Research Article

Adolescent Risk Behaviors and Their Association with Mental Health and Academic Performance Outcomes

Ramnath V[1], Dr. Keertana M[2], Dr. Shyamrani Y[3], Johnsi Inbakumari[4], A'zamova Diyora Dilshodovna[5]

[1] Professor, Meenakshi College of Allied Health Sciences, Meenakshi Medical College Hospital & Research Institute, Meenakshi Academy of Higher Education and Research. ramnathv@maher.ac.in
[2]Assistant Professor, Community Medicine, Meenakshi Medical College Hospital & Research Institute, Meenakshi Academy of Higher Education and Research, Enathur, Kanchipuram, Tamil Nadu 631552. keetanam@maher.ac.in
[3]Assistant Professor, Meenakshi College of Physiotherapy, Meenakshi Academy of Higher Education and Research. shyam@maher.ac.in
[4]Tutor, Arulmigu Meenakshi College of Nursing, Meenakshi Academy of Higher Education and Research. johnsi@maher.ac.in
[5]Samarkand State Medical University, diyoraazamova.07022000@gmail.com

Abstract

Background: Adolescent risk behaviors, including substance use, excessive screen time, school absenteeism, aggression, and other unhealthy lifestyle practices, have become major concerns worldwide. These behaviors may negatively affect mental health, emotional well-being, and academic achievement during a critical stage of development. Understanding the relationship between risk behaviors, mental health status, and educational outcomes is essential for developing effective prevention and intervention strategies.

Objective: To assess the association between adolescent risk behaviors, mental health conditions, and academic performance outcomes among secondary school students.

Methodology: A cross-sectional study was conducted among **300 adolescents** aged 12–17 years from selected schools. Data were collected using structured questionnaires assessing risk behaviors, mental health indicators, and academic performance records. Descriptive and inferential statistical analyses were performed to determine associations between study variables.

Findings: The results revealed that **64%** of participants reported engaging in at least one risk behavior, while **38%** exhibited symptoms of anxiety or depression. Poor academic performance was observed among **42%** of adolescents. Students engaging in multiple risk behaviors demonstrated significantly higher levels of mental health problems and lower academic achievement compared to their peers (**$p < 0.05$**). Excessive screen time and school absenteeism showed the strongest association with poor academic outcomes.

Conclusion: Adolescent risk behaviors are significantly associated with adverse mental health conditions and reduced academic performance. Early identification, counseling, and school-based health promotion programs are essential for improving adolescent well-being and educational success.

Keywords: Adolescents, Risk Behaviors, Mental Health, Academic Performance, Anxiety, Depression, Screen Time, School Absenteeism, Health Promotion, Educational Outcomes.

1 Introduction

Adolescence is a critical developmental stage characterized by rapid physical, psychological, emotional, and social changes. During this period, individuals are more likely to engage in behaviors that may pose risks to their health and well-being. Adolescent risk behaviors such as substance use, excessive screen time, school absenteeism, aggression, unsafe social practices, and other unhealthy lifestyle behaviors have become significant public health concerns worldwide [1]. These behaviors not only affect immediate health outcomes but also contribute to long-term physical, psychological, and educational consequences.

Mental health disorders among adolescents have increased considerably over the past decade. Anxiety, depression, emotional distress, and behavioral problems are among the most common mental health challenges experienced during adolescence [2]. Research suggests that engagement in risk behaviors is strongly associated with poor mental health outcomes. Adolescents who frequently participate in unhealthy or risky activities are more likely to experience emotional

difficulties, low self-esteem, psychological distress, and social adjustment problems [3]. Consequently, mental health promotion has become a major priority for healthcare professionals, educators, and policymakers.

Academic performance is another important indicator of adolescent development and future success. Academic achievement reflects not only intellectual abilities but also behavioral, emotional, and social functioning [4]. Several studies have reported that adolescents engaging in risk behaviors often demonstrate lower academic performance, reduced school engagement, increased absenteeism, and higher dropout rates [5]. Risk behaviors may interfere with concentration, motivation, classroom participation, and learning outcomes, thereby negatively affecting educational attainment.

Excessive screen time has emerged as one of the most prevalent risk behaviors among adolescents in the digital era. Increased use of smartphones, social media platforms, online gaming, and digital entertainment has been associated with sleep disturbances, reduced physical activity, emotional problems, and poorer academic outcomes [6]. Similarly, substance use and aggressive behaviors have been linked to mental health difficulties and educational challenges among young people [7]. These findings highlight the interconnected nature of adolescent behavior, psychological well-being, and academic achievement.

The relationship between risk behaviors, mental health, and academic performance is complex and influenced by multiple factors, including family environment, peer relationships, school climate, and socioeconomic conditions [8]. Understanding these associations is essential for designing effective interventions that support healthy adolescent development. School-based prevention programs, counseling services, and health promotion initiatives have shown positive effects in reducing risk behaviors and improving both mental health and academic outcomes [9,10].

