PERCEPTIONS OF STUDENT ATHLETES AND SPORTS OFFICERS ON THE EFFECTS OF ONLINE BETTING IN KENYAN UNIVERSITIES

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DECLARATION

This thesis is my original work and has not been presented for the award of a degree or any other qualification in this or any other university or institution of higher learning.

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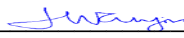
Signature:  . Date. 18th November 2022

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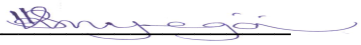
Signature:  Date. 18th November 2022

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This thesis is dedicated to our mighty Lord God and my family for their support in completing my doctor of philosophy degree.

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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
CAGR	Compound Annual Growth Rate
CPGI	Canadian Problem Gambling Index
CUE	Commission for University Education
DSM- IV	Diagnostic and Statistical Manual of Mental Disorder
GGR	Gross Gambling Revenues
GGY	Gross Gambling Yield
GLM	General linear regression model
HELB	High Education Loan Board
KUSA	Kenya University Sports Association
NACOSTI	National Council for Science, Technology and Innovation
NCAA	National College Athletes Association
PPMG	Problem and Pathological Measure
SOGS	South Oaks Gambling Screen
SPSS	Statistical Package for Social Sciences
TRA	Theory of Reasoned Action

ABSTRACT

Online sports' betting is widely spread in Kenya, and it is becoming culturally acceptable by today's generation more than any other previous generation. The majority of university students are inclined to perceive online sports betting as a harmless activity. This study examined perception of student athletes and sports officers on the effects of online betting in Kenyan universities. A descriptive research design was used. The target population of 24639 comprised of diploma, undergraduate, and post-graduate student-athletes together with the university sports officers within the department of sports and games concerned with students' sports issues. A simple random sample was used to ensure representation. A sample of 423 comprising of 385 athletes and 38 sports officers was selected. A self-report questionnaire, observation score sheet and key informants protocol were used as the instruments for data collection. Observation of gambling behaviour was recorded. Data obtained was coded and analyzed using the Statistical Package for Social Science (SPSS) version 25. Regression analysis and correlation analysis were used to test the hypothesis. The findings reveal that there was a positive and significant association between gambling severity and economic wellbeing ($r = 0.600$, $P>0.0001$). Regression of coefficients in the first hypothesis, H01 indicated that: there is no significant effect of online betting on the perceived economic wellbeing of student-athletes, revealed that gambling severity and economic wellbeing of students are positively and significantly related ($\beta = 0.711$, $P>0.0001$). The results showed that there was a positive and significant association between gambling severity and social wellbeing ($r = 0.702$, $P>0.0001$). Regression of coefficients in the second hypothesis, H02m indicated that: there is no significant effect of online sports betting on the perceived social wellbeing of student-athletes, revealed that gambling severity and social wellbeing of students are positively and significantly related ($\beta = 0.544$, $P>0.0001$). The interaction effect of demographic factors on the relationship between gambling severity and social wellbeing of student-athletes had an F-value of 2.654. The results show that there was a positive and significant association between gambling severity and mental wellbeing ($r = 0.711$, $P>0.0001$). Regression of coefficients in the third hypothesis H03 revealed that : there is no significant effect of online sports betting on the perceived mental health wellbeing of student-athletes, the results revealed that gambling severity and the mental wellbeing of students are positively and significantly related ($\beta = 0.576$, $P>0.0001$). There was a positive and significant association between gambling severity and academic performance ($r = 0.623$, $P>0.0001$). Regression of coefficients in the fourth hypothesis, H04 divulged that: there is no significant effect of online sports betting on the perceived academic performance of student-athletes, it further revealed that, gambling severity and academic performance of students are positively and significantly related ($\beta = 0.346$, $P>0.0001$). The interaction between the extent of online sports betting and demographic variables had a significant effect on student-athletes' perceived academic performance. Students' intellectual focus, and specifically within the sub-section of university student-athletes, was harmed as a result of time spent away from school, betting online. There is a need to develop social, economic, mental, and academic harm minimization strategies to avoid the worst-case scenario of suicide ideation and suicide attempts that are becoming popular amongst online sports bettors.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Gambling addiction is the world's third most common type of addiction, trailing only substance abuse and internet addiction. According to the American Psychological Association (APA), this is correct (Lansky, 2016).In the most recent edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), which was published in 2013, pathological gambling was identified as one of the emerging forms of mental illness that may be seen in our world today. This can be utilized as part of the screening process for the mental health of students to identify any mental disorders (Lansky, 2016). Bets on sporting events can be placed over the internet in many parts of the world, including Europe; however, individual nations are responsible for enacting rules and regulations that are consistent with the country's union. (Lansky, 2016).

Gambling in sports has a long history, dating back to Ancient Greece almost 2,000 years ago, Sanders-Church (2011). The earliest reports of gambling were established with the advent of the initial Olympics events (Martin, 2012), and then it extended to Roman gladiatorial combat. Later on, sports betting became widespread in England and the United States of America, especially in horse racing (Martin, 2012). Sports betting has grown in popularity throughout the globe, and the development of the internet in the 1990s altered the way individuals worked, lived, played, and gambled (Palm, 2013); having a significant effect on the growth of sports gambling. Inter-tops, the first internet sportsbook, allegedly took its first internet wager in 1996 (Gainsbury, Hing & Suhonen 2014).

According to Gainsbury, Hing and Suhonen (2014), the betting companies rise may be attributed to digital sports betting exceeding most other types of gambling and concentrating on the "young market." The internet sports industry is utilized by anybody at any moment, anyplace, and in any way, with the young being the most active users (Hing, Russel, Lamont & Vitratas 2017). As a result, since 1997, the development of public gambling websites grew from 15 to over 2000; online gambling has emerged as one of e-commerce's greatest successes (Casino City online, 2010; Betting 2011). Ever since, the industry has seen phenomenal development (Stats, 2010) where the global online betting plunder is approximately USD47.1 billion in 2018 with a Compound Annual Growth Rate (CAGR) of approximately 4.7%, but the figure is forecast to grow to approximately USD106.25 billion by 2025, posting a CAGR of over 10% (Christian Capital Adviser,2006; Global betting & Gaming Consultant, 2018). According to Jupiter Research (2010), the global mobile market has been projected to have about 165 million subscribers as at 2018, up from a 2013 projection of 65 million. Online sports betting, in particular, is the only form of gambling that has grown in popularity over the last decade (Gainsbury, 2015; Williams, Pekow, Volberg, Stanek, Zorn & Houpt, 2016; Internet World Starts, 2010). This rise has been aided by extensive promotion of sports gambling throughout live and televised athletic tournaments, as well as via modern media such as the internet, social networking sites, and mobile phones (Gainsbury, Hing, Delfabbro & Kings, 2014). It is alleged that online sports betting has a high level of exposure and different people have a diverse perception of its consequences on student-athletes' social-economic life, mental health, and academic life (Browne, Langham, Rawat, Greer, Rose & Best 2016).

