holistic mental well-being interventions. These investigations collectively emphasize the crucial interplay between mental health, academic success, and socio-environmental factors.

Definitions of Mental health

According to the National Association for Mental Health, having positive self-perception, feeling "right" "about other people, and being able to handle life's challenges are some traits of those in excellent mental health. one must recover or adapt to the surroundings to achieve these (**Strivedya, 2007**). In contrast to simply the absence of sickness or illness, the World Health Organization (2011) defines health as "a state of complete physical, mental, and social well-being." The idea includes fostering well-being, preventing mental illness, and treating and rehabilitating those who are impacted by them.

Mental Health Initiatives in India

The evolution of mental health policy and services in India is discussed in this section, comparing them to Nellie Bly's 1887 inquiry into asylums, which led to reforms after revealing serious abuses. The Delhi Commission for Women conducted a similar examination in 2017 and found severe conditions at the Asha Kiran complex, highlighting persistent systemic flaws. however, the Indian lunacy act of 1912 branded mentally ill people as risks while centralizing mental health administration, the mental health act of 1987 took its place, but it kept the regressive, institutionalization-focused clauses. Supporting people with disabilities was one way the later policies, such as the National Trust Act of 1999, filled gaps. Launched in 1982 to make mental health care accessible and community-focused, the National Mental Health Program (NMHP) has evolved with initiatives such as the district Mental Health Program (1996) and changes in 2003 and 2009 to incorporate mental health into primary care. The emphasis shifted to non-discrimination and community-based treatment when India joined the UN Convention on the Rights of persons with Disabilities in 2007. increased finance, professional training, and universal psychiatric care were the goals of the 2014 national mental health policy. as evidenced by the uproar surrounding the 2014 RBI rules on guardianship for disabled individuals, which highlighted the conflict between autonomy and help, difficulties still exist. Notwithstanding advancements, societal stigma, and implementation gaps continue to be major obstacles.

Objectives of the study

1. To study the relationship between teenage gender and mental health.
2. To study how adolescents' mental health relates to their location.
3. To study how adolescents' academic performance and mental health are related.

Hypotheses of the study

1. There is no significant difference between male and female adolescents' mental health.
2. Adolescents' mental health in urban and rural areas does not differ much.
3. There is no significant difference between adolescents' academic success and mental health.

Delimitation of the study

For the study, 100 teenagers (both male and female) in the 11th class from Uttar Pradesh's government senior secondary schools were selected.

Tool used

1. Mental health

To evaluate each subject's mental health, Singh and Sen Gupta (2000) administered the mental health battery. The battery had 130 items covering many aspects of mental health. The six dimensions of the battery are self-concept, intelligence, autonomy, security-insecurity, emotional stability, and total adjustment. High scores signify a high level of possession of the specific dimension, whereas low scores suggest a low level of possession.

2. Academic achievement

A student's academic advancement in class is primarily reflected through their grades and overall performance on standardized tests and assignments in key subjects such as math, science, English, and social studies. It consists of maintaining a high-grade point average (GPA), performing well on final exams and unit assessments, and earning honors such as subject-specific awards, being on the honor roll, or receiving distinctions. A student's profile is further improved by their active participation in extracurricular academic events such as science fairs, debate clubs, and math contests. Evaluations and feedback from instructors are crucial as they highlight a student's strengths, areas for improvement, and involvement in class activities. A student is required to demonstrate consistent improvement and progress over the academic year, as reflected in their results from midterm and cumulative assessments. Another key element is the results on standardized tests at the national or state level, which serve as a benchmark for comparing against broader educational standards. Typically, a student's academic performance in the tenth-grade acts as a thorough reflection of their dedication, cognitive growth, and readiness for higher-level classes.

Data analysis using statistics

Descriptive statistics, including frequency distribution, mean, median, mode, standard deviation, and t-value, were employed to achieve the investigation's goals while taking the study's hypotheses into consideration.

Interpretation and Analysis

1. There is no significant difference between male and female adolescents' mental health.

Table 1

Male and female adolescents on mental health (Means, SDs and 't' values)				
group	N	Mean	S. D	T-value
male	50	91.44	18.52	0.5131
female	50	97.76	17.26	

The study compares the mental health scores of male and female adolescents, with a sample size of 50 in each group. The mean mental health score for males is 91.44 (S.D. = 18.52), while for females, it is 97.76 (S.D. = 17.26). A T-test was conducted to determine if the difference between the two means is statistically significant. The calculated T-value is 0.5131, which is low and suggests that the observed difference is not statistically significant. Assuming a significance level (α) of 0.05, the p-value associated with this T-value would likely exceed 0.05. Thus, the null hypotheses, according to which there is no discernible difference in the mental health of teenagers who are male and those who are female, is **accepted**. This suggests that there is no discernible difference between the study's male and female teenagers' mental health score.

2. Adolescents' mental health in urban and rural areas does not differ much.

Table 2

Rural and Urban adolescents on mental health (Means, SDs, and 'values)				
Group	N	Mean	S. D	T-value
rural	50	94.2	19.85	0.2044
urban	50	98.96	16.02	

The study examines the mental health scores of rural and urban adolescents, with each group comprising 50 participants. The mean mental health score for rural adolescents is 94.2 (S.D. = 19.85), while for urban adolescents, it is 98.96 (S.D. = 16.02). A T-test was performed to evaluate whether the difference between the two means is statistically significant. The calculated T-value is 0.2044, which is very low, indicating no substantial difference between the two groups. Assuming a significance level (α /alpha) of 0.05, the p-value corresponding to this T-value would likely be greater than 0.05. Thus, the null hypotheses, according to which teenagers in rural and urban areas do not significantly differ in terms of their mental health, is **accepted**. This implies that there is no discernible difference between the study's rural and urban adolescents' mental health scores.

