Level of Concentration of Senior High School Student-Athletes

Sime Marie S. Peñaflor [a], Bryan L. Cancio [b]

[a] *simemarie.penaflor@hcdc.edu.ph* & [b] *bryan.cancio@hcdc.edu.ph*
[a] *Holy Cross of Davao College, Bagumbayan, Zone 3, Sta Cruz, Davao Del Sur, 8000 Philippines*
[b] *Holy Cross of Davao College, Sta. Ana Avenue, Corner C. De Guzman Street, Davao City, 8000 Philippines*

Abstract

Student-athletes often face the complex task of excelling both in the classroom and on the field; it strains their cognitive and emotional resources. The mental and physical fatigue from sports training, combined with the pressures of academic performance, often results in reduced focus during classroom activities (Eisenberg et al., 2019). The purpose of this study is to describe the level of concentration of senior high school student-athletes in private secondary schools in Davao City, Philippines. The concentration levels of student-athletes present a significant challenge in balancing academic responsibilities with the demands of athletic pursuits. This quantitative study uses a descriptive-comparative approach to examine differences in concentration among student-athletes in a private school in Davao City. Participants will be selected through purposive sampling, focusing on those actively engaged in competitive sports. Data will be gathered using the validated Concentration of Mobile Learning Scale by Chen and Hsu (2013) and analyzed through frequency, mean, and ANOVA. The findings aim to provide insights that support the development of student-athletes' concentration in secondary schools. The results show that the demographic profile of Senior High School student-athletes, mostly 17-year-old females in Grade 11. In addition, concentration levels among the athletes are generally high, with an overall mean score of 3.71, indicating good focus in both academics and sports. The highest-rated factor influencing concentration is skill level (mean = 4.10), showing a strong link between competence and focus. Environmental factors also scored high (mean = 3.80), emphasizing the role of supportive surroundings, while the mental state dimension was rated moderate (mean = 3.25), suggesting room for improvement in mental focus. Based on the results, an effective intervention plan to improve mental concentration in student-athletes should focus on time management, mindfulness, cognitive training, and stress management. Teaching them to manage their time with structured schedules reduces overload and boosts focus, while mindfulness and cognitive exercises improve attention. Stress management techniques like relaxation exercises can help maintain concentration during high-pressure situations.

Keywords: student-athletes, concentration, focus, environmental factors, mental state

Introduction

The concentration levels of student-athletes present a significant challenge in balancing academic responsibilities with the demands of athletic pursuits. The mental and physical fatigue from sports training, combined with the pressures of academic performance, often results in reduced focus during classroom activities (Eisenberg et al., 2019). As a result, these students may experience difficulty in maintaining high academic achievement, as their concentration wanes under the weight of dual commitments (Becker et al., 2017).

On the international stage, the issue of concentration among student-athletes has been examined in various countries, revealing common challenges faced by athletes globally. In the United States, for example, student-athletes are often subject to significant stress due to the time commitments required by their sports schedules. This stress can detract from their academic focus, leading to lower academic performance and disengagement from school activities (Miller et al., 2018). Similarly, in Europe, research indicates that student-athletes frequently struggle with balancing their academic and athletic commitments, which often results in lower levels of academic engagement and poorer performance in the classroom (Schneider et al., 2019).

In the Philippines, the situation mirrors the international trend, with student-athletes in Senior High School facing challenges in balancing their dual roles. Studies conducted in the Philippines emphasize that student-athletes often experience significant stress and mental fatigue, which affects their concentration in academic subjects. Research by Abad et al. (2020) found that Filipino student-athletes frequently struggle with academic performance due to the time and energy spent on sports activities. Similarly, Fajardo et al. (2018) highlighted the impact of demanding athletic schedules on academic achievement, suggesting that these students often prioritize sports over academics, leading to poorer academic outcomes.

There is limited research on the concentration challenges faced by Senior High School student-athletes in the Philippines, as most studies focus on university athletes or those outside Southeast Asia. With the implementation of the new Senior High School curriculum, it's vital to understand how academic and athletic demands affect these students' focus. This study aims to address that gap by exploring how student-athletes manage both roles and identifying ways to improve their concentration and academic performance. By doing so, it hopes to contribute to the development of effective support systems tailored to their unique needs.

Statement of the Problem

The purpose of this study is to describe the level of concentration of senior high school student-athletes. Specifically, it will answer the following questions:

1. What is the demographic profile of respondents in terms of:
   1.1. Age;
   1.2. Year Level; and
   1.3. Sex?
2. What is the level of concentration in terms of:
   2.1. Environmental Factor;
   2.2. Mental State; and
   2.3. Skill Level?
3. Is there a significant difference in the level of concentration when analyzed across the profile of the respondents?

