



## Problem gambling and academic performance among students in public secondary schools in Nakuru County, Kenya

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**Abstract:** *Investigating the relationship between problem gambling and academic performance among public secondary school students in Kenya's Nakuru County was the goal of the study. A convergent parallel design was used in the study. Public high schools, quality assurance officers, principals and deputy principals, students, and members of disciplinary committees made up the target population. The research included a sample size of 1023, which included 769 students from 49 public high schools, 6 Quality Assurance and Standards officers (QASOs), 49 principals, the same number of Deputy Principals, and 150 teachers who are disciplinary committee members. The results of the study showed a strong correlation between students' academic achievement and their level of gambling. Furthermore, the degree of student gambling activity has a big impact on attendance at school. The study makes recommendations by looking into the reasons why students miss school. In order for teachers and school administrators to effectively lower the number of pupils who participate in gambling, their capability must be increased. The results show that problem gambling has a negative impact on students' academic performance, and that this relationship is significantly influenced by the degree of the problem. The study recommends schools to identify problem gamblers amongst students for counselling and referral services. Authentic review of monitoring of class attendance for students in day schools in order to identify students slipping in gambling at early stages and intervene appropriately.*

**Keywords:** *Problem gambling, students' academic performance, gambling, class attendance, adolescents*

### 1.1 Introduction

Adolescent problem gambling is a serious educational issue. Engagement in gambling activities becomes problematic when one loses control and suffers negative effects like anxiety, family issues, and financial difficulties. Research findings done Parker et al (2008) revealed that adolescents are more prone than adults to experience problem gambling, which includes both high- and moderate-level gambling issues. This was largely associated to emotional intelligence (EI). Additionally, Dowling, et al (2017) research indicates that adolescents' families that a less economically empowered are more prone to suffer

from gambling-related issues than those from well to do families. This denotes that in many developing countries where majority of its people earn less than a dollar a day are in a more precarious situation. Problem gambling is associated with a number of factors that are critical to the wellbeing of adolescent, including alcoholism, depression, anxiety, criminality, strained relationships, and low academic performance. (Humphreys, 2021; Loo, 2019) Adolescence suffers from multiple challenges, according to Giletta, et al (2021) Adolescents psychological stress has been linked to worsening academic achievement, dropping out of school, and a higher chance of mental health issues.

According to Andrie et al (2019): Bozzato et al (2020) there exists a correlation between problem gambling and school achievement. However, there few studies related done in Africa despite Sub-Saharan Africa (SSA), experiencing unparalleled growth in commercial gambling markets coupled with weak regulatory mechanism (Sichali, et al ,2023). This study sought to determine the correlation between students end of terms grades and students gambling severity levels, in order to determine whether academic success is linked to a decrease in problem gambling. In the study, gamblers were categorized using the Canadian Problem Gambling Severity Index, which ranged from: non-problem gambling, Low-level issues that have few or no known negative effects, moderate-level issues that have some negative effects, and problem gambling that has negative effects.

## **1.2 Statement of the Problem**

In many developing countries, the youth population is big and often suffer a lot due to lack of opportunities. This socioeconomic factor has contributed to majority of youth engaging in gambling (Economou et al. 2019; Livazović, & Bojčić, 2019). However, many studies point that gambling problem negatively affect education performance (Bozzato, 2019; Emond & Griffiths, 2020; Pisarska, & Ostaszewski,2020). African countries and Kenya in particular continue to suffer gambling related problems. In Kenya for example Amendments of Act 2013 and introduction of gambling regulations of 2019 were aimed to help address and resolve challenges that were linked to unprecedented growth of gambling industry. However, with limited information on how problem gambling affects academic performance these regulations and amendments maybe futile, or contribute less to student's educational outcomes. Pere (2021) notes that gambling addiction is a disease that youth are struggling with that requires urgent prevention and cure. According to FinAccess et al (2022). 25.6 % of adults in Nakuru County are engaged in gambling pointing to a grim situation. However, educationist continues to wonder the extent of problem gambling and its relationships to students' academic performance. These feelings of helplessness and lack of data on problem gambling therefore necessitates for consideration by stakeholders particularly in education division, hence, a requisite that led this study to be conducted.

