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The Detrimental Effects of Technology on the Academic Performance of University Student Athletes: The Implications of Online Sports Betting in Kenya

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Abstract

Purpose: This study explores the impact of technology, particularly online sports betting, on the academic performance of university student-athletes in Kenya. While technology offers opportunities, it also creates challenges, such as distractions, poor time management, sleep disruption, and financial or psychological distress.

Methodology: This study employed a descriptive research design targeting 24,639 student-athletes and university sports officers across Kenyan universities. Using simple random sampling, a representative sample of 423 participants was selected, including 385 athletes and 38 sports officers. Data collection involved self-report questionnaires, observation score sheets, and key informant protocols, with gambling behaviors carefully recorded during observations.

Findings: The regression analysis showed that gambling severity explains 5% of the variance in students' academic performance ($R^2 = 0.05$), with the model being statistically significant ($F = 12.907, p < 0.001$). The regression coefficient ($\beta = 0.346, p < 0.001$) indicates a positive and significant relationship, meaning that an increase in gambling severity predicts poorer academic performance. Additionally, demographic factors significantly moderated this relationship, increasing the explained variance to 56.6% ($R^2 = 0.566, F = 3.07, p < 0.001$). This suggests that demographic characteristics strongly influence how gambling severity affects academic outcomes, aligning with findings that socioeconomic background relates to gambling addiction and its effects.

Unique Contribution to Theory, Practice and Policy: Based on the study findings, it was recommended that the Online sports betting companies should engage scholars in formulating policies that advocate for responsible gambling practices while mitigating the risks associated with academic detrimental online betting behaviours. Secondly, prior to granting licenses, betting companies should implement technological solutions that empower users to establish personal gambling limits, particularly for student-athletes representing Kenyan universities, to prevent excessive spending and potential addiction. Third, both public and private higher education institutions should create betting policies that foster mental wellbeing, which may include regular mental health workshops and screenings.

Keywords: *Online Sports Betting, Academic Performance, Gambling Severity, Student-Athletes, Responsible Gambling Policies*

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INTRODUCTION

In the dynamic and swiftly changing realm of higher education in Kenya, technology has emerged as an essential and often crucial resource for university students. It plays a vital role in providing access to online educational materials, enhancing communication, and supporting research efforts, thereby significantly contributing to academic success. Nevertheless, this technological advancement raises concerns about its adverse effects on academic performance, especially for student athletes who must juggle the demands of intense training with their educational commitments. This issue is further complicated by the increasing prevalence and accessibility of online sports betting platforms in Kenya, which pose distinct challenges for this at-risk group of students. This research aimed to investigate the complex interplay between technology usage, particularly the impact of online sports betting, and the academic outcomes of university student athletes in Kenya, with the goal of highlighting potential negative repercussions and guiding effective interventions.

Over the years, student-athletes' educational attainment has been an important topic. Most individuals assume that involvement in college sports will hamper the ability of the students to achieve their university goals because of barriers such as travel responsibilities, days of exercise, and online entertainment betting involvement (bin Abdullah et al., 2023). Academics estimate that student athletes complete normal class tasks and their training but often do not have time to finish their assignment due to their participation in athletics and sports wagering. The level of university athletes' involvement with college rather than their interaction with online gambling is interconnected with academic achievement. University athletes who are disconnected from betting are far more likely to drop out of school, whether before, after, or concurrently with underperformance. (Nelson, Slabczynski, Lee, & LaPlante. 2024; Avenyo, Kwashie, & Demuyakor, 2024).

University Students Athletes were asked what they felt were obstacles to their academic performance. The top three answers were stress, anxiety, and sleep difficulties, which were mostly associated with their online betting behaviour (Agortey, 2023; Cross, & Fouke, 2019; Black et al., 2015; Bischof et al., 2015). College student athletes face concerns about online gambling, which has been described as having extensive negative implications on educational achievement, socially segregated behaviour of peers, difficulties in social relationships, and an increased risk of suicide; and thus attempt to impact student-athlete academic relationships. The current study assesses the impact of gambling severity on the academic performance of students who gamble.

