

THE IMPACT OF PARTICIPATION IN RECREATIONAL ACTIVITIES ON ACADEMIC ACHIEVEMENT AMONG SENIOR HIGH SCHOOL STUDENTS

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Abstract

In senior high school, students face increasing academic demands while also needing meaningful opportunities for recreation, social connection, creativity, well-being, and resilience. This study examined the impact of participation in recreational activities on the academic achievement of senior high school students. Using a quantitative cross-sectional, comparative, and correlational research design, the study assessed students' participation in physical, creative, social, and outdoor recreational activities and related these patterns to academic achievement indicators, particularly Grade Point Average (GPA) and standardized test scores. Data were gathered through a structured self-report questionnaire and official school records. Descriptive statistics, an independent-samples t-test, and Pearson's correlation were employed to analyze the data. Findings revealed that students demonstrated a moderate overall level of participation in recreational activities, with social activities receiving the highest engagement, followed by physical, creative, and outdoor activities. Academic achievement was generally favorable, as reflected in a good mean GPA and satisfactory standardized test scores. Results further showed that students who participated in recreational activities obtained higher GPAs and standardized test scores than non-participants. Significant differences were observed between participants and non-participants, while correlation analysis indicated a positive association between recreational activity participation and academic achievement. These findings suggest that recreation is not merely a break from academic work but a meaningful contributor to students' motivation, balance, cognitive functioning, and overall school performance. The study concludes that schools should intentionally promote accessible and varied recreational programs to support academic achievement and holistic development among senior high school learners across diverse learning contexts and communities.

Keywords: Recreational Activities; Academic Achievement; Senior High School Students; GPA; Standardized Test Scores; Holistic Development

1. Introduction

Senior high school is a demanding stage of education where students are expected to meet more rigorous academic requirements, prepare for higher education or employment, and make important decisions about their future. In this period, academic achievement is often treated as the central indicator of success, yet students' capacity to perform well in school is also shaped by their health, motivation, emotional balance, social relationships, and opportunities for meaningful recreation. Recreational activities—such as sports, exercise, music, arts, clubs, volunteer work, and outdoor activities—are not merely pastimes; they are developmental spaces where learners recover from stress, build confidence, form friendships, practice discipline, and strengthen skills that may support academic growth. This makes recreation an important area of inquiry in schools that seek not only high grades but also the holistic development of learners.

Recent studies increasingly show that well-designed physical and recreational experiences may contribute to academic and developmental outcomes. Loturco et al. (2022), in a systematic review, reported that physical activity interventions may improve overall academic

achievement among school students, although effects may vary across academic domains. Similarly, He et al. (2025) found that school-based physical activity had positive effects on academic achievement, particularly in mathematics and overall academic performance, while also emphasizing that intervention duration, intensity, and implementation quality influence outcomes. These findings suggest that recreational engagement can support learning not by replacing academic work but by improving the conditions under which students learn—such as attention, energy, self-regulation, and motivation.

Recreational participation also has social and emotional value, especially during adolescence. O'Donnell et al. (2024) found that participation in extracurricular activities predicted stronger school belonging over time, and that school belonging was associated with lower depressed mood among adolescents. This is relevant because students who feel accepted and connected within the school environment are more likely to participate, persist, and engage meaningfully in academic tasks. Reeve et al. (2025) further explained that student engagement is multidimensional, with behavioral engagement closely linked to achievement, emotional engagement associated with motivation and well-being, and agentic engagement related to social support. Recreational activities may therefore serve as pathways for strengthening the very forms of engagement that support academic success.

Creative and arts-related activities also deserve attention in discussions of recreation and achievement. Ishiguro et al. (2023) found that extracurricular music and visual arts activities were associated with improved academic performance among school-aged learners, although the effects were complex and sometimes mediated by growth in art-related skills. This indicates that creative activities may develop more than artistic talent; they may also nurture patience, concentration, self-expression, and cognitive flexibility. For senior high school students, participation in creative recreation may offer an alternative channel for learning, especially for those who thrive in expressive, performance-based, or collaborative environments.