## **1.3 Research question**

What is the relationship of secondary schools' students' academic performance and their problem gambling behavior in Nakuru County Kenya?

## **1.4 Theoretical Framework**

The research study measured the association of gambling on academic performance using Walberg's (1981) theory of educational productivity. According to Walberg in the classroom, learning is a result of combination of factors, diminishing-returns function of four fundamental elements: student aptitude and motivation, instruction quality and quantity, and probably four additional or supportive elements: the classroom's social-psychological setting, education-stimulating circumstances in the home and peer

group, and media exposure. All four of these variables seem to be required, at least minimally, for classroom learning; that is, each fundamental factor appears to be necessary but insufficient on its own. Furthermore, it seems that the necessary components may compensate, trade-off, or substitute for one another at diminishing rates of return. For instance, if motivation, aptitude, or instruction quality are low, it may take a very long period for a moderate quantity of learning to occur. Given the correlation between gambling and delinquency (Banks, 2019), it is assumed that problem gambling negatively affects students' academic performance creating barricades that foil them from participating well hence negatively affecting their academic performance. As such, interventions to reduce factors that may impede schooling is essential for addressing the affected students.

### **1.5 Review of Related Literature**

Problem gambling is a global public health concern that can result in undesirable consequences such as despair, anxiety, and thoughts of suicide. In the home, workplace, and school settings, it also leads to interpersonal difficulties. Even though the collective perception of gambling as an adult pursuit, adolescents are almost three times more likely than adults to experience gambling related problems. (Shaffer, Hall, & Vander Bilt, 1999). The research findings further implicate that these problems confound the wellbeing of adolescents. Lloyd et al., 2010 and Yip et al., 2011 observed that adolescent mental health wellness and reduced social functioning, including low academic achievement and issues with aggression and temperament, have been linked to problem gambling. Additionally early engagement in gambling is not only negatively affect students' academic performance but these problems are worsened at college level.

George et al. (2016) assessed the commonness of problem and recreational gambling among Indian college students. Using cluster random sampling, we sampled 5784 college students from 58 colleges in the Kerala, India, and district of Ernakulam. The findings indicated that problem gamblers had a much higher likelihood of experiencing more academic failures than non-problem gamblers. Floros (2018) observed that an addiction to gambling behavior, which has a range of characteristics, can manifest as problem gambling. From social, at-risk, sporadic, recreational, non-problematic, and pathological gambling to problem, pathological, compulsive, or disordered gambling outlines a spectrum of gambling behaviors. Meta-analysis studies done by Bijker, et al (2022) to determine the prevalence of gambling participation and data collection 2010 onward. They concluded that one in five persons with problem gambling and one in every twenty-five persons who gamble at a moderate risk have sought assistance for gambling-related issues.

Odame et. al (2021) carried a study with an objective to determine one year of prevalence of problem gambling among Ghanaian adolescents, as well as to characterize the general, gender-specific, and shared personal and social adversity factors linked to problem gambling., they conducted a cross-sectional survey with 1101 in-school teenagers aged 10-19 in a rural district of Eastern Ghana and used DSM-IV-Multiple Response-Juvenile (DSM-IV-MR-J) questionnaire to measure problem gambling for the during the preceding 12 months. The study findings revealed 34.3% of participants reported problem gambling during the previous 12 months. The current study sought to factor both the rural and urban adolescents and use Canadian problem gambling index (PGSI) to assess the level of gambling problem in Nakuru county Kenya.

Anyanwu et al. (2023) conducted a cross-sectional study with secondary school students in Uganda's Mbarara Municipality. The researchers selected two schools in the Mbarara Municipality—one private and one public—using a multi-stage cluster sampling technique. Lastly pupils from every secondary school are chosen at random. Using the class register, ten students were selected at random from each of the six classes to make up the final group of 60 students from each school. Based on the DSM-IV criteria, 17.7% of pupils were reported to have a problem with gambling, according to the research. In order to assess problem gambling, the current study will use the Gambling Problem Severity Scale and take into account a larger population.