LITERATURE REVIEW

Empirical Review

Research conducted by Avenyo et al. underscores the potential for online sports betting to foster addiction, which can result in sleep deprivation among students, thereby significantly impairing their academic performance and social interactions (Avenyo et al., 2024). Sleep loss has a detrimental impact on cognitive abilities that are crucial for effective learning and studying, consequently affecting exam results and overall academic success (Avenyo et al., 2024; Gathoni et al., 2024). Furthermore, a correlation between general internet addiction and academic

performance has been identified, with evidence indicating that prolonged screen time is associated with diminished academic results in students (Kabadayı, 2020; Benson et al., 2021).

Research by Hosain et al. has revealed concerning patterns of online betting addiction among students, indicating detrimental effects on both their academic achievements and mental well-being. The findings highlighted a high engagement in online sports betting, which correlated with diminished concentration in academic settings and increased psychological strain and financial setbacks (Hosain et al., 2024). This observation is supported by Saefullah, who examined how the accessibility of online gambling affects students, reporting that a significant number of participants experienced stress and difficulties in focusing on their studies as a result of their gambling behaviors (Saefullah, 2025). Additionally, Research by Avenyo, Kwashie, and Demuyakor (2024) reveals that online sports betting has detrimental effects on the academic achievements of university students in the studied sample. The results of hypothesis testing demonstrated a statistically significant relationship, indicating that addiction to sports betting significantly impacts the academic performance of students in Ghana.

Apaak and Osei (2015) have undertaken a study on the internal challenges faced by student athletes in community institutions in Ghana in educational fields. Descriptive research design was utilized and 332 participants were selected in proportion. The study revealed that the large proportion of those surveyed (69.6%, 69.0%, 69.9%, and 50.6%) discovered that this time restriction, along with time-consuming betting problems, is indeed a grave challenge for Ghanaian public university student athletes. Maloney and McCormick (2012) conducted a further study comparing graduation and GPA among Clemson University student-athletes and classmates for a period of one year. In the research, the mean learner GPA of 300,000 graduates and 13,000 athletes was 2,379, and the non-athlete GPA was 2,681. In addition, sportspeople ranked 63% in classrooms, and non-sportspeople ranked 82% in classrooms. Academics estimate that student athletes comprehensive normal class tasks and their training but often have no time to complete their class due to their participation in sports and sports betting. Gambling addiction in college athletes may lead to a variety of issues, including low scholarly performance, school absenteeism, financial difficulties, depressive disorders, suicides, low self-esteem, degradation of social connections and drug misuse that may lead to low concentration academically among student athletes (Kang, Kim, & Lee, 2019).

The Africa report 2015, indicates that Kampala, the capital of Uganda, is home to over 200 high schools and 10 universities. The issue of gambling poses a significant risk to thousands of students throughout the city. It has been observed that many young individuals lose their funds through betting, which ultimately hampers their ability to finish their education.

According to Williams and Volberg (2010), a student population survey was carried out in Finland with a random sample of 7,186 students. The study utilized 14 items of the Problem and Pathological Gambling Measure (PPGM) to assess gambling-related harm. The study had a 36% response rate, and respondents indicated that they had suffered study harm in the following areas: reduced study performance 0.5%, being late from study 0.2%, using study time to bet 0.9%, using study resources to bet 0.2%, being absent from study 0.2%, and lacking progression in study 0.1%.

According to the 2023 report by the American Physiological Association, gambling exerts a profound influence on the brains of individuals susceptible to addiction (Spicer et al., 2022). Such ongoing addictive behaviors frequently culminate in gambling-related issues, especially among younger demographics, particularly boys and men. In terms of specific demographics, young adults in their twenties, predominantly students, are engaging in both online sports betting and video gaming associated with gambling activities (Brooks & Clark, 2023).

In addition, evidence from previous studies seemed to support the notion that online gambling should affect addiction to smart phones and that smart phone usage, in turn, should be linked to decreased involvement with schoolwork (Skitch & Hodgins 2005). That is, the effects of internet betting enthusiasm on academics are mediated by mobile phone addiction. For example, in research involving college learners, Skitch and Hodgins (2005) concluded that gambling addicts had both greater obsessive and harmonized gambling passions and that an obsessive wagering passion was connected with the intensity of the gambling behaviour. On the other hand, studies in the academic environment have also shown a connection between mobile phone usage and educational achievement. Research by Lepp, Barkley and Karpinski (2014), for instance, revealed that higher cellular usage/texting in a representative sample was combined with a poor GPA and anxiety symptoms. Student-athletes nowadays spend large quantities of time on online gambling rather than participating in curricular activities. The current study assesses the impact of gambling severity on the academic performance of students who gamble.