Outdoor recreation adds another important dimension to students' well-being. Jackson et al. (2021) reported that participation in outdoor activities was associated with better subjective well-being among adolescents during the COVID-19 pandemic, highlighting the role of outdoor play and nature-based activities in strengthening resilience. Although outdoor activities are sometimes viewed as secondary to classroom learning, they may help students manage stress, restore attention, and develop a healthier relationship with their environment. In the context of senior high school, where academic pressure can be intense, outdoor recreation may provide a protective space for emotional regulation and mental recovery.

At the policy level, the connection between student health, well-being, and learning is increasingly recognized. The World Health Organization and UNESCO (2021) emphasized that schools are powerful settings for promoting both health and education outcomes, arguing that a health-promoting school strengthens the physical, social-emotional, and psychological conditions needed for learning. This perspective supports the idea that recreation should not be treated as an optional or peripheral activity. Instead, it should be understood as part of a balanced educational environment that enables students to become academically capable, socially connected, physically active, and emotionally resilient.

Despite these contributions, gaps remain in the literature. First, recreational activities are often studied separately, with physical activity, arts participation, social clubs, and outdoor recreation examined as distinct experiences. This makes it difficult to understand how overall recreational participation relates to academic achievement. Second, many studies focus on younger learners or on general extracurricular participation, leaving senior high school students underrepresented. Third, existing research often reports broad associations but gives limited attention to differences between students who participate in recreational activities and those who do not. Finally, there is still a need for school-based evidence to guide practical action plans to improve academic achievement through structured, accessible recreational opportunities.

To address these gaps, the present study examines the impact of participation in recreational activities on academic achievement among senior high school students. Specifically, it examines the level of student participation in physical, creative, social, and outdoor recreational activities; determines the level of academic achievement as reflected in Grade Point Average and standardized test scores; compares the academic achievement of students who participate in recreational activities and those who do not; and analyzes the relationship between recreational participation and academic achievement. By examining these relationships, the study aims to generate evidence that may guide schools in designing balanced programs that support both academic success and student well-being. Ultimately, this study positions recreation not as a distraction from learning but as a meaningful contributor to the development of motivated, healthy, and academically capable senior high school learners.

2. Method

2.1 Research Design

The study employed a quantitative research design using cross-sectional, correlational, and comparative approaches to examine the relationship between participation in recreational activities and academic achievement among senior high school students. This design was appropriate because the study aimed to generate measurable evidence on students' engagement in recreational activities and to determine how such participation was associated with academic outcomes. The cross-sectional component enabled the researcher to collect data at a single point in time, providing a clear snapshot of students' recreational involvement and academic performance within the selected learning context. The correlational component was used to determine the strength and direction of the relationship between participation in recreational activities and academic achievement, while the comparative component examined whether significant differences existed between students who participated in recreational activities and those who did not. Recreational participation was measured across physical, creative, social, and outdoor activities, while academic achievement was assessed using Grade Point Average and standardized test scores obtained from school records. Through this design, the study was able to describe participation patterns, compare academic outcomes between groups, and determine whether recreational engagement was meaningfully associated with academic performance. Overall, the research design provided a systematic and objective framework for understanding recreation not merely as a leisure activity but also as a potential contributor to students' academic success and holistic development.

2.2 Participants

The study comprises senior students enrolled in selected educational institutions within the research's defined geographical locale. Focused on determining the relationship between participation in recreational activities and academic achievement, the respondents were drawn from Grades 11 and 12, as these learners represent the final stage of secondary education where academic demands, personal development, and future career or college preparation become increasingly significant. A stratified random sampling technique was employed to ensure that the sample reflected important student characteristics, including grade level, gender, and socioeconomic background. This sampling approach strengthened the representativeness of the participants and allowed the study to capture varied experiences of recreational engagement across different student groups. Participants provided data on their involvement in physical, creative, social, and outdoor recreational activities through a structured self-report questionnaire, while their academic achievement was determined using objective indicators, such as Grade Point Average and standardized test scores, obtained from official school records. By involving senior high school students with diverse backgrounds and recreational participation patterns, the

study generated meaningful evidence on how recreational activities may be associated with students' academic performance and holistic development.

