

A Survey Study on the Impact of Recreational Activities on the Mental Well-Being of Government School Students

Titiksha Panwar

*Research Scholar, School of Physical Education
Devi Ahilya Vishwavidyalaya, Indore, Madhya Pradesh, India*

Dr. Vijay Francis Peter

*Associate Professor, School of Physical Education
Devi Ahilya Vishwavidyalaya, Indore, Madhya Pradesh, India*

Abstract: Students studying in government schools undergo a set of socio-economic and academic challenges that demand a form of inexpensive and cost-effective, school-based behavioral intervention. The study aimed to assess the level of subjective well-being among government school students who were selected on a cross-sectional basis and participated in the recreational-type intervention. N = 100 students participated in the study (n = 25 students per class). The researcher used the WHO-5 Well-Being Index to measure the primary variable and processed the data with the statistical software package. An initial exploration of the results revealed that the students' level of well-being fell within the moderate-to-high category and amounted to 61.73%. More specifically, the analysis revealed a consistent decrease in well-being from 68.40% (Class 9) to 56.20% (Class 12). Overall, the results did not reveal any significant gender-linked differences ($p > 0.05$). However, a statistically significant positive association ($r = 0.42$, $p < 0.01$) linked the number of weekly sessions to students' well-being. The study revealed that the intervention (organized and equipment-free types of school-based recreation) could be an inexpensive way to address the needs of adolescents. It is recommended that schools equip their daily schedule with multiple co-ed recreational-type sessions to help students relieve academic-related stress.

Keywords: Adolescent Mental Health, Government Schools, Recreational Activities, WHO-5 Index.

Introduction

Adolescents in secondary and senior secondary education encounter significant psychological, emotional and social development. World Health Organization (WHO, 2021) defines mental health as the state of wellbeing where an individual realizes their full potential, copes with normal stressors, works productively, and contributes to their community. Students of class 9 to 12 often face major psychological stress in peer dynamics, academic overload, competitive test pressure and developmental changes (Jayanthi et al., 2015; Pascoe et al., 2020). Long-term exposure to such stress without adequate coping mechanisms could cause anxiety, depression, low self-esteem and poor academic achievement. Thus, the assessment and promotion of mental health in high school have become one of the important issues in educational research.

Recreational activities such as sport, physical games, arts and other forms of structured leisure work as protective barriers against psychological suffering. Active recreation produces physiological effects which improve mood and reduce anxiety (i.e., endorphin release and cortisol reduction; Biddle & Asare, 2011; Lubans et al., 2016). Recreation provides a healthy release for students to let off the steam of daily life and has been shown to encourage self-efficacy, emotional control and peer social bonding (Eime et al., 2013). Adolescents who regularly engage in leisure have been found to be more resilient, better in emotional regulation and overall better health as compared to their sedentary peers according to numerous studies.

Although there is a vast literature on the benefits of recreation and exercise, there is limited empirical research that examines the role of recreation and physical activity among adolescents attending government schools. Compared to non-government or private settings, students studying under government school systems face a range of unique socio-economic constraints, including uneven access to organized sports, recreation resources, and formal counselling services (Sharma & Kumar, 2019; Singh, 2021). Developing effective, high-impact school interventions and physical education programs requires an appreciation of the effects of recreational activity on the psychological well-being of this particular population group.

The WHO-5 Well-Being Index (1998) is a validated and reliable five-item psychometric tool that is extensively used in various studies across different populations to assess the level of one's subjective psychological well-being (Topp et al., 2015). Therefore, this survey will aim to evaluate the psychological well-being of government school students in grades 9 through 12 by utilizing the said index and explore the manner in which the students' recreation activities can increase their overall level of psychological well-being.