Research conducted in Kenya by Ndeti et al (2023) sought to ascertain the co-occurrence of DSM-V gambling problem with DSM-V mental illnesses and drug misuse among high school, college, and university students. Cross-sectional research was conducted with a sample size of 536 students, including individuals from high school, college, and university. The research gathered information on the socio-demographic features and economic indicators, which indicated that 11.4% of the participants were diagnosed with DSM-V gambling problem. Furthermore, a significant majority of the students who engaged in gambling exhibited drug misuse ( $p < 0.05$ ), with the exception of amphetamine in terms of lifetime usage.

### **1.6 Research Methodology**

This study used a mixed methods approach, specifically using a convergent parallel design to collect data using both quantitative and qualitative techniques. The two types of data were gathered via phenomenological designs and cross-sectional surveys. This study employed a cluster sampling method to investigate engagement of public secondary school students in gambling on their academic performance. The target population included all public secondary schools within Nakuru County. Due to the enormity of the county and the need for exhaustive analysis, the sampling frame consists of 49 randomly public secondary school from the total population of 348 schools in the Nakuru County. A total of 770 form three students, were sampled through a cluster, and within these schools, a stratified random sample of students was drawn to ensure representation across different form three students and comparing the school population. This method allows for a practicable yet representative sample, facilitating a complete study of the engagement of gambling affecting student academic performance. The questionnaire adopted the problem gambling severity index (PGSI) format which several studies have shown as reliable and validity to measure gambling severity index (Loo & Raylu, 2011; So et al, 2019).

### **1.7 Findings and Discussions**

The researcher utilized self-assessment based on the Canadian Problem wagering Index in accordance with international best practices for measuring problem gambling problem in order to guarantee that scores function effectively and have positive repercussions when implemented in practice. Standardized as the Problem Gambling Severity Index (PGSI), at-risk behavior in problem gambling is quantified using this index. PGSI) is a, nine-item self-report assessment of problematic gambling behaviors in the general population is called the Problem Gambling Severity Index (PGSI) (Ferris & Wynne, 2001). Different subgroups of problem gamblers with varying risk statuses responded as the (none, low, moderate, and problematic) can be identified using the PGSI.

**Table 1: Frequencies of Problem Gambling Severity Index**

| Statement  | F   | N   | %     | S   | %     | MT | %     | AA | %    | TO  |
|--|-----|-----|-------|-----|-------|----|-------|----|------|-----|
| Have you placed bets during the previous 12 months that you truly couldn't afford to lose?                                     | 545 | 545 | 73.06 | 142 | 19.03 | 48 | 6.43  | 11 | 1.47 | 746 |
| Looking back over the previous year, did you have to wager more money to get the same level of thrill?                         | 518 | 518 | 69.07 | 138 | 18.40 | 56 | 7.47  | 38 | 5.07 | 750 |
| Did you attempt to win back the money you lost when you gambled?   | 480 | 480 | 64.34 | 127 | 17.02 | 76 | 10.19 | 63 | 8.45 | 746 |
| Have you ever sold something or taken out a loan to fund your gambling?  | 590 | 590 | 78.67 | 114 | 15.20 | 29 | 3.87  | 17 | 2.27 | 750 |
| Have you ever wondered whether you may have a gambling problem?  | 469 | 469 | 62.87 | 145 | 19.44 | 58 | 7.77  | 74 | 9.92 | 746 |
| Have you had any health issues as a result of gambling, such as stress or anxiety?   | 565 | 565 | 75.84 | 98  | 13.15 | 46 | 6.17  | 36 | 4.83 | 745 |
| Have others informed you that you have a gambling issue or condemned your betting, whether or not you believe them to be true? | 551 | 551 | 73.86 | 108 | 14.48 | 51 | 6.84  | 36 | 4.83 | 746 |
| Has your gaming put you or your family in financial jeopardy?  | 543 | 543 | 73.28 | 111 | 14.98 | 42 | 5.67  | 45 | 6.07 | 741 |
| Have you ever felt bad about the way you gamble or the results of your gambling?   | 502 | 502 | 68.86 | 146 | 20.03 | 40 | 5.49  | 41 | 5.62 | 729 |