2.3 Instrumentation

The study employed a structured self-report questionnaire and official school records as the primary data collection instruments. The questionnaire was designed to measure senior high school students' participation in recreational activities across four domains: physical, creative, social, and outdoor activities. It gathered information on the frequency, duration, intensity, and perceived enjoyment of students' recreational engagement using a multidimensional Likert scale, allowing responses to be converted into quantitative data for statistical analysis. Open-ended items were also included to provide contextual insights into students' motivations and experiences related to recreational participation. To ensure clarity, relevance, and reliability, the instrument underwent pilot testing among a small group of senior high school students, and revisions were made based on the results. Academic achievement, the dependent variable of the study, was measured using objective data from official school records, specifically students' Grade Point Average and standardized test scores. These records provided reliable indicators of students' academic performance in core subjects and allowed the researcher to compare academic outcomes between participants and non-participants in recreational activities. The combined use of survey data and documentary records strengthened the validity of the study by capturing both students' self-reported recreational behavior and verified academic performance.

2.4 Data Analysis

The data gathered in the study were analyzed using quantitative statistical procedures appropriate to the cross-sectional, comparative, and correlational design. Descriptive statistics, including means, standard deviations, frequencies, and percentages, were used to summarize the level of student participation in recreational activities across physical, creative, social, and outdoor domains, as well as the level of academic achievement based on Grade Point Average and standardized test scores. To determine whether there were significant differences between students who participated in recreational activities and those who did not, an independent-samples t-test was employed. This allowed the researcher to compare the academic performance of the two groups and determine whether recreational participation was associated with higher achievement outcomes. Pearson product-moment correlation was also used to examine the strength and direction of the relationship between overall recreational activity participation and academic achievement. Where appropriate, regression analysis was considered to determine the predictive contribution of recreational activity participation while accounting for relevant student characteristics. The use of these statistical tools enabled the study to present objective and empirically grounded findings, moving beyond simple description toward a clearer understanding of how recreational engagement may relate to academic success among senior high school students.

3. Results

The findings revealed that senior high school students demonstrated a moderate overall level of participation in recreational activities, with an overall mean score of 3.49. Among the four recreational domains, social activities had the highest mean score of 4.10, indicating high participation, followed by physical activities with a mean score of 3.85, indicating moderately high participation. Creative activities recorded a moderate mean score of 3.20, while outdoor activities obtained the lowest mean score of 2.80, also interpreted as moderate. These results indicate that students were more inclined to participate in activities that involved peer interaction, group affiliation, and social engagement. However, the lower participation in creative and outdoor activities suggests that schools may need to provide more accessible, appealing, and structured

opportunities for learners to engage in arts-based, nature-based, and exploratory recreational experiences.

In terms of academic achievement, the students generally performed well. The mean Grade Point Average was 3.25, interpreted as good, while the mean standardized test score was 80.20, interpreted as satisfactory. This suggests that students were performing reasonably well in classroom-based academic requirements, although their standardized test performance still indicated room for improvement. The difference between GPA and standardized test outcomes may indicate that students met regular classroom expectations but still need additional support in test-taking skills, higher-order thinking, and the application of learned concepts in standardized assessment contexts. These findings emphasize the importance of examining academic achievement using multiple indicators, as GPA and standardized test scores may reflect distinct dimensions of student performance.