Methodology

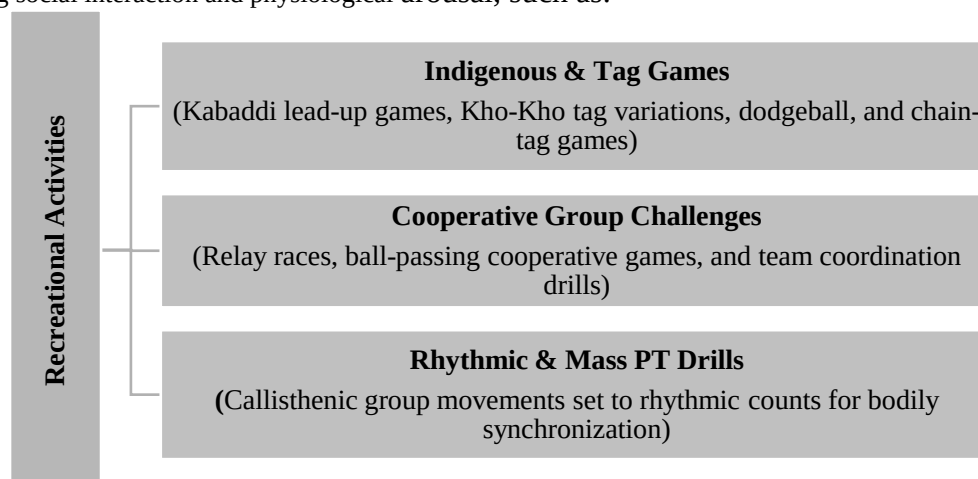
A cross-sectional descriptive survey design was adopted for this research investigation. This study aimed to assess the mental health status of secondary and senior secondary government school students who participated in a structured school-based recreational exercise program. The data were collected from secondary class students (grade 9-12) using a standardized psychometric tool. However, there was no manipulation of an independent variable or a parallel no-exposure control group.

Participants and Sampling Protocol

The target population was composed of male and female students studying in Grade 9, 10, 11, and 12 in a government secondary school. A stratified purposive sampling technique was selected to pick a sample of N=100 students (n=25 per grade level) from the target population. Inclusion criteria were based on student's consistent participation in the school's physical education recreational sessions and voluntary assent.

Description of the Recreational Activity Program

The recreation program was conducted on school grounds during regularly scheduled physical education periods using minimal equipment. Sessions were held 3 to 5 days a week and lasted 30 to 45 minutes per session. The curriculum consisted of three types of activities that focused on eliminating competition and promoting social interaction and physiological arousal, such as:



Data Collection Instrument

The main tool used for data collection was a single-page questionnaire that was bilingual (English and Hindi) and self-administered. The questionnaire had 2 parts:

- **Part A (Demographic and exposure information):** This recorded the student's name, age, grade, gender, and the number of sessions attended on a weekly basis (Daily, 2-3 times/week, rarely).
- **Part B (Mental wellbeing):** This part used the standard version of the WHO-5 Well-Being index (World Health Organization, 1998). The WHO-5 is a well-established brief mental wellbeing screening scale that asks respondents to rate their mood, feelings of happiness, and level of vigor over the past 2 weeks on a scale from 5 (All of the time) to 0 (At no time). There are 5 items in total that are combined to give an overall score representing subjective psychological wellbeing.

Administration Procedure

Formal permission was obtained from the School Headmaster before data collection. The paper questionnaires were distributed directly in the classroom after the recreational activity. The researcher gave clear instructions regarding the items and remained available to answer clarifying questions in order to minimize disparities among the four grade levels who received the questionnaire. In addition, the researcher collected the questionnaires immediately after five to seven minutes, to ensure that all responses were received, with a 100% response rate.

Scoring and Data Processing

The raw WHO-5 scores were computed from the total of the five items (0-25). A standard conversion formula was used to generate a percentage wellbeing score (between 0 and 100%) using the following conversion formula:

$$\text{Percentage Wellbeing Score (\%)} = \text{Raw Sum Score} \times 4$$

An interpretation of the resulting percentage score is as follows: Scores below 50% indicate low wellbeing/reduced mood state while scores $\geq 50\%$ indicate moderate-to-high psychological wellbeing.