Online sports betting has become dominant in African culture, where betting in general is governed by pre-existing lottery-related rules (Akanle & Fageyibo, 2019; Herskowitz, 2016). Following reports on gambling in Africa, Kenya, in particular, has witnessed a massive expansion in online betting. According to Price Waterhouse Coopers (2017), Kenya's gambling business brought in more than Ksh1.98 billion in earnings in 2017 alone, and was expected to reach Ksh7.5 billion as at 2018. The annual revenue raised by the betting business sector is commonly known as Gross Gambling Revenues (GGR) by the Productivity Commission (2010), which represents the entire amount used in betting. Gross Gambling Yield (GGY) alludes to the entire amount wagered, including bonuses, but without awards (Stats, 2010). According to Richard (2010), governments often perceive online gambling as a source of income at the cost of other repercussions, particularly for university students, sports and non-athletes.

To be more precise, the growth of internet online gambling in Kenya began in approximately 2012, a few months after the introduction of mobile technology (Mwandime, 2017). Betting was not done on portable devices at that point, although it was done on a limited basis online at betting establishments with computers linked to the network (Mwangi & Moshi, 2016). Online gambling through cell phones became more convenient at the beginning of 2015 when Kenyans began to feel the impact of the rise of smart phone use due to an influx of cheaper phones and cheaper connectivity costs. This may have encouraged more people and especially the youth to bet online at their comfort.

The Kenyan gambling market was valued at approximately $40 million in 2020 and is forecast to grow to approximately $55 million by 2023, showing that it is growing rapidly despite the worldwide crisis of the COVID-19 pandemic and lockdowns, which

ironically provided a conducive online betting environment due to isolation and loneliness (Price Waterhouse Coopers, 2020). Currently, Kenya is ranked third in Sub-Saharan Africa when it comes to gambling market size. This is after South Africa and Nigeria. Though Kenya is ranked third in market size, it has the highest number of young gambling bettors in the region. The Kenyan gambling market is dominated by sports betting. According to statistics from GeoPoll, there are over 30 licensed online sports betting sites in Kenya. SportPesa is Kenya's most prominent and well-known online gambling service, with 82 percent of Kenyan online gamblers claiming to have an identity with the sportsbook (Benson, Munayi, Wanjira & Inyega, 2021).The other renowned providers are Betin, Elitebet, Betika, Mcheza and Betpawa. It has been shown that young Kenyans expend more income on betting than their counterparts in other African nations (Schmidt, 2020). Student-athletes, for instance, feel that online gambling is a competition of ability and expertise in a specific sport, rather than a form of gambling (Bernhard, Lee & Chung 2013).

Following a deluge of betting and in which the media seems to promote, endorse, and normalize online gambling, it is critical to investigate the potential economic, social, mental and educational harms of excessive online betting (Hing, Russell, Lamont and Vitartas 2017). As a consequence of technology improvements, Kenya's sports gambling industry has grown substantially, with the number of permitted sites expanding from 13 to over 30 (Mwandime, 2017). Mwandime further suggested that rather than being based on supply, the granting of permits to sports betting companies and facilities should be based on demand. Furthermore, it was suggested that, although online gambling offers some beneficial economic advantages, the market rate should always be taken into account. Mwandime proposed that no authorisation for internet gambling be provided until the inflationary impact surpasses the societal cost. As a

consequence, every decision on whether or not to legalize internet gambling should be based on a cost-benefit analysis (Dense, 2009). Such a study should be centred on the implications of the aspects suggested by Mwandime for the next population of university students.

Kenya University students, just like other global college students, have distinctive features that make them more vulnerable to betting. These include: new fiscal responsibilities, new campus life, their developmental stage, and heavy participation in social networks (Amutabi, 2018; Shaffer, Donato, Labrie, Kidman & Laplanta, 2005). Student-athletes are the subset of the student population most affected by sports betting, more than any other subset of university students. Student-athletes are made up of age groups that hold distinct teen cultures characterized by competitiveness, risk taking, seeking self-identity through experimentation, and going to the extremes of lifestyle. Hence, getting involved in sports betting becomes an easy option. As cited by Seifried, Krenzelok, Turner and Brett (2009), Rockey (2002) reported that 81% of 129 students, of whom were athletes from nine South Eastern Conference (SEC) universities had been involved in betting during university life. Student-athletes generally face similar challenges all over the world. However, they are anticipated to be successful both academically and in their athletic responsibilities (Carodine, Almond, Gratto, 2001). This pressure for success, a better life and online betting availability are among risk factors that are associated with university student-athletes (Stinchifield, 2005).

Furthermore, student-athletes at Kenyan universities participate in structured competitive and recreational sports through the Kenyan Universities Sports Federation (KUSF), the body charged with governing their sporting activities. (Chumba, Munayi & Nteere, 2020). It has been observed that structured popular sports

have been a major target for online sports betting. At present, betting companies' logos appear on 9 out of 20 English Premier League soccer teams' uniforms. Betting companies are paying big money for logo visibility. The substantial popularity of inter-university competition has only intensified online sports betting in university sports (Chumba, Munayi & Nteere, 2020; Petry, 2009).

Online sports betting is a developing, high-risk challenge that has sounded the alarm on Kenyan university sports across the country. Online sports betting is on the rise in Kenya, and there have been fears that Kenya is growing to be a nation of online sports bettors. More so, after Sportpesa, an online sports betting firm, declared a young Kenyan by the name of Samuel Abisai as a jackpot winner of Kenya Shillings 221 million in May 2017 after betting on the outcome of multiple online live sports betting. Kenya's university athletes are now spending most of their energies anticipating betting and winning big (Amutabi, 2018). In addition, preceding studies have suggested that student-athletes are inclined to feel uncomfortable seeking counselling services outside the departments of sports. This may be due to fear of not being understood by mental health professionals with no association with sports and who do not understand their lifestyle (Watson & Kissinger, 2007).