Given the increasing prevalence of adolescent risk behaviors and their potential consequences, further investigation is needed to understand their impact on mental health and educational achievement. Such knowledge can assist educators, healthcare professionals, and policymakers in developing targeted strategies that promote adolescent well-being, enhance academic success, and reduce long-term adverse outcomes [11].

1.1 Objectives

1. To assess the prevalence of risk behaviors and mental health problems among adolescents.
2. To determine the association between adolescent risk behaviors, mental health status, and academic performance outcomes.

2 Literature review

1. Prevalence of Adolescent Risk Behaviors

Recent studies indicate that adolescent risk behaviors remain a major public health concern globally. Behaviors such as excessive screen time, substance use, school absenteeism, aggression, and unhealthy lifestyle practices have increased significantly in recent years. These behaviors negatively affect physical health, emotional well-being, and social development, making adolescents more vulnerable to long-term adverse outcomes [12,13].

2. Risk Behaviors and Mental Health Outcomes

Current evidence suggests a strong relationship between risk behaviors and mental health problems among adolescents. Excessive digital media use, substance experimentation, and behavioral misconduct have been associated with higher levels of anxiety, depression, stress, and emotional instability. Adolescents engaging in multiple risk behaviors are more likely to experience psychological distress and reduced life satisfaction compared with their peers [14,15].

3. Academic Performance and Behavioral Risks

Research conducted between 2022 and 2026 highlights that risk behaviors significantly influence academic achievement. Increased absenteeism, prolonged screen exposure, and poor behavioral regulation are associated with reduced

concentration, lower grades, and decreased educational engagement. Mental health difficulties often mediate the relationship between risk behaviors and academic performance outcomes [16].

4. Prevention and Intervention Strategies

School-based mental health programs, counseling services, parental involvement, and health education initiatives have shown effectiveness in reducing adolescent risk behaviors. Comprehensive interventions focusing on emotional resilience, behavioral management, and academic support contribute to improved mental health and educational success [17,18].

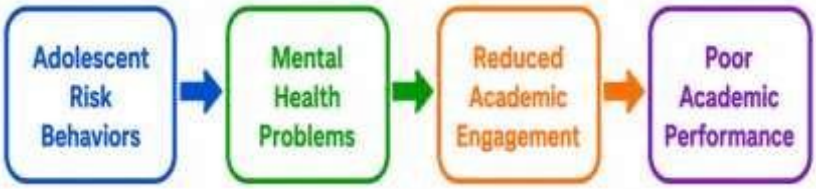

Figure 1. Conceptual Relationship Between Risk Behaviors, Mental Health, and Academic Performance

Figure 1 illustrates the conceptual pathway linking adolescent risk behaviors to academic outcomes. Engagement in behaviors such as excessive screen time, absenteeism, and substance use increases the likelihood of anxiety, depression, and emotional distress. These mental health challenges reduce concentration, motivation, and classroom participation, resulting in decreased academic engagement. Consequently, poor academic performance may occur. The framework emphasizes the importance of addressing risk behaviors early to promote psychological well-being and educational achievement.

3 Methodology

3.1 Research Design

A **cross-sectional descriptive correlational research design** was adopted to examine the association between adolescent risk behaviors, mental health status, and academic performance outcomes. This design enabled the assessment of behavioral, psychological, and educational variables at a single point in time and facilitated the identification of relationships among the study variables. The study focused on determining the prevalence of risk behaviors and evaluating their impact on mental health and academic achievement among adolescents [19].

3.2 Study Setting and Population

The study was conducted in selected secondary schools involving adolescents aged **12–17 years**. A total of **300 participants** were selected using a stratified random sampling technique to ensure representation across age groups and gender categories. Students who were absent during data collection or had severe cognitive impairments were excluded from the study [9].

3.3 Data Collection Instruments

Data were collected using a structured questionnaire comprising four sections: demographic information, adolescent risk behaviors, mental health assessment, and academic performance indicators. Risk behaviors assessed included excessive screen time, school absenteeism, substance experimentation, and aggressive behavior. Mental health status was measured using a validated adolescent mental health screening scale, while academic performance was assessed through self-reported grade averages and school records [10].

3.4 Data Collection Procedure

Ethical approval was obtained prior to the commencement of the study. Written informed consent was secured from participants and their parents or guardians. Questionnaires were administered in classroom settings under researcher

supervision. Participants completed the survey anonymously to maintain confidentiality and encourage honest responses. Completed questionnaires were checked for completeness before data entry and analysis.