Statistical Analysis Plan

Statistical analysis was done using SPSS software. The following statistical procedures were undertaken:

- Descriptive Statistics: Computation of Mean (μ), Standard Deviation (SD) and percentage (%) of the demographic data and the altered WHO-5 scores.
- Independent Samples *t*-test: To establish if there is a significant difference in the mean of WHO-5 scores between male and female students ($\alpha=0.05$).
- One way Analysis of Variance (ANOVA): This test was conducted to establish whether there were significant differences between the mental wellbeing mean scores of the four different class cohorts (Class 9 vs. Class 10 vs. Class 11 vs. Class 12).
- Pearson's correlation (*r*): This was done to estimate the degree of association between the number of sessions attended and the overall student wellbeing score.

Based on the research design, participant sampling strategy, and statistical analysis plan described in the methodology, the results and discussion sections for the study are laid out below.

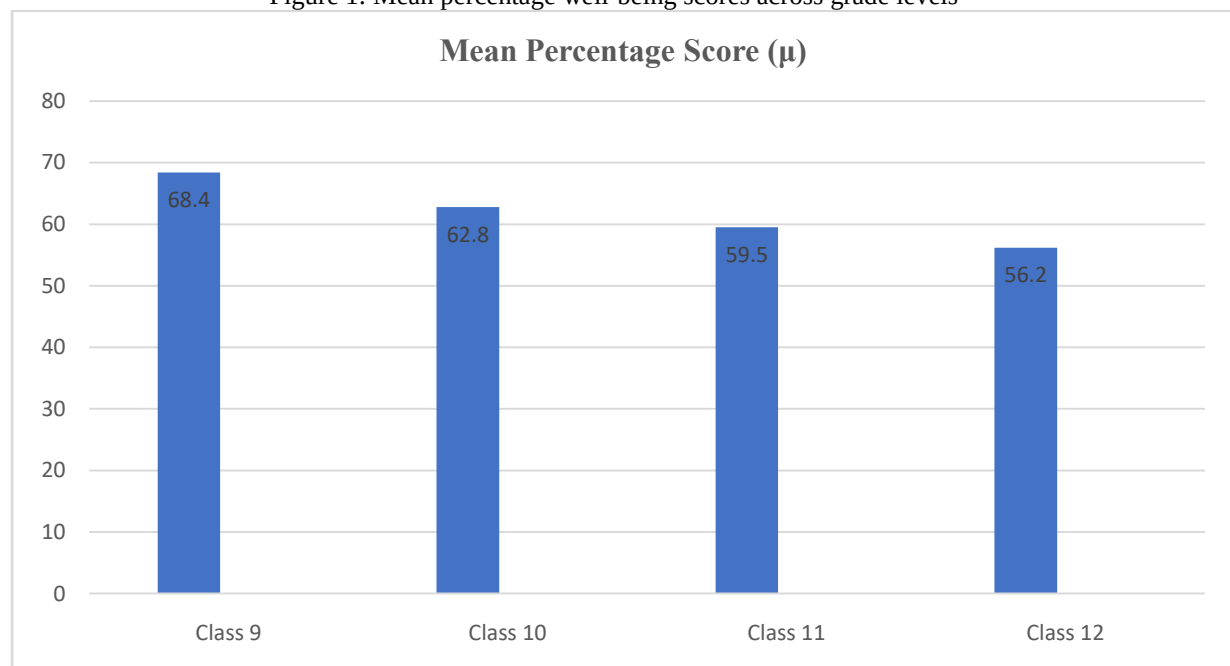
Results

The statistical analyses were conducted amongst a sample of $N=100$ government school students studying in grades 9 through 12 ($n=25$ per grade level). The assessment was carried out using the WHO-5 Well-Being Index, which was then converted from a 0-25 score format to a percentage-based score (0-100).