The comparison between students who participated in recreational activities and those who did not showed a statistically significant difference in academic achievement. Students who engaged in recreational activities had a higher mean GPA of 3.40 than non-participants (3.10). Similarly, participants recorded a higher mean standardized test score of 83.00 compared with 77.40 among non-participants. The independent-samples t-test indicated significant differences in both GPA and standardized test scores, suggesting that students who participated in recreational activities performed better academically than those with minimal or no participation. This finding implies that recreational engagement may support academic achievement by strengthening motivation, discipline, social confidence, time management, emotional balance, and cognitive readiness.

The correlation analysis further showed a positive relationship between overall participation in recreational activities and academic achievement. Recreational participation was moderately and positively correlated with GPA and standardized test scores, indicating that higher levels of participation were associated with better academic outcomes. Although the correlations do not establish direct causation, they provide meaningful evidence that recreation may contribute to students' academic success when balanced with school responsibilities. Overall, the results suggest that recreational activities should not be viewed as distractions from academic work but as supportive experiences that may enhance student well-being, engagement, and performance. These findings provide a basis for developing a school-based plan of action that promotes physical, creative, social, and outdoor activities as part of a holistic approach to improving academic achievement among senior high school learners.

4. Discussion

The study's findings affirm that senior high school students participated in recreational activities at a moderate level overall, with social activities showing the highest engagement, followed by physical, creative, and outdoor activities. This pattern suggests that learners are naturally drawn to activities that provide belonging, peer interaction, and emotional connection, which are important during adolescence. The result is supported by O'Donnell et al. (2024), who found that extracurricular participation strengthened school belonging and was associated with improved emotional outcomes among adolescents. In the context of the present study, the high participation in social activities indicates that recreation serves not only as leisure but also as a social support mechanism that may help students cope with academic pressure and strengthen their connection to school life.

The favorable academic performance of students, reflected in a good mean GPA and satisfactory standardized test scores, further suggests that recreational participation may coexist positively with academic responsibility. This finding aligns with Loturco et al. (2022), who reported that physical activity interventions may contribute to academic achievement across school-related outcomes. He et al. (2025) similarly found that school-based physical activity had positive effects

on overall academic achievement, although the magnitude of effect may depend on the type, duration, and quality of implementation. These studies support the interpretation that recreational activities can improve students' readiness to learn by enhancing attention, energy regulation, discipline, and cognitive functioning.

The significant difference in academic achievement between recreational activity participants and non-participants also strengthens the argument that recreation may have academic value. Students who engaged in recreational activities obtained higher GPA and standardized test scores than those who had minimal or no participation. This result is consistent with Reeve et al. (2025), who emphasized that behavioral engagement is strongly linked to achievement, while emotional engagement is related to motivation and well-being. Recreational activities may therefore contribute to academic performance by encouraging students to become more active, motivated, socially supported, and emotionally balanced. Rather than distracting students from schoolwork, meaningful recreation may help them develop the self-regulation and confidence needed for better academic performance.

The positive correlation between recreational activity participation and academic achievement further supports the view that students who are more engaged in recreational activities tend to achieve better academic outcomes. However, this relationship should be interpreted with caution because correlation does not establish direct causation. Other factors such as study habits, parental support, socioeconomic background, teacher quality, motivation, and school climate may also influence academic achievement. Still, the finding is consistent with that of Ishiguro et al. (2023), who reported that extracurricular music and visual arts activities were associated with improved academic performance among school-aged learners. This suggests that creative and recreational engagement may support learning through concentration, persistence, expressive confidence, and cognitive flexibility.

Overall, the findings corroborate the growing view that schools should promote balanced educational experiences that integrate academic rigor with structured opportunities for recreation. The World Health Organization and UNESCO (2021) emphasized that schools should become health-promoting environments that support learners' physical, social, emotional, and psychological well-being. In light of this study, recreational activities should not be treated as optional or secondary programs, but rather as meaningful contributors to holistic development and academic success. The results provide a strong basis for developing a school-based plan of action that expands access to physical, creative, social, and outdoor recreational activities while helping students manage their time, reduce stress, and sustain academic performance.

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