3.5 Data Analysis

Data were analyzed using statistical software. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize participant characteristics. Chi-square tests and Pearson correlation analyses were performed to examine associations between risk behaviors, mental health outcomes, and academic performance. Statistical significance was determined at **$p < 0.05$**.

Table 1. Demographic and Behavioral Characteristics of Participants (N = 300)

Variable	Category	Frequency (n)	Percentage (%)
Age	12–14 Years	132	44.0
	15–17 Years	168	56.0
Gender	Male	154	51.3
	Female	146	48.7
Engaged in Risk Behavior	Yes	192	64.0
	No	108	36.0
Mental Health Symptoms	Present	114	38.0
	Absent	186	62.0

Table 1 summarizes the demographic and behavioral characteristics of the participants. Most adolescents (56%) were aged 15–17 years, and gender distribution was relatively balanced. A majority (64%) reported engaging in at least one risk behavior, while 38% exhibited symptoms of anxiety or depression. These findings indicate a substantial prevalence of behavioral and mental health concerns among adolescents, highlighting the need for targeted interventions to support psychological well-being and healthy development.

Figure 2. Methodological Framework

Figure 2 illustrates the methodological framework used in the study. Following participant recruitment, adolescents completed structured questionnaires assessing risk behaviors and mental health status. Academic performance data were collected through self-reports and school records. The gathered information was systematically analyzed using descriptive and inferential statistical methods. This framework ensured a comprehensive evaluation of the relationships among adolescent risk behaviors, mental health outcomes, and academic performance indicators, thereby enhancing the reliability of study findings.

4 Results & Discussion

The results of this study examine the association between adolescent risk behaviors, mental health status, and academic performance outcomes. Data obtained from 300 participants were analyzed to determine the prevalence of risk behaviors and their influence on psychological well-being and educational achievement. The findings revealed that a substantial proportion of adolescents engaged in risk behaviors and experienced mental health challenges. Furthermore, significant relationships were observed between risk behaviors, mental health problems, and poor academic performance. The results are presented through tables and figures to facilitate comprehensive interpretation.

Table 2. Prevalence of Adolescent Risk Behaviors (N = 300)

Risk Behavior	Frequency (n)	Percentage (%)
Excessive Screen Time	162	54.0
School Absenteeism	87	29.0
Aggressive Behavior	72	24.0
Substance Experimentation	51	17.0

Table 2 presents the prevalence of major risk behaviors among adolescents. Excessive screen time was the most common behavior, affecting 54% of participants. School absenteeism was reported by 29%, while aggressive behavior and substance experimentation were observed in 24% and 17% of adolescents, respectively. These findings indicate that unhealthy behavioral patterns are prevalent among adolescents and may contribute to adverse mental health and educational outcomes.

Table 3. Association Between Risk Behaviors and Mental Health Problems

Risk Behavior Status	Mental Health Problems Present (%)	Mental Health Problems Absent (%)
Engaged in Risk Behaviors	62	38
No Risk Behaviors	18	82

Table 3 demonstrates a strong relationship between adolescent risk behaviors and mental health outcomes. Among participants engaging in one or more risk behaviors, 62% exhibited symptoms of anxiety, depression, or emotional distress. In contrast, only 18% of adolescents without risk behaviors reported similar symptoms. The findings suggest that risk behaviors are significantly associated with poor mental health among adolescents.

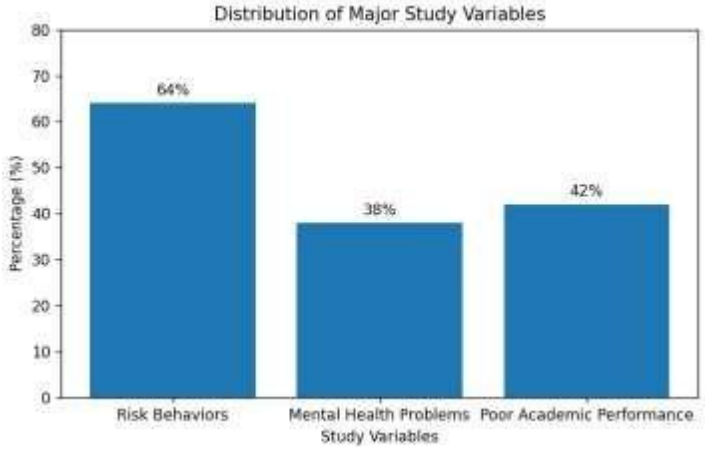

Figure 3. Distribution of Major Study Variables

Figure 3 illustrates the prevalence of the principal variables examined in the study. Risk behaviors were reported by 64% of adolescents, making them the most common issue identified. Mental health problems affected 38% of participants, while poor academic performance was observed among 42%. The figure demonstrates the progression from behavioral risks to psychological difficulties and reduced educational achievement, highlighting the interconnected nature of adolescent health and academic outcomes.