*Note: never =N, sometimes= S, Most of the time= MT, almost always= AA*

**Source: Field data, 2024**

The results from table one that 73.6% never placed any bet in the last one year that truly couldn't afford to lose. However about 27% of the sampled students had been involved in gambling and their emotions weighed heavily on the same. Their involvement in gambling made them to try and recover the money as only 64.34% did not pursue the loss, but about 35.6% of respondents tried to recover pointing to getting absorbed more and more in gambling activities. This involvements in gambling resulted to stressful and building of anxiety for about 24.2% of respondents. Additionally, family and close relatives noticed perhaps the change of behaviours as 27.2% of respondents reported to have been informed that may have a gambling issue or condemned your betting. Similarly, the bad feeling of engagement was reported by higher of 32.2% of respondents' this point to a deep-rooted idea that majority of students are aware that engagement in gambling is not desirable but continues to engage in it.

Further the researcher sought to establish if there any relationship between the different levels of gambling severity and academic performance as indicated in table 2. The Gambling Severity Index (PGSI) is a standardized measure of at-risk behavior in problem gambling. Zero means there is no problem when it comes to gambling. A score of 1 or 2 denotes minor problems with few to no obvious downsides. A score between three and seven denotes a moderate level of problems with some undesirable results. A score of eight or higher denotes problem gambling that could result in unpredictable events.

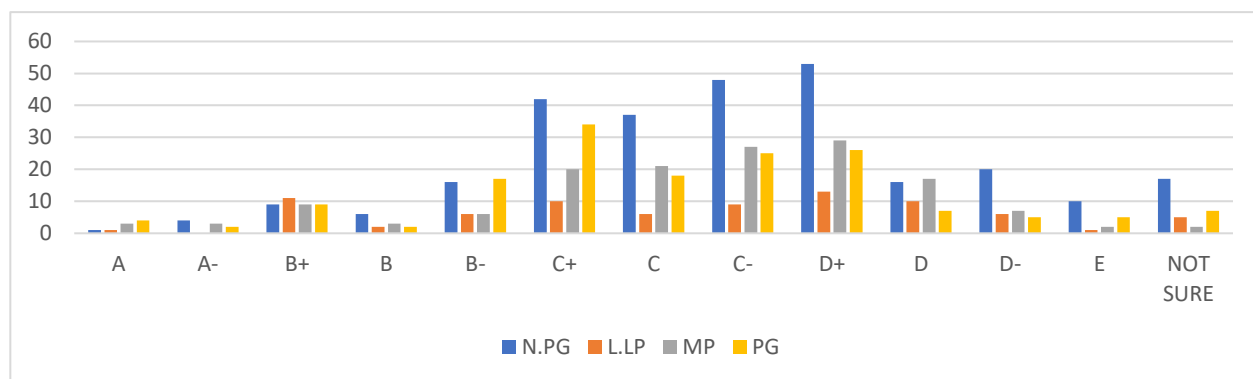
**Table 2 : Severity level (PGSI)**

|  |          | What is the severity level (PGSI) |      |           |      |            |      |            |      |            |
|--|----------|-----------------------------------|------|-----------|------|------------|------|------------|------|------------|
|  | GRADE    | N.PG                              | %    | L.LP      | %    | MP         | %    | PG         | %    | Total      |
| My mean grade in the last end of term examination is | A        | 1                                 | 11.1 | 1         | 11.1 | 3          | 33.3 | 4          | 44.4 | 9          |
|  | A-       | 4                                 | 44.4 | 0         | 0.0  | 3          | 33.3 | 2          | 22.2 | 9          |
|  | B+       | 9                                 | 23.7 | 11        | 28.9 | 9          | 23.7 | 9          | 23.7 | 38         |
|  | B        | 6                                 | 46.2 | 2         | 15.4 | 3          | 23.1 | 2          | 15.4 | 13         |
|  | B-       | 16                                | 35.6 | 6         | 13.3 | 6          | 13.3 | 17         | 37.8 | 45         |
|  | C+       | 42                                | 39.6 | 10        | 9.4  | 20         | 18.9 | 34         | 32.1 | 106        |
|  | C        | 37                                | 45.1 | 6         | 7.3  | 21         | 25.6 | 18         | 22.0 | 82         |
|  | C-       | 48                                | 44.0 | 9         | 8.3  | 27         | 24.8 | 25         | 22.9 | 109        |
|  | D+       | 53                                | 43.8 | 13        | 10.7 | 29         | 24.0 | 26         | 21.5 | 121        |
|  | D        | 16                                | 32.0 | 10        | 20.0 | 17         | 34.0 | 7          | 14.0 | 50         |
|  | D-       | 20                                | 52.6 | 6         | 15.8 | 7          | 18.4 | 5          | 13.2 | 38         |
|  | E        | 10                                | 55.6 | 1         | 5.6  | 2          | 11.1 | 5          | 27.8 | 18         |
|  | NOT SURE | 17                                | 54.8 | 5         | 16.1 | 2          | 6.5  | 7          | 22.6 | 31         |
| <b>Total</b>   |          | <b>279</b>                        |      | <b>80</b> |      | <b>149</b> |      | <b>161</b> |      | <b>669</b> |