Consequently, student-athletes represent the health image of the university in a unique way and, being visibly recognizable; they are generally respected for their athletic ability and attainment and, on many campuses, enjoy celebrity status. They also face a number of particular difficulties as a result of their sports involvement and academic pursuits (Broughton & Neyer, 2001). This aspect of student participation in internet sports betting has received attention. For example, research conducted with Iowan university students contrasted the betting habits of players and non-athletes (Rockey, Beason & Gilbert 2014). The research discovered that although betting popularity was

similar in both categories, college athletes (6%) had a higher rate of gambling addiction than non-athletes (3.4%). In comparison to non-athletes (33.1%), collegiate players (51.9%) were far more likely to wager on skilled sports such as spinning and pool (Rockey, Beason & Gilbert 2014).In another survey of 1,079 students, 5 percent of athletes reported having experienced a betting obligation at some point, compared to one percent of non-athletes (Stuhldreher, Stuhldreher & Forrest, 2007).

Finally, Weiss (2010) carried out research on the association of sports betting and student-athletes and non-athletes. According to the study, student-athletes in academic settings were more engaged in specific kinds of online gambling activities, such as skill competitions, than non-athletes. The student-athletes self-reported having betted two or three times (Platz, Knapp & Crossman, 2005). Some Kenyan undergraduate learners have lost their possessions, while some have betted off their education payments. The sports gambling sector has positioned itself as a serious problem that has a significant impact on not just societal and financial factors, but also psychological health and school performance (Alushula, 2017). The internet and athletic gambling have been identified as significant lifestyle factors for a higher percentage of betting and gaming participation among student-athletes (Marchica & Derevensky, 2015).

As a consequence, understanding the financial effect of digital wagering may aid in the reduction of economic harm such as bankruptcy, financial concerns, and the misuse of college tuition, among many other issues (Ahaibwe, Lakuma, Katunze & Mawejje, 2016; Binde, 2016). Despite earning subsidies and overcoming physical and psychological difficulties at college, the total cost-benefits of digital sporting betting remain debatable (Gilgunn, 2010). Virtually every teenager's sports bettors expect to profit from online gambling and become wealthy; they believe that through their

online gambling experiences, they will one day recoup all of the money they lost on online gaming (Binden, 2011; Economist, 2016). The drive to win encourages student-athletes to engage in online gambling, and the more people lose out on a victory, the more they engage in internet gambling in the hopes of recouping the money they could have lost. The impact of internet sports betting has immediate monetary and societal ramifications (Binden, 2011; Economist, 2016).

The social effect of online gambling on sporting events, as per Mathews and Volberg (2013), is expressed in the social utility of the interaction in terms of energy and revenue squandered. The social effect of communal expense may lead to the disintegration of social bonds such as social ties and entire families, culminating in legal and cultural issues (Downs & Woolrych, 2010; Clarke, 2003). Online sports participants' connections with other scholars and family members usually suffer as their betting addictions increase. And this might lead to domestic violence (Delfabbro, Lambos, King & Puglies, 2009). Problem gambling, according to Reith and Dobbie (2012), is characterized by disorganized personalities, in which a student-athlete may also have dual self personalities, namely the gambling self and the non-addict self. The betting self is unable to fulfil the tasks and obligations that the non-addict self can handle. At this point, internet sports bettors seem powerless and are connected to identity issues, developing guilt and a sense of self-hatred (Yi & Kanetkar, 2010). Individuals who despise themselves may isolate themselves, while on the other hand; they may develop feelings of self-disappointment and guilt, which would lead to feelings of humiliation and isolation (Flanagan, 2013; Dhillon et al. 2011; Laursen, Plauborg, Ekholm, Larsen & Juel, 2016). Furthermore, it has been claimed that the lengths to which a sporting online gambler would go to conceal betting and the results of gambling may result in moral and legal questionable choices, such as committing a

crime (Laursen, Plauborg, Ekholm Larsen & Juel, 2016). Online sports betting has directly perceived financial and social consequences. Finances spent on betting cannot be spent by the individual or the family elsewhere in the local economy.

The perceived social effects of online sports betting on individual student-athlete and the immediate society are more challenging to quantify than the perceived economic effects (Yi & Kanetkar, 2010). This is mainly because of some reasons such as limited quality data on perceived social effects of online sports betting. Secondly, the complications of identifying and quantifying perceived social effects. Thirdly, the difficulty of finding a cause-effect relationship between online sports betting and social problems are due to the difficulty of isolating any one factor that causes social problems; where the interplay is huge and difficult to differentiate. In addition, the perceived social effect of online sports betting may lead individuals and families to misery that is also likely to cause mental health problems to student-athletes (Laursen, et al, 2016; Dhillon et al. 2011; Flanagan, 2013). The impact of online sports betting's widespread availability, promotion and legalization have been recognized as major public health and addiction issues (Shaffer & Korn, 2002).

On the other hand, student athletes' mental health is thought to be worsened by online gambling when compared to non-student athletes. Hangovers, depressed moods, sleeplessness, drug and substance addictions, and anxiety are examples of observed mental health problems, which many people link to absence and low school performance (2013 Flanagan). According to a survey of bettors who attended gamblers anonymous conferences in the United States, 13% had contemplated committing suicide, as opposed to 1.1 percent for the overall community (Wolanin, Gross & Hong, 2015). The issue may be much worse for athletic programmes which frequently have internet gamblers. Gamblers with a background of gambling addiction engage in a

wide variety of behavioural issues that are unrelated to their betting, such as drug misuse, suicide and attempted suicide, and poor temper. This may be accompanied by increased rates of physical sickness, which could influence the development of mental health disorders, significant financial difficulties, and criminal behaviour to finance online gambling (Petry, 2009). These repercussions may have an impact on student-athletes' educational performance.

Furthermore, there are alleged academic consequences of excessive internet online gambling on student-athletes' academic performance. One of them is deterioration in academic achievement. Potenza et al. (2011) confirm the link between academic achievement and gambling addiction in college youth who engage in online gambling. The increase in online sports betting was related to truancy, lateness, poor motivation, and low-grade averages of a D or less academic pursuit saying. Betting among young adults has always been linked to low academic performance, absenteeism, criminal participation, and delinquency. Kryszajtys, Hahmann, Schuler, Hamilton-Wright, Ziegler and Matheson(2018) are among those who have worked on this project. On the other hand, when it comes to bad academic performance, it has been noted that gambling addiction among student-athletes may have a negative impact on their achievement by decreasing the amount of time spent studying (Allami, Vitaro, Brendgen, Carbonneau & Tremblay, 2018).