According to Hosain, Islam, Islam, & Rahman (2024) the higher education sector in Bangladesh, despite its significant growth, appears to lack awareness regarding the implications of online betting. Although all forms of gambling are prohibited in the country, both online and offline betting activities persist, particularly in sports such as cricket (including domestic leagues like the IPL, BPL, and PCL), football, and carom. The Bangladesh Telecommunication Regulatory Commission (BTRC) has classified all online gambling activities as illegal. In response, the Supreme Court of Bangladesh has mandated the BTRC to block access to online gambling websites; nevertheless, new and unanticipated sites continue to emerge (Ovi, 2023). Furthermore, students are still able to access various betting platforms hosted on foreign websites. In this regard, it is essential to highlight that many indications and symptoms are not recognized, unlike drug addiction, particularly since the overall absence of physical symptoms of abuse frequently becomes apparent when students consume substances or engage in other high-risk activities. (Mahmud, Jobayer, Salma, Mahmud, & Tamanna, 2023).

Finally, the participant's athletes' perceptions about their own capacity to plan and manage school functions play a significant role in psychosocial adjustment and educational achievement. One of the primary mechanisms through which online sports betting disrupts time management is through the distractions it creates. Avenyo et al. highlight that addiction to online sports betting can compromise the academic achievements of students by consuming significant amounts of their time on gambling activities, thus detracting from their study hours Avenyo et al. (2024). It is noted that student-athletes may jeopardize their academic schedules to satisfy their betting habits, leading to poor procrastination and inadequate time allocation for academic responsibilities (Gathoni et al., 2024).

METHODOLOGY

This study utilized a descriptive research design. The target population encompassed 24,639 students' athletes across Kenyans universities, which included diploma, undergraduate, and postgraduate student-athletes, along with university sports officers responsible for student sports issues. A simple random sampling technique was implemented to guarantee representation. The final sample consisted of 423 participants, comprising 385 athletes and 38 sports officers. Data collection was facilitated through a self-report questionnaire, an observation score sheet, and a key informant's protocol. Furthermore, instances of gambling behavior were meticulously recorded during the observation phase.