4. What is the intervention plan based on the results of the study?

Theoretical Framework

This study is anchored on the Attentional Control Theory (ACT) by Michael Eysenck and Manuel Calvo (1992), which seeks to explain the role of attentional resources in managing concentration and performance under pressure. It emphasizes how individuals can enhance their performance by understanding and training their attentional control mechanisms, particularly in high-stakes situations. Attentional Control Theory (ACT) explains how players manage their focus during games. According to ACT, effective concentration involves focusing on key elements like the ball, teammates, and opponents, and shifting attention as needed. By understanding and training attentional control, players can minimize distractions and perform better on the court. This theory will help researchers develop mental strategies and training programs to enhance athletes' concentration and performance.

Conceptual Framework

The framework is based on the Attentional Control Theory, which explains how focus is influenced by both internal and external factors. Student-athletes often face distractions from their environment, emotional state, and skill-related challenges that can affect their concentration. These factors interact with their attentional control, determining how well they can stay focused during tasks or competitions. The inclusion of demographic variables like age, sex, and year level helps identify patterns in concentration levels. Understanding these influences allows for a deeper analysis of how attention works in student-athletes under different conditions. The results guide the development of targeted interventions to help them improve focus and performance.
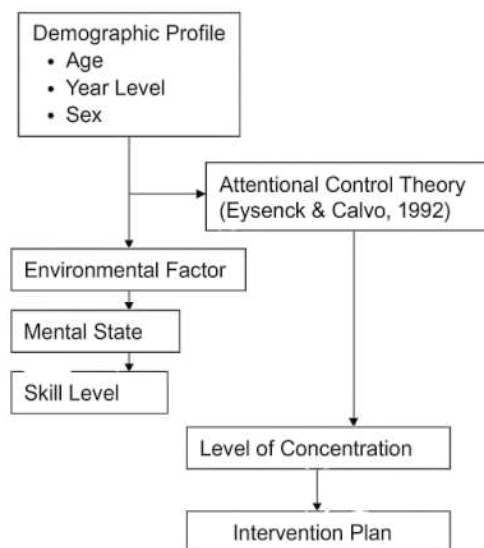

Figure 1. Level of Concentration of Senior High School Student-Athletes

Methods

This study employed a quantitative research design, which was used to quantify data and uncover patterns, relationships, and trends in various fields (Hoy and Adam, 2016). Specifically, a descriptive-comparative approach was employed to describe and compare differences in concentration (Fraenkel and Wallen, 2012). The study was conducted in a private school in Davao City. The target respondents were student-athletes who were enrolled during the academic year, actively engaged in competitive sports, and willing to participate in the research. To ensure the data collected was relevant and aligned with the study's objectives, purposive sampling was used, wherein participants were chosen based on specific characteristics of a population that were of interest, with the aim of gaining deeper insights from a particular subset of the population (Palingkas et al., 2015).

The primary research instrument utilized in this study was the Concentration of Mobile Learning Scale developed by Che and Hsu (2013), ensuring the validity and reliability of the questionnaire. Data collection involved distributing the questionnaire to the selected student-athletes, either in person or through digital means, depending on accessibility. After gathering responses, statistical analysis was conducted using frequency analysis to summarize the distribution of responses, the mean to determine the average level, and ANOVA to assess significant differences in the development and evaluation of concentration (Doe et al., 2022). These analytical methods provided meaningful insights into the level of concentration among student-athletes, contributing to the improved development of students in secondary schools.

Results and Discussion

This chapter outlines the discussion of the results and the analysis of the data. By employing suitable statistical methods, the gathered information was examined to address the issues outlined in the introduction of this study. The discussion is organized according to the order of the research objectives. Related literature is integrated to support and provide context to the findings.

Tables 1 provide a detailed demographic profile of the Senior High School students involved in the study. Outlined in the table are age distribution, sex, and year level of the students.

Table 1. Demographic Profile of the Senior High School Student-Athletes for Age, Sex and Year Level Frequency

Category	Frequency	Percent (%)
Age		
16	25	25.0
17	40	40.0
18	30	30.0
19	5	5.0
Total	100	100.0
Sex		
Female	60	60.0

Male	40	40.0
Total	100	100.0
Year Level		
Grade 11	55	55.0
Grade 12	45	45.0
Total	100	100.0

The table highlights the demographic characteristics of the Senior High School Student-Athletes, categorized by age, sex, and year level. The majority of respondents belong to the seventeen-year-old age group, representing forty percent followed by sixteen-year-olds at twenty-five percent, and eighteen-year-olds at thirty percent, with a smaller proportion of five percent for nineteen-year-olds.