As a result, student-athletes are particularly perceived as the face of the institution by the general public, especially when competing on a national level. They are a unique sub-population due to a variety of factors that include, but are not limited to: their competitive nature, developmental stage, living situation, participation in a wide social network, and their new financial responsibility (Shaffer, Donato, Labrie, Kidman & LaPlanta, 2005). These sub-groups of students have a unique cultural value that has

been defined by questioning established values, taking risks, and even reaching to extremes in terms of lifestyle (Simiyu, 2012). As a result, they become more susceptible to online betting as a result, and they use it as a group incentive. Simiyu (2012) had different views, noting that student-athletes struggle to study because of the personal and psychological requirements of sports competitions. Providing students with more social and recreational opportunities is likely to keep them free from compulsive gambling (Potenza et al., 2011). According to Koross (2016), college students use their federal loans from the Higher Education Loans Board (HELB) for casino betting, and most have contemplated or tried to commit suicide, significantly damaging their academic careers. Studies show that university students in Kenya are an ‘at risk’ group in relation to online gambling.

According to the findings of Koross (2016) research on the impact that betting has on the behaviour of university students in Kenya, more than 78% of Kenyan university students participate in gambling, indicating that the prevalence of gambling among Kenyan university students is significant. It was also discovered that gambling had an effect on the behaviour of the students. When the students were asked if they had ever used money from their fees or daily requirements to gamble, 30% of them said that they did so very often, 25% said that they did so often, 20% said that they sometimes, and 25% said that they never did so. According to the findings of the survey, "This is a behaviour that is visible in the majority of colleges in that students have been reported to have skipped exams or have dropped out of college because of non-payment of fees after using the money to gamble and having lost" (Koross, 2016).

Furthermore, university management, particularly the student welfare directorates, has also been criticized for failing to play its expected role in reducing damage via awareness and response (Roddock, 2015). According to Roddock (2015) university

officials have been criticized for having insufficient knowledge and care about online gambling addictions. Gainsbury, Hing and Suhonen (2014) argue that at institutions, online athletic gambling must be given the same attention as substance and drug use addictions, with a focus on the negative repercussions for student-athletes. Alcohol and drugs cause noticeable changes in students, whereas the perceived effects of online sports betting remain hidden until the online sports betting student is unable to function normally and isolates him or herself from all other forms of activities, or until the accrued debt becomes noticeable and unbearable. Hence, this suggests the need to pay more attention to the perceived problems through a study. The current study was an attempt to answer this suggestion.

1.2 Statement of the Problem

Online sports betting is a popular pastime among university students. As a result, there has been economic turmoil and challenges such as indebtedness, to the point that some students have used their college fees to gamble without proceeds. Excessive gambling not only makes them bankrupt and indebted but also predisposes the gambler to attempts to use money to regain their loss. Continual betting creates tension, migraines, and poor sleep, all of which have an influence on the social and psychological lives of student athletes. As a result, individuals develop feelings of separation from friends and relatives, and this isolation drives them to skip class, thereby impairing their academic performance.

Kenya was rated third biggest playground in Africa with over 75% of the youth having betted frequently (PWC 2017). Though betting has an annualized sales volume of approximately Ksh 200 billion the online gambling sector, in 2017 only contributed Ksh4 billion in revenue (PWC, 2017). Korros (2016) when studying how online betting has affected the university students in Kenya found out that 78% of these

students are involved in gambling. Online gambling companies in Kenya are having a detrimental impact on online students' availability, flexibility, and frequent participation and marketing techniques. But the apparent impact that internet sports have on college student-athletes in Kenya and elsewhere is poorly documented.

The competition mentality of student-athletes, "No pain, no profit," may lead them to hold back in their search for assistance on the perceived impact of internet gambling. This student sub-section is seen as the face and thus, because of their supposed abilities, knowledge, and expertise in various sports, they are susceptible to the hook of online sports betting. Furthermore, because sports contests are not paid, online sports betting provides them with more opportunities. The sports officials and the student welfare department were blamed for their lack of knowledge and lack of consideration of the problems of online sporting bets (Roddock, 2015). Since advances in technology have increased student athletes' ability to gamble online anyplace and at any moment. In addition, online sports wagering was a publicly acceptable form of entertainment. For many student-athletes, wagering is a joyful and enjoyable sport, but it can also be addictive and unpleasant for others, with unforeseeable bad effects. In developing this research, there is reliable evidence that online sport betting exceeds all other kinds of gambling in terms of membership; thus, this research is necessary.

1.3 Purpose of the Study

The purpose of this study was to examine athletes' and sports officers' perceptions on the effect of online sports betting on universities in Kenya.

1.4 Objectives of the Study

The following were the objectives of the study:

i. To investigate the effects of online sports betting on the perceived economic wellbeing of student-athletes.

ii. To examine the effects of online sports betting on the perceived social wellbeing of student-athletes.

iii. To establish the effects of online sports betting on the perceived mental health wellbeing of student-athletes.

iv. To determine the effects of online sports betting on the perceived academic performance of student-athletes.

v. To assess the moderating effect of demographic variables on the relationship between online sports betting and perceived economic wellbeing, social wellbeing, mental health wellbeing, and academic performance of student-athletes.

1.5 Research Hypothesis

Based on the objectives, the following research hypothesis were derived.

H01: There is no significant effect of online sports betting on the perceived economic wellbeing of student-athletes.

Ha1: There is a significant effect of online sports betting on the perceived economic wellbeing of student-athletes.

H02: There is no significant effect of online sports betting on the perceived social wellbeing of student-athletes.

Ha2: There is a significant effect of online sports betting on the perceived social wellbeing of student-athletes.

H03: There is no significant effect of online sports betting on the perceived mental health wellbeing of student-athletes.

Ha3: There is a significant effect of online sports betting on the perceived mental health wellbeing of student-athletes.

H04: There is no significant effect of online sports betting on the perceived academic performance of student-athletes.

Ha4: There is a significant effect of online sports betting on the perceived academic performance of student-athletes.

H05: There is no significant moderating effect of demographic variables on the relationships between online sports betting and perceived economic wellbeing, perceived social wellbeing, perceived mental health wellbeing and perceived academic performance of student-athletes.