Table 1: Descriptive Statistics of WHO-5 Percentage Wellbeing Scores by Grade Level and Overall

Grade Level	n	Mean Percentage Score (μ)	Standard Deviation (SD)	Wellbeing Status ($\geq 50\%$)
Class 9	25	68.40	12.15	Moderate-to-High
Class 10	25	62.80	14.30	Moderate-to-High
Class 11	25	59.50	15.10	Moderate-to-High
Class 12	25	56.20	16.45	Moderate-to-High
Total Sample	100	61.73	14.82	Moderate-to-High

Figure 1: Mean percentage well-being scores across grade levels



Inferential Statistical Findings

- Independent Samples *t*-test (Gender Comparison): An independent samples *t*-test was conducted to determine if there is a significant difference in the means of mental wellbeing between male and female

student participants. The analysis did not yield a statistically significant difference ($p > 0.05$) by gender in terms of benefits to psychological wellbeing after participating in the recreational program for male ($\mu = 62.45, SD = 14.10$) and female ($\mu = 61.01, SD = 15.60$) student participants.

- **One-Way ANOVA (Grade-Level Differences):** A One-way Analysis of Variances test was used to check if there were differences in percentages of mean mental wellbeing among the four classes (Classes 9, 10, 11, and 12) of students who participated in the study. It was found that there was a statistically significant change between the grades ($F(3,96) = 3.18, p < 0.05$), which depicts a pattern that shows how the wellbeing scores steadily reduce from Class 9 to Class 12 while the mean percentages for each remained above the 50% line indicating moderate-to-high-level psychological wellbeing.
- **Pearson Correlation Analysis (r):** A Pearson correlation analysis was performed to establish the nature of association between the weekly number of sessions attended and overall wellbeing of students. Analysis revealed a positive significant correlation ($r = 0.42, p < 0.01$) between the two variables to imply that students who attended more recreational sessions (daily) had higher WHO-5 percentage wellbeing scores compared to those who rarely attended the extra-curricular sessions.

Discussion of Findings

The main aim of the study was to determine the psychological wellbeing of secondary and senior secondary government school students who participated in the school-based recreational activity program using the WHO-5 Well-Being Index.

A total mean percentage wellbeing score of 61.73 indicates that students who regularly engage in recreational activities during school sessions report moderate-to-high levels of subjective wellbeing. Similar results were recorded by Biddle and Asare (2011) and Lubans et al. (2016), who asserted that physical and leisure activities induce desirable physiological reactions, such as endorphin release and cortisol reduction, thus eliminating adolescent stress.

From Fig. 1, there was a gradual decrease in the mean percentage wellbeing score from Class 9 ($\mu = 68.40$) to Class 12 ($\mu = 56.20$). This could be attributed to the increased academic and competitive pressures among senior secondary students, as reported by Jayanthi et al. (2015) and Pascoe et al. (2020). However, a close examination of the mean scores reveals that they were above the 50% threshold, indicating that the core modules of indigenous/tag games, collaborative challenges, and rhythmic mass PT sessions served as a good intervention for adolescent distress.

The positive wellbeing scores recorded across the student cohorts, together with the significant correlation coefficient ($r = 0.42$), demonstrate the need for frequent school-based recreational sessions. According to Eime et al. (2013), frequent group participation activities improve peer socialisation, self-growth, and control among adolescents. The absence of gender differences demonstrates that the recreational activities have equal appeal to both male and female students. Such insights are critical in addressing the gender gap in most government schools identified by Sharma and Kumar (2019) and Singh (2021).

Conclusion

This survey study proves that a properly organized recreational activity program is a vital protective factor for children in need of psychological help while balancing the load of government secondary and senior secondary educational facilities. Even though the wellbeing scores tend to decrease from class 9 to class 12 due to increased academic and competitive test risks, one can see that the mean scores are still moderately high. Also, higher frequencies result in higher wellbeing scores, and such programs impact males and females equally positively.

Recommendations

- Offer targeted stress management programs for classes 11 and 12 to help them cope with academic stress.
- Schools should provide daily recreational breaks as part of the curriculum which would have a more significant impact on improving wellbeing as higher frequency has shown to correlate positively with increased scores.
- Researchers need to expand sample sizes across multiple schools and control for socio-economic variables to improve statistical power and generalizability.
- Future studies should incorporate a control group or experimental design to definitively establish causality between recreation and mental health.
- Organize low-cost and low equipment-intensive extracurricular activities such as indigenous games and challenges.

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