Conceptual Framework

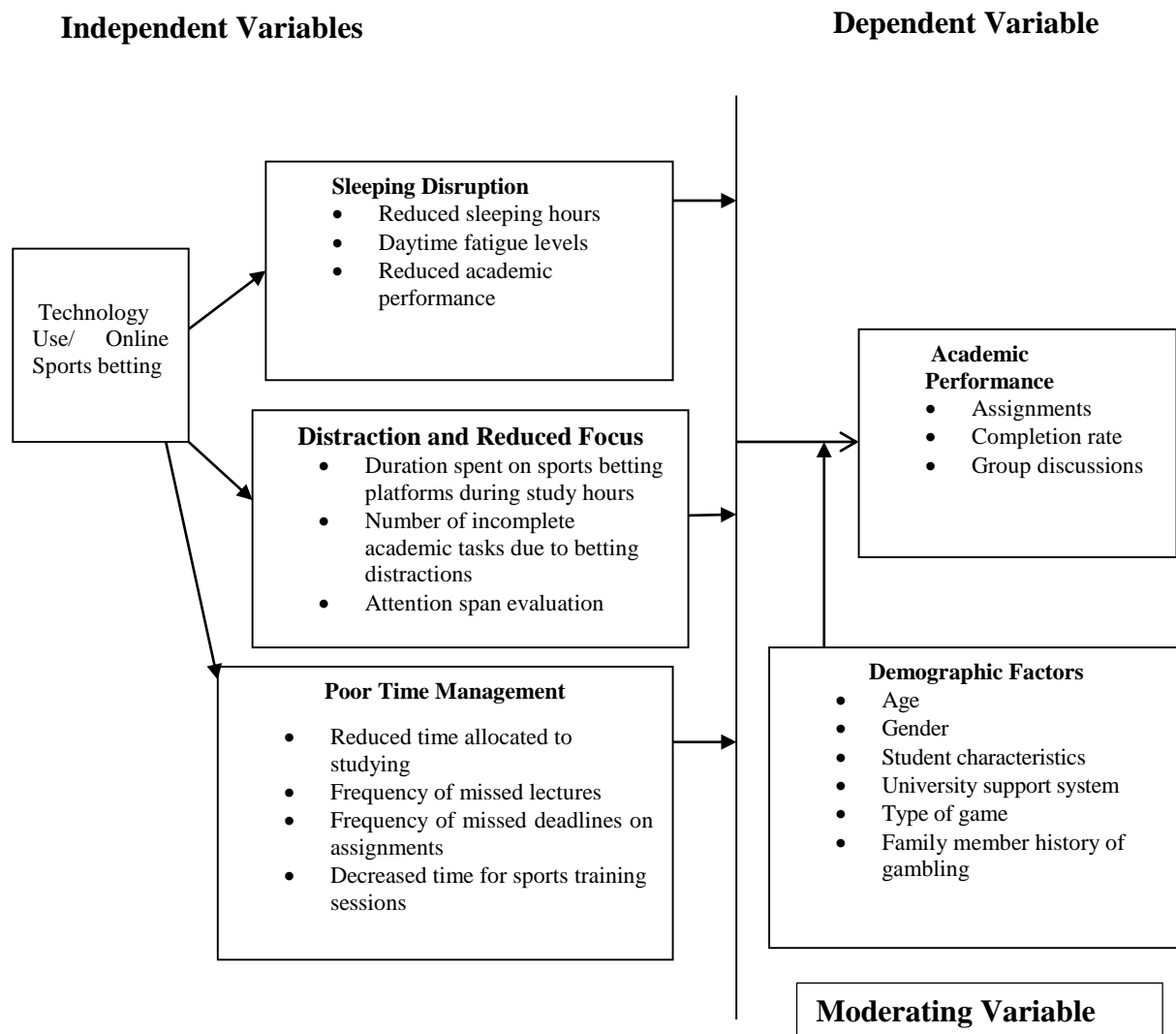


Figure 1: The Detrimental Effects of Technology on the Academic Performance of University Student Athletes

FINDINGS

Reliability and Validity Results

The study examined the impact of online sports betting on students' academic performance using correlation and regression analyses. Academic performance measures showed good reliability (Cronbach's $\alpha = 0.735$) and validity (KMO = 0.702; Bartlett's test significant). Factor analysis revealed that all statements related to academic performance had adequate communalities (0.468–0.501), indicating diverse and relevant aspects. These results confirm that the data and measures used are reliable and suitable for inferential analysis on how online sports betting affects academic outcomes. The diagnostic tests also proved that the data was ideal for further analysis. To begin with, the normality test results showed significant values below 0.05 (Kolmogorov-Smirnov = 0.09, $p = 0.000$; Shapiro-Wilk = 0.971, $p = 0.000$), indicating that the data was normally distributed. Second, linearity was confirmed with a significant linear regression ($F = 12.907$, $p = 0.000$). Lastly, the Breusch-Pagan test for heteroscedasticity yielded a chi-square value of 1.12 and $p = 0.0932$, indicating no heteroscedasticity and supporting the accuracy and consistency of the regression analysis.

Correlation between Gambling Severity and Academic Performance

A correlation coefficient of zero means that there is no linear relationship between two continuous variables, while a correlation coefficient of -1 or +1 indicates that the relationship is perfect. The correlation coefficient approaches 1 as the correlation between variables gets stronger.

Table 1: Correlation - Gambling Severity and Academic Performance

		ProblemGambling	Academicperf
Problem Gambling	Pearson Correlation	1	.623**
	Sig. (2-tailed)		0.000
	N	254	248

The findings revealed that there was a positive and significant association between gambling severity and poor academic performance ($r = 0.623$, $P > 0.0001$). This suggests that gambling severity variables have influenced students' academic achievement. This relationship coefficient score was in the range of 0.6 to 0.7, showing a highly positive association as a component of student educational success. Students who engage in online sports betting on a regular basis are more likely to perform poorly in school. This implies that gambling severity factors have led to poor academic performance. Similar findings were found by Robst and Keil (2000), who found that school athletes' involvement with online gambling is interconnected with academic achievement. College student athletes encounter concerns with online gambling that have been described as having extensive negative implications on educational achievement.

Regression analysis between gambling severity and academic performance

The outcomes of the regression model assessment are provided in Table 2

Table 2: Model summary - Gambling Severity and Academic Performance

R	R Square	Adjusted R Square	Std. Error of the Estimate
.223a	0.05	0.046	0.64656

The findings demonstrated the model's fitness as a regression model. The value of R square was 0.05. This indicates that the intensity of gambling accounts for 5% of the students' low academic achievement. This also means that other factors not included in the model account for 95% of the variance in kids' low academic performance. The other factors include other betting effects and family background. Enwereuzor, Ugwu and Ugwu (2016) conducted a cross-sectional study with 278 male students and discovered that the desire for gambling and passion for playing were negatively related to schoolwork. The research also found that student athletes expend extra time on the internet betting during school hours on their smart phones.