1.6 Significance of the Study

Data on the perspective of athletes and sporting officials on the impact of online betting at higher education Institutions is intended to inform interested parties on the effects of online sports betting on economic, social, mental health and academics. The report also identified a number of areas to support stakeholder demands, including the best approach to improve regulations and create policy. This study proposed methods to help and safeguard people, more so the young generation who are vulnerable to the unconstructive impact of online sports betting. This study, therefore, indicates the need and possible threats of engaging in online gambling prevalently in the modern days. Currently gambling online has been made easy and accessible, which turns to be an addiction point.

The research also matters to various learning institutions, including universities and mid-level colleges and NGOs, because they have an understanding of the impact on students-athletes youths in Kenya. This may also establish a platform as a beginning point for future research in this sub-society of the student community in the area of sports betting, with psychological implications that have an afro-centred perspective of the effects on student-athletes at universities in Kenya.

1.7 Limitations of the Study

The primary limitation was in the observational schedule since the rate of betting at a particular session would be significantly dependent on it. The other limitation is that respondents may not have wanted to give precise and honest reactions owing to the sensitivity of their universities' online sports betting problems. The investigator shared with the respondents the aim of the study and applied the confidentiality principle in order to mitigate the challenge.

1.8 Delimitations of the Study

The research was restricted to 74 CUE-approved universities in Kenya. This included public chartered institutions, public university colleges, accredited private universities, colleges in private members and entities with temporary authority certificates. . Furthermore, the research focused on the perceptions of the impact of online sports betting from public and private institutions in Kenya, both in rural and urban regions, for the students' athletes and for sports officials. The research also included players in the six prominent ball sports, including handball, soccer, volleyball, netball, basketball and rugby, at Kenyan universities.

1.9 Basic Assumptions

The researcher made the following assumptions:

1. The self-reported questioner's answers were not subjected to respondents' recall, but participants were willing to report their current or true response.
2. An athlete and sports officers' perceptions were affected by online sports betting.

1.10 Operational Definition of Key Terms

Athletes and sports officers' perceptions: Thoughts implied in the opinions and views of the two strata of respondents concerning online sports betting.

Demographic variables: Characteristics that the researchers gathered to characterize the sample's composition and distribution in terms of age, gender, category of student, year of study, category of university and student type.

Online sports betting: online sports betting methods; placing a monetary wager on the outcome of an online sporting event.

Sports officers: in this study includes all university personnel, responsible for the management of sports and engaged in the planning and execution of sports contests and events at universities. This included Games tutor, directors of sports, games officers and coaches.

Student-athletes: Includes both men and women who participate or engage in extramural sports at the sampled institutions of higher learning in this study.

Perceived economic effects: perspectives on and opinions about the effects of student athletes on online gambling; indebtedness, financial problems, income levels, tuition money abuse, reckless borrowing, excessive expenditure on on-line sports gambling but also economic gains if any.

Perceived mental health effects: on student-athletes' and sports officers' poor mental wellbeing related to online gambling, such as sad mood, stress, drug and alcohol usage, headaches and sleeplessness, suicide thoughts and suicide acts but also any positive health attributes evident.

Perceived social effects: implies to opinions and perceptions on social implications for student sports players and sporting officers in connection with online gambling, such as family conflict and dispute, social negligence, social disruption, and interaction but also any positive attributes evident.

Perceived academic effect: perception and impression of the bad academic effects of online gambling, such as lower grades, higher absenteeism in lectures, dismissal, lateness, but also any positive attributes evident.

1.11 Organization of the Study

The study is presented in five chapters. Chapter one includes: the background to the study, statement of the problem, the purpose of the study, objective of the study, research hypothesis questions, significance of the study, limitation of the study, delimitation of the study, basic assumption, operational definition of terms, organization of the study. Chapter two comprises the literature review. This is organised in the following manner: literature related to the economic effect of online betting, literature related to the social effect of online betting, literature related to the health effect of online betting, literature related to the effect of online sports betting on academics. This is followed by the theoretical framework and finally the conceptual framework of the study. Chapter three covers research methodology. This is organised in the following way: research design, Location of study, target population, sample size and sampling procedure, the instrument for data collection, the validity of research instruments, reliability of research instrument, data collection procedures, data analysis and ethical consideration of the study. Chapter four entails presentation of the findings and analysis of data. Finally, chapter five contains the discussion of the findings, summary, conclusion, and recommendations of the study .

CHAPTER TWO

REVIEW OF LITERATURE

2.1 Introduction

This chapter examines the literature on: the concept of online betting, the economic impact of online gambling, internet sports betting's social effects, online sports betting's health issues, and the academic impact of online gambling. The theoretical framework and the conceptual framework are then adopted.

2.2 Concept of online Sports Betting

Online sports betting is depositing a monetary stake, commonly referred to as a bet, on the outcome of a particular online sporting event. The final result of the sport may be in three forms, win, lose, or draw (Ates, 2004). Initially, sports betting was done by depositing a stake on the outcome of a horse race. Soon after, some bookmakers expanded beyond the horse to accept wagers on the outcomes of team sports. Some started to make bets over the smart phone and then eventually online (Gainsbury, 2015). From a practical point of view, sports event outcomes can be expressed in terms of odds. Odds are agreed upon in advance (Andreff & Szymanski, 2006) and are closely associated with the likelihood of winning in a sporting event. Odds essentially make two determinations. Firstly, they are used to calculate the payout of winning a stake. The more superior the odds, the higher the chance of winning. Secondly, odds reveal the likelihood of winning an online sports bet. The less likely the outcome is to happen, the lower the odds will be. A bookmaker, also known as a betting agency, or a sportsbook, is a company or person that generates online sporting betting services at odds. (Andreff & Szymanski, 2006; Platz, Knapp & Crossman, 2005).

2.2.1 Types of Odd Formats and Online Betting

Ates (2004) noted there are three types of odds: the odd on, the odd against, and, finally, even odds. Odds indicate that the amount of money you can possibly win will be less than the amount you have gambled. While the odds are against specifying that the overall profit will be more than the online sports betting stake amount, Lastly, even if the odds specify that your winning bet's returns will be equal to the size of the said online sports bet; this generally means that one will not win anything or lose (Groot, 2008).