**Note:** N.PG =No problem gambling, L. LP= Low level problem, MP= Moderate problem, PG= problem gambling

**Source:** Field data, 2023

Figure 1 indicates the graphical representation in percentages.



**Source:** Field data, 2023



A one-way ANOVA was performed to evaluate the relationship between a student’s level of gambling severity (No problem, Gambling, Low level problem, Moderate Problem, problem gambling and mean score attained in the end of term examination grades.

The means and standard deviations are presented in Table 3 below.

**Table 3 Mean grade in previous end of term examination**

| <b>My mean grade in the last end of term examination is</b> |     |      |                |            |                                  |             |         |         |
|---|-----|------|----------------|------------|----------------------------------|-------------|---------|---------|
|   | N   | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean |             | Minimum | Maximum |
|   |     |      |                |            | Lower Bound                      | Upper Bound |         |         |
| No problem gambling   | 279 | 8.00 | 2.51           | 0.15       | 7.71                             | 8.30        | 1       | 13      |
| Low level problem   | 80  | 7.58 | 2.95           | 0.33       | 6.92                             | 8.23        | 1       | 13      |
| Moderate problem  | 149 | 7.51 | 2.45           | 0.20       | 7.11                             | 7.91        | 1       | 13      |
| Problem gambling  | 161 | 7.25 | 2.62           | 0.21       | 6.85                             | 7.66        | 1       | 13      |
| Total   | 669 | 7.66 | 2.59           | 0.10       | 7.47                             | 7.86        | 1       | 13      |

Source: Field data, 2023

One-way ANOVA table of descriptive statistics. The ANOVA was significant at the .05 level,  $F(3, 665) = 3.175, p = .024$

A post hoc Tukey HSD test indicated that the mean score attained in the end of term examination grades of the No problem gambling] was significantly higher than that of the Problem gambling ( $p = [.018]$ ). However, there were no significant differences between the mean score attained in the end of term examination grades of the Low-level problem and Moderate problem ( $p = [.998]$ ) or between the Low-level problem] and Problem gambling ( $p = [.0800]$ ). The summarized findings are summarized in table 4 below.

**Table 4 Post hoc Tukey HSD on severity level**

| <b>Dependent Variable: My mean grade in the last end of term examination is</b> |                   |                       |            |      |                         |             |
|---|-------------------|-----------------------|------------|------|-------------------------|-------------|
| <b>Tukey HSD</b>  |                   |                       |            |      |                         |             |
| (I) what is the severity level PGSI   |                   | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval |             |
|   |                   |                       |            |      | Lower Bound             | Upper Bound |
| No problem gambling   | Low level problem | .429                  | .327       | .556 | -.41                    | 1.27        |
|   | Moderate problem  | .494                  | .262       | .235 | -.18                    | 1.17        |
|   | Problem gambling  | .749*                 | .255       | .018 | .09                     | 1.41        |

|                   |                            |        |      |      |       |      |
|-------------------|----------------------------|--------|------|------|-------|------|
| Low level problem | No problem gambling        | -.429  | .327 | .556 | -1.27 | .41  |
|                   | Moderate problem gambling  | .065   | .357 | .998 | -.86  | .99  |
| Moderate problem  | No problem gambling        | -.494  | .262 | .235 | -1.17 | .18  |
|                   | Low level problem gambling | -.065  | .357 | .998 | -.99  | .86  |
| Problem gambling  | Problem gambling           | .255   | .293 | .820 | -.50  | 1.01 |
|                   | No problem gambling        | -.749* | .255 | .018 | -1.41 | -.09 |
|                   | Low level problem gambling | -.320  | .353 | .800 | -1.23 | .59  |
|                   | Moderate problem           | -.255  | .293 | .820 | -1.01 | .50  |