The ANOVA model evaluation of the association is shown in Table 3. ANOVA is used to test the significance of the model.

Table 3: ANOVA - Gambling Severity and Academic Performance

	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.396	1	5.396	12.907	.000b
Residual	102.839	246	0.418		
Total	108.235	247			

The ANOVA results indicated that the model was statistically significant. This was supported by an F statistic of 12.907 and a reported p value (0.000), which was less than the conventional probability level of 0.05 significance level. The results implied that gambling severity is a significant predictor of poor academic performance in students. Therefore, gambling severity factors have led to poor academic performance. Skitch and Hodgins (2005) concluded that gambling addicts had both greater obsessive and harmonized gambling passions, and wagering passion was shown to have a connection with the academic performance of students in colleges.

Table 4 shows the coefficients of regression. Regression Coefficients shows the prediction strength of gambling severity in predicting academic performance.

Table 4: Regression Coefficient- Gambling Severity and Academic Performance

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.839	0.155		5.422	0.000
ProblemGambling	0.346	0.096	0.223	3.593	0.000

Regression of coefficients results revealed that gambling severity and poor academic performance of students are positively and significantly related ($\beta = 0.346$, $P > 0.0001$). This implies that a unit increase in gambling severity would lead to increase in academic performance of students by 0.346. Therefore;

$$\text{Poor Academic performance} = 0.839 + 0.346(\text{gambling severity}) + e$$

Moderating Effect of Demographic Factors on the Relationship between Gambling Severity and Academic Performance of Student Athletes

The moderating effect of demographic factors on the relationship between gambling severity and academic performance of students was assessed and findings presented. Interaction effect is useful to determine whether the demographic factors are a consideration in the relationship between the variables.

Table 5: The Moderating Influence of Demographics on the Relationship between Gambling Severity and Academic Performance

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	56.442a	111	0.508	3.07	0.000
Intercept	2.682	1	2.682	16.193	0.000
v.S1.1 * v.S1.2 * v.S1.3 * v.S1.4 * v.S1.5 * v.S1.6 * v.S1.7 * Problem Gambling	56.442	111	0.508	3.07	0.000
a R Squared = .840 (Adjusted R Squared = .566)					

The results showed that the interaction impact of demographic variables were significant on the relationship between gambling severity and academic performance of student athletes had an F-value of 3.07. The R Squared value was 0.566 (56.6%) (with demographic factors interaction) which is greater than the relationship without interaction (5%). The interaction impact of demographic variables was substantial ($P > 0.0001$). As a result, the null hypothesis was rejected. This implied that demographic characteristics have a strong moderating impact on the connection between gambling intensity and academic success. This is in line with Welte et al. (2011) who indicated that there is a connection between gambling addiction and individual socioeconomic background.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The findings revealed that students who engaged in online sports betting missed lectures due to excessive time commitment to gambling activities. Some students contemplated withdrawing from academic programs due to financial losses incurred from betting. Even though many students' athletes were aware of peers who had experienced lower academic performance as a result of gambling habits, the addiction was too much for them. They faced challenges in balancing academic responsibilities with sports betting, leading to class absences and incomplete assignments. Besides, demographic factors including age, gender, student category, university category and type of family all proved to have a moderating influence on the relationship between gambling severity and academic performance of student athletes. Therefore, though technology is useful in education, the misuse of technology especially in online sports betting is challenging in the education sector, especially among student athletes.

Recommendations

The rapid expansion of online sports betting in Kenya necessitates the engagement of scholars in formulating policies that advocate for responsible gambling practices while mitigating the risks associated with academic detrimental online betting behaviours. Secondly, prior to granting licenses, it is imperative that all betting firms conduct comprehensive analyses of their social costs. Furthermore, these companies should implement technological solutions that empower users to establish personal gambling limits, particularly for student-athletes representing Kenyan universities, to prevent excessive spending and potential addiction. Third, both public and private higher education institutions are encouraged to create betting policies that foster mental wellbeing, which may include regular mental health workshops and screenings.

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