According to Groot, (2008), the online sports odds format might be different depending on the state. For instance, we have American or money line odds, decimal odds, and fraction odds. In America, odds are popularly known as money lines, and can be either a positive number or a negative number. A positive number shows how much return a winning wager of $100 would make, while a negative number shows how much an online bettor needs to stake to win $100. To be specific, the decimal odds used to be associated mostly with mainland Europe, Canada, and Australia. However, Andreff and Szymanski (2006) insist that, decimal odds had largely become the standard of most online bookmakers, with the exception of some US betting sites; since, it is the simplest of the three formats and is expressed simply as a single positive number, typically expressed into two decimal places. The numbers specify the total pay-out, which includes the original stake per unit staked. Finally, there are fractions of odds which were initially used in horse racing and have two numbers, the numerator and the denominator. The denominator, or second value on the right, is the sum of your bets, and your bet is the numerator, or first value on the left (Andreff & Szymanski, 2006). Currently, the most widely known type of odd is the European odd, Kenyan online sports betting firms use European odds.

Shead et al. (2012) argue that student-athletes at universities may be motivated to wager on the web for many reasons, including gaining money, enjoyment, socializing, and as a method to demonstrate competition. Establishing initiatives to bet on university students is essential in order to better identify the differences between problematic and non-problem gamers (Neighbors, Lostutter, Cronce & Larimer, 2002).

Meyer, Newall, Thobhani, Walasek and Thobhani (2019) noted that the percentage between the moment of making the bet and the period of the occurrence may also be used to classify the bets. As a result, there is traditional gambling and live betting. Live betting is defined as stakes placed during the game itself. 'In-running betting," "live bets," and "in-play gambling" are other terms for them. These types of sports betting have only recently been introduced to the online gambling industry and they will only be available on a scale of the twenties or multiples of tens at a few wagering companies around the world. Overall, a basic forecast is selected on which to gamble for live betting (Newall, Thobhani, Walasek & Meyer 2019). Between the period you demand for your wager to be verified and the moment your bet it is acknowledged by the operator, there is a "transit period" of 4 to 8 seconds. With the growth of many forms of athletic events, the bookmaker may restrict the odds provided, preventing bets from being placed on games such as volleyball and soccer, amongst many others (Lopez-Gonzalez, Griffiths & Estevez 2020).

Classic bets are ones that can only be made prior to the game's start time. These forms of sports wagering may be made at a digital operator over the Web or at gambling organizations where you make payments and get a receipt with the specified bet in compensation (Griffiths, 2012). The most significant advantage of this type of betting is the maximum amount that can be wagered on a single bet. While the maximum

permissible stakes in live gaming are usually not more than just few hundreds of dollars, they are much greater in classic bets. When it comes to the sorts of betting that may be placed, three types of wagers stand out: direct betting, handicap odds, and cumulative odds. Direct betting are those in which the competition's champion or match at the conclusion of the normal playing period is determined. Each bookmaker has its unique guidelines for determining normal playing duration for various activities. Griffiths and Auer claim that (2013) for soccer, tennis, and speed skating, the usual game time varies from many bookies in common. Handicap betting are those which offer a scoring lead or amount of scores to the team that the operator believes has a deficiency in order to keep the odds fair about 2.00. (Griffiths & Auer, 2013). The statistical results reached by the organizations in the previous time, damages endured by important players in teams; and the largest differential in the aggregate amounts gambled on the fighting teams are all indicators that may be used to assess the insufficiency.

According to Lopez-Gonzalez, Griffiths and Estevez (2020), the Most European Assessment is a full-fledged version of the Asian Assessment with three possible forms. Total betting refers to wagers on the total amount of points gained throughout the athletic event's normal time period. These sorts of bets may have two outcomes: "below total" or "over total," or three outcomes: "below total," "above total," and "exactly total". Some of the common reasons why student-athletes bet online are outlined in the next sub-section 2.2.2.

2.2.2 Student-Athlete Reason for Online Sports Betting

Why do student athletes bet more online on sports than any other sub-section of the student population? Interestingly, as cited by both Cross and Vollan (1999), and Rockey (1999), several pieces of research have shown contradictory estimates of

betting among student-athletes (NCAA , 2004). One study found that 81% of student-athletes have been involved in betting in their lifetime, another study indicated that 72% of 758 soccer and basketball student players had made a wager while in college (NCAA , 2004).

Attitudes towards online sports betting are really related to what are referred to as the 5As: the age of the athletes, availability, access, advertisement and acceptability (Griffiths, 2006). The majority of the student-athletes are in their prime age cohort of 18–25, which is characterized by being competitive, sensational and experimentation seeking (Ates, 2004). Peers or cohorts have been recognized by researchers as an agent of socialization that enables student-athlete online sports betting attitudes and behaviours (Thomas, 2014; Hardoon & Derevensky 2001). Online betting social settings may vary for men and women, since men and women differ from each other in whether they are in social groups (Hardoon & Derevensky, 2001; Griffiths, 2007).

Kenya has over 30 registered and legalised online sports firms and is the home of one of the largest online sports betting firms with over 2 million subscribers and a turnover of approximately US $100 million. Geographical situations and structural factors can enhance access to online sports betting (Maina, 2020).

Students have become more venerable to improved accessibility to online sporting events through the internet within a wired university geographical environment; ready access to smart phones, and extremely aggressive online sports betting marketing strategies through advertisements with bookies of high odds. This drives student-athletes to see it as a non-harmful recreational and competitive activity. With sports betting becoming more accepted within society and within university settings, it has become a culture within the student-athlete sub-section (Gose, 2000; Rafenstein,

2000). In Kenyan universities, drugs and abuse alcohol within the university premises is prohibited, but it is not illegal to do online sports betting at whatever time, anywhere and anyhow.

Student-athletes in universities are always seen as risk-takers or thrill-seekers who have reported positive attitudes toward betting, Kassinove and Schare (2001). Gupta et al. (2006) found that gambling-problem students had higher scores for all measures than social gamblers or non-gamers on the Zuckerman's Sensation Seeking Scale (Worthy, Jonkman & Blinn-Pike 2010; Zuckerman, 2007). Hence, there is an indication of a connection between problem gambling, sensation seeking and risky behaviour in student-athletes. Problem gamblers indicate much higher sensation ratings, risk behaviours and drug issues (Huang et al, 2007; Engwall et al., 2004; Stuhldreher et al., 2007; LaBrie et al., 2003).

Men and women have shown a variation in their views on online betting, with young men usually more optimistic than women (Stinchfeld 2000; Wood and Grifths 2004; Prichard & Wilson 2005; Chiu and Storm 2010). Other studies have shown that older student-athletes have been reported to gamble more often than younger student athletes (Stinchfeld, 2000; Williams, Connolly, Wood & Nowatzki, 2006). Wickwire et al. (2007) also showed that pupils older than younger students are more inclined to bet. In addition Felsher, Derevensky and Gupta (2003) and Hardoon and Derevensky (2001) affirmed that boys and girls bet inversely, choose different betting activities, report dissimilar reasons for betting and embrace diverse beliefs regarding control over online betting. The current study set out to find out whether this was true for the Kenyan situation.