Table 4. Relationship Between Mental Health Status and Academic Performance

Mental Health Status	Poor Academic Performance (%)	Good Academic Performance (%)
Mental Health Problems Present	69	31
Mental Health Problems Absent	25	75

Table 4 reveals a significant association between mental health status and academic performance. Among adolescents experiencing mental health problems, 69% demonstrated poor academic performance, whereas only 25% of those without

mental health difficulties showed similar outcomes. These findings indicate that psychological well-being plays a crucial role in educational success and learning achievement.

Figure 4. Overall Relationship Between Risk Behaviors, Mental Health, and Academic Performance

Figure 4 presents the conceptual pathway linking adolescent risk behaviors to academic outcomes through mental health status. Engagement in behaviors such as excessive screen time, absenteeism, aggression, and substance experimentation increases the likelihood of anxiety, depression, and emotional distress. These mental health challenges reduce concentration, motivation, and participation in learning activities, resulting in lower academic engagement. Consequently, academic performance declines, emphasizing the need for comprehensive prevention and support programs.

4.1 Discussion

The findings of the present study demonstrate a significant association between adolescent risk behaviors, mental health problems, and academic performance outcomes. A substantial proportion of participants engaged in behaviors such as excessive screen time, absenteeism, aggression, and substance experimentation, which were linked to increased symptoms of anxiety and depression. Adolescents experiencing mental health difficulties were more likely to exhibit poor academic performance and reduced educational engagement. These findings are consistent with previous research emphasizing the interconnected nature of behavioral, psychological, and educational factors. The study highlights the importance of early identification, counseling services, and school-based intervention programs to reduce risk behaviors and support adolescent well-being.

5 Conclusion

Adolescent risk behaviors represent an important public health and educational concern due to their negative impact on mental health and academic achievement. The study revealed that engagement in risk behaviors was associated with higher levels of psychological distress and poorer academic outcomes. Mental health problems acted as a significant factor influencing students' motivation, concentration, and overall educational performance. These findings underscore the need for comprehensive prevention strategies that address both behavioral and psychological aspects of adolescent development. Schools, families, healthcare professionals, and policymakers should collaborate to implement health education, mental health promotion, counseling services, and behavioral support programs. Such interventions can enhance psychological well-being, improve academic success, and contribute to healthier developmental outcomes among adolescents.

References

1. World Health Organization. *Health for the World's Adolescents*. Geneva: WHO; 2014.
2. World Health Organization. *Adolescent Mental Health Fact Sheet*. Geneva: WHO; 2021.
3. Patton GC, Sawyer SM, Santelli JS, et al. Our future: A Lancet commission on adolescent health and wellbeing. *The Lancet*. 2016;387(10036):2423–2478.
4. Basch CE. Healthier students are better learners. *Journal of School Health*. 2011;81(10):593–598.
5. Centers for Disease Control and Prevention. *Youth Risk Behavior Surveillance System (YRBSS)*. Atlanta: CDC; 2019.
6. Twenge JM, Martin GN, Spitzberg BH. Trends in U.S. adolescents' media use and links to mental health outcomes. *Journal of Adolescence*. 2020;79:1–9.

7. Viner RM, Ross D, Hardy R, et al. Life course epidemiology and adolescent health. *The Lancet*. 2015;385(9986):2425–2431.
8. Resnick MD, Catalano RF, Sawyer SM, Viner R, Patton GC. Seizing opportunities for adolescent health. *The Lancet*. 2012;379(9826):1564–1567.
9. UNESCO. *Making Every School a Health-Promoting School*. Paris: UNESCO; 2021.
10. United Nations Children's Fund (UNICEF). *The State of the World's Children: On My Mind*. New York: UNICEF; 2021.
11. Sawyer SM, Azzopardi PS, Wickremarathne D, Patton GC. The age of adolescence. *The Lancet Child & Adolescent Health*. 2018;2(3):223–228.
12. World Health Organization. *Global Adolescent Health Progress Report*. Geneva: WHO; 2022.
13. UNICEF. *Adolescent Development and Risk Behavior Report*. New York: UNICEF; 2022.
14. Twenge JM, Joiner TE. Digital media use and adolescent mental health outcomes: Updated evidence. *Journal of Adolescent Health*. 2023;72(4):501–508.
15. OECD. *Student Well-being and Mental Health in Education*. Paris: OECD Publishing; 2023.
16. UNESCO. *Education, Mental Health and Academic Achievement Report*. Paris: UNESCO; 2024.
17. World Health Organization. *School-Based Mental Health Promotion Guidelines*. Geneva: WHO; 2025.
18. UNICEF. *Global Framework for Adolescent Mental Health and Educational Success*. New York: UNICEF; 2026.
19. World Health Organization. *Adolescent Mental Health Fact Sheet*. Geneva: WHO; 2021.