Source: Field data, 2023

Additionally, the researcher sought to establish the frequencies of class attendance based on the involvement to gambling. The summary of non-attendance of school is shown below

**Table 5 Non school attendance due to gambling**

| <b>I have ever failed to attend to school due to gambling</b> |                  |           |         |               |                    |
|---|------------------|-----------|---------|---------------|--------------------|
|   |                  | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid   | Never            | 671       | 87.1    | 91.7          | 91.7               |
|   | Sometimes        | 34        | 4.4     | 4.6           | 96.3               |
|   | Most of the time | 9         | 1.2     | 1.2           | 97.5               |
|   | Almost always    | 18        | 2.3     | 2.5           | 100.0              |
|   | Total            | 732       | 95.1    | 100.0         |                    |
| Missing   | System           | 38        | 4.9     |               |                    |
| Total   |                  | 770       | 100.0   |               |                    |

Source: Field data, 2023

The results in Table 5 show that majority 91.7% of the students never failed to attend to school due to gambling. However, 4.6% indicated that gambling sometimes affected their school attendance, a further 1.2% indicated most of the time. However, 2.3% were severity affected as they reported almost always, they could not make to school. This does indicate that students in day schools are at higher risks of performing poorly due to non- school attendance. The researcher considers as a major factor as many schools in Nakuru County are day schools. Findings were supported by interviews with Deputy Principal in which D, F, and principal J each provided their own unique view According to participant D:

*“Some students need counselling because they tend to think they can solve their economic situation if they continue to gamble (INT 1, 2023).*

Another deputy principal F reported



*“I deal with serious cases sometimes involving gang’s fights and when you reflect on the root cause analysis of the same you discover is money led to someone, bet and then lost another bet and unable to pay resulting to sometimes dangerous fights or stealing”. (INT 2, 2023)*

Research done Study done by Al Hazaa et al (2021) and Komakech (2015) has shown that student’s school attendance plays a major role in students’ academic performance. This is further ascertained by (De Luigi 2018: Westphal 2000) However, students in day school are greatly affected by happening of the outside work than boarding schools. This was confirmed by principal J who said “ *I hope you have noticed that my office is equipped with CCTVS camera to monitor all corners of these school. I tell you the CCTVS are game charger in the case of the school environment. But what happens out there when students are out of this compound, I don’t have control” (INT 3, 2023).*

### **1.8 Summary**

The study Problem Gambling and Academic Performance a Study of Public Secondary school students in Nakuru County Kenya. The investigation was grounded in the Walberg theory of education productivity, which informed the following research question: What is the relationship of secondary schools’ students’ academic performance and their problem gambling behavior in Nakuru County Kenya? The study found that problem gambling affect negatively students’ academic performance, through reduced class attendance, increased stress and anxiety level of the students. Problem gamblers are more likely to be involved in other harmful activities like stealing and fights. Additionally, the research pointed out that CCTVS cameras play a major role in monitoring and by helping school managers to notice changes in student’s behavior in good time and this significantly reduce gambling activities that may take place in school compounds like playing of cards. Further, the research found out there is a significant population of students who have problem gambling as per PGSI tool was adopted in the study, these students with problem gamblers require counselling services to help the cope with the addiction problems and challenges that result due to school pressure.

### **1.9 Conclusions and Recommendations**

Our study’s findings suggest that engagement in gambling negatively affect students’ academic performance. The preventive initiatives that focus on establishing the reasons for non-school attendance may be significant in fostering positive teacher-students’ relationships that lead to worthwhile pursuits that satisfy the need tackling gambling related problems. Early detection of gambling problems among students in high school many reduce further the gambling problems in the society as onset of gambling is a major factor associated with gambling problem among adult population. Teachers and school administrator mostly in day secondary school need to double their effort in monitoring school attendance and establishing authentic reasons for students who fail to attend schools.

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