There have been different reasons why student-athletes engage in online betting; those reasons are both monetary and non-monetary (Griffiths, 2007; Loroz, 2004). Ly (2010) undertook a study on online betting amongst 145 individuals amongst students at the University of Tasmania. The majority of participants (64.2%) reported happiness and pleasure (64.2%), revenue (49.3%), and boredom (30.4%), followed by a rush sensation (16.2%), and finally, awards (5.4%). In Kenyan universities, several athletes perceived online sports betting as additional income since they received nothing or too little of a stipend after competitions (Chumba 2019). Nevertheless, for many students, winning cash is not the only common reason why student-athletes bet online. Other studies have revealed that most athletes gamble online for other reasons that include competence/challenge, excitement/joy, socialization and skills (Aasved, 2003; Lam, 2007). Competent and self driven athletes are competitive in nature and widely express a desire to demonstrate competence at online sports betting; coupled with a desire to conform to their social cohort. Sociability replicates social interaction paybacks as an essential motive for the gambling of student-athletes in sports betting. Sports betting occurs mostly in social settings in the company of peers, teammates, friends, and age-mates during sports events.

In a way, student-athletes bet online to demonstrate their skills and experience. They may believe that they may develop more skills if they continue betting online and their win is as a result of their skill and experience, while losing may be interpreted as just bad luck on a bad day. Student-athletes may feel that they are competing with the betting firms and online sports bettors against the bookmaker, interpreting it as a contest against the bookmaker (Groot, 2008). Nevertheless, competency is not the only reason why a student athlete bets online. Among other motives, excitement is one of

them. Online betting provides a platform for athletes to relax and enjoy themselves away from academic and physical competition (Lam, 2007).

2.2.3 Online Sports Betting Severity and Common Demographic Risk Features

Numerous studies have affirmed the frequency of problem gambling rates among university student-athletes. Overall, these studies have shown that problems or problematic gambling rates among learner athletes at universities are significant, with males having considerably more problems or gambling conditions than women, spanning from 2.9 percent to 15 percent (Nowak & Aloe, 2014; Huang et al., 2007; Sullivan Kerber, 2005; Engwall et al, 2004; Wardle et al., 2018; Ellenbogen et al., 2008). Sports gambling has been connected to an increase in the incidence of gambling issues, according to various studies (Hing et al. 2014; Sproston et al. 2015; McMullan 2011; Lamont et al. 2011).

Online gamblers are more likely than non-online gamblers to report improper gambling, according to research (Choliz, Marcos & Lazaro-Mateo, 2021; Effertz et al., 2018; Volberg, McNamara & Carris, 2018). Regardless, there are differing viewpoints on what caused this incident. Some authors ascribe the more addictive aspects of online gambling to situational and structural elements such as expedience, accessibility, reward punctuality, or play intensity and consistency (Griffiths, 2013).

The uncontrollable nature of online betting altogether stimulates a part of the brain in such a way that it becomes dependent on the stimuli. By so doing, the student-athlete's brain releases dopamine as a reward (Abbott, 2017; Viatro, Wanner, Ladouceur, Brendgen & Tremlay, 2004). Even though there is no chemical substance to interact with the brain, online betting has been reported to trigger similar effects to alcohol and other drugs. Student-athletes with online betting addiction may exhibit symptoms of withdrawal after a long time of betting. The symptoms may include headaches,

anxiety, insomnia, and even heart palpitations that may lead to drug and substance use (Abbott, 2017).

In survey findings, sports' gambling is often mentioned as one of the most frequent behaviours among young people and adults (Huang & Boyer, 2007; Shead, Derevensky & Paskus 2014). For example, in an Australian telephone survey (N = 15,006), while sporting bet was recorded at 13.3%, 59% of online gambling was done online among gamblers using the online services (Gainsbury, Russell, Hing, Wood, Lubman & Blaszczynski, 2015). Male student-athletes seem to be more likely than female athletes to experience uncontrolled online sports betting (Marchica et al., 2018; Marchica et al., 2017). In addition, male athletes are inclined to be more competitive and skilled gamblers (Thomas & Moore, 2001). Female athletes, on the other hand, are more likely to play by chance or without strategy (Hing et al., 2014; Holdsworth et al., 2012; Nower et al., 2018).Uncontrollable gambling is primarily divided into two types: play and escape. In active gambling, they are internet gamblers who are attached to the excitement of risk taking, just as an alcoholic user is hooked on alcohol. The substance itself is the activity. Action bettors usually play with other players and teams because part of the emotional thrill is a victory (Hing & Breen, 2001; Holdsworth et al, 2012).

Instead, escape gambling is a student-athlete seeking to block some pain or emotional state crisis, as per Derevensky and Marchica (2018). The gambling action is subordinate to the action's addictive impact. Escape players favour more isolated venues, like internet betting, where personal interaction may be avoided. Male athletes seem to play more, while female athletes seem to be escape players (Griffiths, 2007).
In stages or phases of uncontrollable online sports gambling, Rosenthal (2020) attests that there is a progressive downward cycle in online sports betting that does follow a pattern of gradually increasing involvement in addictive behaviour. The development

of uncontrollable online betting was identified as having three phases, namely; the winning phase, the losing phase and desperation.

Griffiths (2007) in his gambling psychology reports attests that on the winning stage, online gambling may be seen by student athletes as thrilling and sociable and maybe as a means of avoiding the stresses of class, isolation, or even the family. A handful of victories may increase this enthusiasm. The student still has money and a sense of control over his online activities throughout the winning period. After winning, the gambler may surprise loved ones; friends and colleagues with donations (Griffiths, 2006; Rogers et al. 2019).The expertise of many victories may make you rely irrationally on their victory. This gives them a tremendous thrill while playing, and they start to increase their wager quantities.