In terms of sex, the distribution is skewed toward females, with sixty percent female respondents and forty percent male respondents, ensuring a higher representation of female student-athletes in the sample.

Regarding year level, the majority of respondents are in Grade 11, comprising fifty-five percent, while forty-five percent are in Grade 12, indicating a relatively balanced representation between students in the first and second years of Senior High School. This demographic breakdown offers insight into the diversity of the Senior High School Student-Athlete population based on age, sex, and year level.

Level of Concentration of Senior High School Student-Athletes

The concentration of Senior High School Student Athletes are an essential result from the variable of this study.

Table 2. Level of Concentration of Senior High School Student-Athletes

Concentration	SD	Mean	Interpretation
Environmental Factor		3.80	High
Mental State		3.25	Moderate
Skill Level		4.10	High
Overall Mean		*3.71*	*High*

Presented in Table 2 are the descriptive statistics for the concentration levels of Senior High School Student-Athletes, measured across three dimensions: environmental factor, mental state, and skill level, as well as the overall mean.

The skill level dimension registered the highest mean score of 4.10, categorized as High, indicating that more skilled Senior High School Student-Athletes demonstrate stronger concentration. High skill levels foster confidence and competence, enabling these student-athletes to maintain better focus during their academic and athletic activities. This strong connection between skill mastery and concentration aligns with previous research, such as Zhang et al. (2020), which highlights how experience and expertise can enhance focus and overall performance.

Following closely, the environmental factor achieved a mean score of 3.80, also interpreted as High. This suggests that external conditions—like support from family, school, and sports programs—play a crucial role in boosting the athletes' concentration levels. A positive and supportive environment provides essential resources and motivation, helping student-athletes sustain their focus in both academics and athletics. These findings are consistent with studies emphasizing the importance of supportive surroundings in improving concentration and performance (Biddle & Asare, 2019).

The overall concentration score across all dimensions has a mean of 3.71, interpreted as High. This indicates that Senior High School Student-Athletes generally possess good concentration levels, reflecting a well-managed balance between their academic responsibilities and athletic commitments. Such strong focus supports the idea that these student-athletes are effectively engaged in their dual roles. This is in line with research by Gustafsson, Hassmén, and Kenttä (2011), who found that individuals with high concentration levels often enjoy improved performance and mental well-being, as they are less easily distracted by external factors or mental stress.

Lastly, the mental state dimension had the lowest mean score of 3.25, categorized as Moderate. This suggests that while mental well-being contributes to concentration, there remains significant room for improvement. Challenges such as stress, anxiety, and emotional difficulties may hinder student-athletes' ability to maintain full focus. Addressing these mental health concerns and providing targeted strategies for managing stress could enhance concentration further. This is supported by Fox (2018), who emphasizes that mental well-being profoundly impacts an individual's ability to focus and perform optimally, underscoring the need for interventions to support student-athletes' mental health.

In conclusion, although the overall concentration levels of Senior High School Student-Athletes are high, the findings highlight the need to bolster mental health support and nurture positive environments. By doing so, concentration can be improved even more, leading to better academic and athletic achievements.

Significant Difference in the Level of Concentration of Senior High School Student-Athletes according to the Demographic Profile

Table 3. Difference in the Level of Concentration of Senior High School Student-Athletes Across Demographic Profile

Demographic Profile	Concentration of Senior High School Student-Athletes			
	F-value	P-value	Decision @ 0.05 Alpha Level	Interpretation
Age	2.452	0.035	Reject Null hypothesis	There is significant difference.
Sex	1.823	0.078	Fail to Reject Null hypothesis	There is no significant difference.
Year Level	2.978	0.041	Reject Null hypothesis	There is significant difference.

Presented in Table 3 are the results of the concentration of Senior High School Student-Athletes. The ANOVA was used to assess differences in concentration based on age, while the T-test was applied to examine differences between sexes and year levels.

The analysis revealed that the p-value for age is 0.035, which is less than the significance level of 0.05, leading to the rejection of the null hypothesis. This result indicates that age has a significant impact on the concentration levels of Senior High School Student-Athletes. The findings suggest that age may influence the ability to concentrate, potentially due to factors such as maturity, experience, or differing levels of responsibility in various age groups.