3. There is no significant difference between adolescents' academic success and mental health.

Table-3

The correlation coefficient between mental health and academic performance					
Category	Correlation Coefficient	N	T-statistics	d f	P-value
Mental health/ academic achievement	0.703	100	3.52	19.85	0.2044

Using a sample size of 100, the study investigates the connection between teenage academic success and mental health. The correlation coefficient ($r = 0.703$) indicates a strong positive relationship between the two variables. A T-test was performed to determine the statistical significance of this correlation, resulting in a T-statistic of 3.5269 with 98 degrees of freedom. The p-value associated with this test is 0.000641, which is far below the standard significance level of 0.05. Thus, the null hypotheses, which claims that there is no meaningful connection between adolescents' academic success and mental health, is **rejected**. According to this research, there is a significant and favorable correlation between teenage academic success and mental health.

Result and Discussion

The purpose of this study was to examine the disparities in mental health scores between male and female adolescents, adolescents living in rural and urban areas, and the connection between adolescent academic success and mental health. The findings shed light on adolescent mental health and its relationships.

1. Gender & Mental Health

Teenagers who were male and female did not significantly differ in their mental health scores, according to the study. The T-value (0.5131) was not statistically significant, showing that gender has little influence on mental health scores in the sample analyzed. This result is in line with earlier studies, which suggests that while male and female adolescents may face different stressors, these differences may not translate into general inequities in mental health outcomes. However, it is crucial to remember that the results may alter in other contexts, cultures, or with bigger sample sizes.

2. Mental health in urban and rural areas

Similarly, there was no significant difference in mental health scores between urban and rural teenagers. The T-value (0.2044) was again statistically insignificant, indicating that whether teenagers live in cities or rural areas has little effect on their mental health. This conclusion contradicts some previous research, which suggested that rural teenagers have specific mental health issues due to low resources, whereas urban adolescents may endure stress from intense competitiveness and fast-paced living. A limited sample size or a balanced distribution of mental health traits across the two groups may be the cause of this study's lack of a meaningful difference.

3. Mental Health and Academic Achievement.

The study revealed a considerable positive association ($r = 0.703$) between mental health and academic achievement. The T-statistic (3.5269) was statistically significant, and the p-value (0.000641) was considerably lower than the normal threshold of 0.05. This shows that improved mental health is linked to increased academic achievement in teenagers. These results are in line with earlier studies that highlighted the significance of mental health for academic performance,

attention, and cognitive functioning. Teens who are in good mental health are more likely to be able to handle stress, focus better, and do well in school settings.

Implications

The discoveries have numerous practical ramifications. First, efforts to improve adolescent mental health should be inclusive rather than limited to specific genders or residential settings. Because no substantial disparities were discovered between these groups, broad-based interventions aimed at all teenagers could be helpful. Second, the necessity of integrating mental health services within schools is highlighted by the close connection between academic success and mental health. Educational policy should prioritize mental health services because improving students' mental well-being has a direct impact on their academic progress.

Suggestions for Future Research

- 1. Bigger and More Diverse Samples:** Future research should incorporate bigger and more diverse samples from other areas, socioeconomic backgrounds, and educational settings to improve the generalizability of results.
 - 2. Longitudinal Studies:** Conduct a longitudinal study to investigate how mental health and academic achievement affect one another over time, considering life transitions such as the transition from adolescence to adulthood.
 - 3. The Impact of Socioeconomic and Cultural Factors:** Look at how socioeconomic position, cultural norms, and family dynamics influence adolescent mental health and its relationship to academic outcomes.
 - 4. Explore Additional Dimensions of Mental Health:** Learn about stress management, coping techniques, and resilience, as well as how they relate to educational performance.
 - 5. Technological and Social Media Influences:** Investigate the effects of digital technology and social media on adolescent mental health, particularly in educational and social settings.
 - 6. Multidimensional Academic Metrics:** Investigate how mental health influences broader academic metrics other than grades, such as creativity, critical thinking, and extracurricular participation.
 - 7. Neurobiological and Psychological Mechanisms:** Examine the psychological and neurological elements that affect the relationship between learning abilities and mental health.
- Future studies in these areas can help to deepen our understanding of adolescent mental health and inform the creation of comprehensive methods for promoting well-being and academic performance.

Conclusion

This study investigated teenagers' mental health by investigating variances based on gender and residential settings, as well as their relationship to academic achievement. The results indicate that there are no appreciable differences in the mental health ratings of male and female teenagers, or between rural and urban adolescents, implying that these characteristics may have little influence on overall mental health outcomes in the study group. However, the research discovered a robust and significant beneficial relationship between mental health and academic achievement, emphasizing the importance of mental well-being in educational success.

The findings demonstrate the importance of providing comprehensive mental health services that address the needs of all teenagers, irrespective of their gender or place of residence. Additionally, the close connection between academic success and mental health highlights how important it is to integrate mental health services within educational systems in order to enhance both academic performance and well-being. Future study should build on these findings by employing larger, more diverse samples and looking at different aspects of mental health and academic indicators. Longitudinal research and examinations into the impact of socioeconomic and cultural factors could provide a more complete picture of the dynamics at work. By expanding this field of study, we can better assist teenagers in achieving both mental well-being and academic success, thereby promoting their total development and potential.

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