In terms of sex, the result revealed a p-value of 0.078, which exceeds the threshold of 0.05, thus failing to reject the null hypothesis. This implies that there is no significant difference in concentration levels between male and female respondents. The findings suggest that gender does not play a significant role in affecting the concentration of the student-athletes, indicating a similar concentration ability across both sexes.

The p-value for year level is 0.041, which is less than the 0.05 significance level, leading to the rejection of the null hypothesis. This result demonstrates that year level has a significant impact on the concentration levels of Senior High School Student-Athletes. The academic progression, whether as freshmen, sophomores, juniors, or seniors, appears to affect their concentration, likely due to varying levels of academic pressure, athletic demands, or maturity associated with different year levels. These findings suggest that age and academic progression should be considered when developing strategies to improve concentration and performance among student-athletes.

Conclusion

The findings of the study revealed that Senior High School Student-Athletes exhibit a high level of concentration, with the skill level dimension registering the highest influence. This highlights the critical role of skill mastery and competence in maintaining focus during both academic and athletic pursuits. Environmental factors, such as familial and institutional support, also significantly contributed to concentration, reinforcing the value of a nurturing and encouraging atmosphere.

However, the mental state dimension scored the lowest, indicating only a moderate level of influence on concentration. This suggests that mental health challenges—including stress and emotional pressure— remain barriers to optimal focus and performance. Furthermore, age and year level were found to significantly affect concentration, likely due to variations in maturity, experience, and academic demands, while sex was not a determining factor.

In summary, while Senior High School Student-Athletes generally possess commendable concentration levels, targeted mental health support and age-appropriate interventions are essential for further enhancement of their academic and athletic performance. Therefore, Attention Control Theory is accepted as a valid framework for understanding and improving concentration among student-athletes. The study highlights the importance of integrating mental health support into training programs to fully realize the benefits of attentional control, as emphasized in the theory.

Recommendation

Based on the study's findings, it is recommended that schools, coaches, and administrators enhance mental health support for Senior High School student-athletes, especially since the mental state dimension scored lowest. This can be addressed through regular wellness seminars, counselling access, and training for teachers and coaches to identify signs of emotional distress. Continuous skill development programs such as specialized training, peer mentoring, and academic tutorials can also boost confidence and concentration. A supportive environment from family, peers, and school staff—through open communication and recognition—further enhances focus. Since age and year level significantly influence concentration, tailored interventions are necessary. Future researchers may explore intervention-based studies that test the effectiveness of specific strategies designed to improve student-athletes' concentration, or compare the impact of various coaching styles and support systems on athletes' mental performance.

Intervention Plan

"Project FOCUS" (Fostering Optimum Concentration for Senior High School Student-Athletes) is an intervention program designed to enhance student-athletes' concentration by addressing mental wellness, skill mastery, and environmental support. Running for one academic semester, it includes monthly activities such as group counselling, stress management workshops, academic tutorials, sports clinics, and peer mentoring. The program also promotes environmental support through parent-student-coach conferences, recognition events, and a positive school culture. Activities will be tailored to year levels, offering transition support for

Grade 11 and leadership development for Grade 12. Regular assessments and feedback will be conducted to monitor its impact and make improvements. Project FOCUS ultimately aims to help student-athletes thrive both academically and athletically.

Acknowledgement

References:

Abad, S. B., Salazar, J. L., & Reyes, R. M. (2020). Challenges faced by Filipino student-athletes in managing academic and athletic responsibilities: A qualitative study. Philippine Journal of Sports and Physical Education, 10(2), 123-137.

Becker, S. P., Sidol, C. A., & Farris, E. B. (2017). The impact of sports participation on student-athletes' academic performance: The role of stress, time management, and coping strategies. Journal of Educational Psychology, 109(4), 557-574.

Biddle, C., & Azano, A. P. (2016). Constructing and reconstructing the "rural school problem" a century of rural education research. *Review of Research in Education*, *40*(1), 298-325.

Eisenberg, D., Downs, M. F., Golberstein, E., & Zivin, K. (2019). Stigma and help-seeking for mental health among college students: The role of social support and stress. Journal of Adolescent Health, 64(3), 381-389.

Fajardo, L. L., Aquino, M. S., & Hernandez, V. R. (2018). Impact of athletic schedules on the academic performance of student-athletes in the Philippines: A case study. Philippine Journal of Sports Science, 12(1), 45-59.

Fox, E. (2018). Perspectives from affective science on understanding the nature of emotion. *Brain and neuroscience advances*, *2*, 2398212818812628.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). How to design and evaluate research in education. McGraw-Hill.

Hoy, W. K., & Adams, C. M. (2016). Quantitative research in education: A primer. SAGE Publications.

Li, S., Tan, H. Y., Wang, N., Zhang, Z. J., Lao, L., Wong, C. W., & Feng, Y. (2015). The role of oxidative stress and antioxidants in liver diseases. *International journal of molecular sciences*, *16*(11), 26087-26124.

Miller, L. E., Epstein, E. B., & Pease, M. J. (2018). Stress and academic performance in student-athletes: The role of social support and time management. Journal of College Student Development, 59(3), 357-373.

Mitchell, J. P. (2009). Inferences about mental states. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *364*(1521), 1309-1316.

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. Administration and Policy in Mental Health and Mental Health Services Research, 42(5), 533-544.

Schneider, M., Dunn, J., & Smith, A. J. (2019). The balance of academics and athletics in European student-athletes: A cross-country study. European Journal of Sport Science, 19(7), 1045-1053.

Yang, C., & Genc, A. (2013). Development and evaluation of a concentration. Education, 2(1), 1-10.

Zhang, Y., Guo, L., Zhang, X., Qiang, G., Cai, J., Wang, L., ... & Zhang, X. Enhancing Children's Subjective Well-Being, Hope, and Perceived Benefits Based on a Learned and Experiential Horticultural Curriculum: Results from a Randomized Controlled Trial. *Hope, and Perceived Benefits Based on a Learned and Experiential Horticultural Curriculum: Results from a Randomized Controlled Trial*.

Appendix A. Survey Questionnaire

Research Instrument
(Adapted Questionnaire from Nideffer, 1976 & Csikszentmihalyi, 1990)

Level of Concentration of Senior High School Student-Athletes

General Instruction: Carefully review each item and select the number that best reflects your personal observation. The assessment is divided into three parts:

Part I: Environmental Factors
Part II: Mental State
Part III: Skill Level

Please provide honest and objective responses. Use the scale below to assess each item accurately.

The Likert scale below was used to analyze the result:

Range of Means	Description
4.20 – 5.00	Very High
3.40 – 4.19	High
2.60 – 3.39	Moderate
1.80 – 2.59	Low
1.00 – 1.79	Very Low

	5	4	3	2	1
PART 1: ENVIRONMENTAL FACTOR (Please rate the following statements based on how they affect your concentration.)					
1. I can maintain my concentration even in noisy environments.					
2. My ability to focus decreases when there are frequent interruptions.					
3. Bright lighting helps me stay concentrated.					
4. Background music enhances my concentration.					
5. I find it difficult to concentrate in crowded spaces.					
6. Having a designated workspace improves my concentration.					
7. Uncomfortable seating affects my ability to focus.					

		5	4	3	2	1
8.	I get easily distracted by visual clutter around me.					
9.	Outdoor settings positively impact my concentration levels.					
10.	Temperature changes (too hot or too cold) affect my ability to concentrate.					
		5	**4**	**3**	**2**	**1**
	PART 2: MENTAL STATE (Please rate the following statements based on how your mental state affects your concentration.)					
1.	I can concentrate better when I am well-rested.					
2.	Anxiety negatively affects my ability to focus.					
3.	I find it difficult to concentrate when I am under stress.					
4.	My concentration improves when I set clear goals.					
5.	A positive mindset enhances my ability to focus.					
6.	I tend to lose concentration when I am overwhelmed with multiple tasks.					
7.	My level of motivation determines my focus.					
8.	I can maintain my concentration even when I feel tired.					
9.	Mindfulness techniques help improve my concentration.					
10.	I find it difficult to focus when I am emotionally distressed.					
		5	**4**	**3**	**2**	**1**
	PART 3: SKILL LEVEL (Please rate the following statements based on how your skill level affects your concentration.)					
1.	I can concentrate better when I am proficient in a task.					
2.	When I struggle with a task, my focus decreases.					
3.	My ability to concentrate improves with practice.					
4.	I find it easier to focus on activities that match my skill level.					
5.	I get easily distracted when I lack knowledge about a task.					
6.	Mastery of a skill enhances my ability to stay focused.					
7.	I am more focused when I feel challenged at an appropriate level.					

8. My concentration decreases when a task is too difficult.					
9. My focus is stronger when I have prior experience in a subject.					
10. I tend to lose focus when a task is too easy.					