Rosenthal, (2020) highlights that getting into the losing phase, the memories of the win are still fresh, but the winning stage eventually transforms into a loss stage and sometimes quite rapidly. As losses increase, the online bettor becomes preoccupied with betting. The craving to make higher and more numerous bets increases. Griffiths (2006) noted that the monetary and emotional stakes get higher. Regularly, occupied with guilt and shame, the online bettor starts to "chase" the losses, in the hope of making up for them with bigger and more numerous online bets. At this point, the online gambler may begin misusing credit cards, wagering or selling personal property, borrowing heavily and using tuition money (Rosenthal, 2020).The problematic gambler may begin skipping lectures and start to lie about his gaming behaviour to colleagues and household members. Gamblers may start looking for a bailout from family and comrades, sometimes with several excuses ranging from inadequate income, financial catastrophe, or unexpected expenses. This is a noticeable phase by parents, relatives, or peers and teammates. At this point, financial difficulties are

immediately experienced when collectors of bills and colleagues and co-workers owing money knock on the door. More and more, online sports bettors may begin looking for professional assistance. Unfortunately, others may progress to the next stage before seeking help (Derevensky & Marchica, 2018).

Next is the period of desperation when a sports enthusiast is experiencing health issues such as headaches, sleeplessness, and emotional disturbance as the debt grows (Brussels-Belgium, 2018). Emotionally, players frequently feel helpless, miserable, deprived, and may even engage in criminal behaviour. At this point, the player should be able to easily avoid family and debts. Another popular alternative is suicide. The player might ultimately seek assistance, even financial assistance. Depression is frequent, suicide is a genuine danger, and sports enthusiasts may commit crimes more often (Rosenthal, 2020).

Finally, online bettors get into a hopeless phase, and at this point, serious concerns may arise, which may look irreversible. For instance, consequences are perceived in economics, social, mental health, and academic areas for student-athletes, coupled with serious withdrawal symptoms. Griffiths (2007) noted that gamblers have no time not only for others but also for themselves. It has been reported that around 20 per cent of individuals in this phase attempt suicide (Rosenthal, 2020; Parke, & Griffiths, 2006).

On the other hand, several studies have identified common demographic risk features of online sports bettors and worries over the negative consequences of online sports betting are sensible as several studies have found greater levels of problem gambling severity amongst samples of online sports bettors as compared to non-online bettors (Wood, Williams & Lawton, 2007). Similarly, there is an evolving set of studies that have been instigated to identify the outline of a typical, contemporary online sports

bettor. The common structures of student athletes who participate in online sports betting regularly and are categorized as meeting a definition of problem gambling include the following: male, young (18–35 years of age), married status (singles), full-time employed or studying, engaging in poly-gambling, high level of education, having significant others and peers that also favour online sports betting, frequent use of several online accounts with different operators, perception of knowledge, multiple game playing among other demographic characteristics (Hing et al., 2016; Delfabbro & King, 2009; Russell et al., 2019; Wood & Williams, 2011).

2.2.3.1 Gender and Age as a Risk Feature for Online Sports Bettors

Sports betting activity is strongly gendered, with males and females engaging in different ways and experiencing different consequences (McCarthy et al., 2019; Williams et al., 2021). In general, younger adult males have been identified as a potential target for gambling addiction (Williams et al., 2012; Johansson et al., 2009; Hing et al., 2016). These characteristics are also substantial threat indicators for sports gambling, implying that this category of sporting gamblers is at a higher risk of developing gaming disorders (Lamont et al., 2011; Russell et al., 2019).

According to research (Hing et al. 2014; Williams et al. 2016; Johansson et al. 2009), being a young adult man is a risk factor for gambling addiction. Concerns have been expressed that youthful adult males who have adopted sports wagering are at a higher risk of developing connected gambling issues, especially considering their past of gambling addiction (Lamont et al. 2011; McMullan 2011). In general, LaBrie et al. (2003) examined the characteristics of every individual who created an application with a European internet bookmaker; in 2005, males made up 92 percent of the surveyed individuals (n = 40,499).Furthermore, young boys were shown to engage in more internet gambling and have more gambling issues than women (Bozzato,

Longobardi & Fabris, 2020). Furthermore, being a man has been linked to a 25 to 37-fold increased likelihood of becoming a medium-to high-risk problematic gambler (McMullan, 2011). Young males were more likely to have engaged in modelled betting in relation to betting actual money (Lamont et al., 2011).

Notwithstanding this diversity, an online gambling persona has formed that is very constant. Gambling sites are much more prevalent among men, who are younger, highly educated, possess higher earnings, participate in more gambling activities and also have higher gambling addiction rates than outdoor gambling (Wood and Williams, 2011). These characteristics are more prevalent among mixed-mode bettors, according to a more satisfying analysis dividing sports online gamers into internet, offline-only, and mixed-mode gambling (Wardle et al., 2018; Gainsbury et al., 2015).

According to the UK Gaming Commission's continuous assessment of remote gambling (UK Gambling Commission, 2019), males have roughly double the rate of internet gambling engagement compared to females. Wood and Williams (2011) discovered that 68 percent of the sample (n = 1,920) was male in another homogenous and self-selected sample of all sorts of international internet gamblers. In a study of 473 British university students, males made up approximately 85 percent of Internet gamblers (Griffiths and Barnes, 2008).

2.2.3.2 Perceptions of Knowledge and Skill as a Risk Feature for Online Sports Bettors

According to Killick and Griffiths (2021), a large percentage of student athletes indulge in sports gambling because they feel they have abilities and information that will influence the result of their betting, giving them a sense of mastery. Many players said that they watched the game while gambling on it since it allowed them to analyze the state of their competition prior to making a wager.

Pitt, Thomas, Bestman, Daube and Derevensky (2017) discovered that university athletes with specific goals to participate in online sports gambling services believed they would have a chance to win due to their knowledge and talent in the activity. Students are more inclined to be harmed by online gambling because of their misinterpretation of perception expertise in chance-based playing (Hardoon, Gupta & Derevensky, 2004; Messerlian, Byrne & Gupta, 2005). Respondents clearly understood that sporting event wagering and to a lesser extent football wagering, was based on skill rather than chance (Hardoon, Gupta & Derevensky, 2004; Messerlian, Byrne & Gupta; Benson, Munayi, Wanjira & Inyega, 2021).

Furthermore, online gamblers and gamers believe that their betting is influenced more by their own abilities, expertise and research than by coincidence or fortune (Gordon et al., 2015; Auer & Griffiths, 2017; Mercier et al., 2018). This trend is consistent with the general profile of sporting gamblers, who are likely to be well-educated and tech-savvy and believe that gathering knowledge on previous numbers or bets will give them an advantage when looking for lucrative wagers (Mercier et al., 2018; Hing et al., 2014).These findings support the theory that sports betting addicts who play talent tournaments overrate their individual potential to win. These "misunderstandings of knowledge and experience" (Browne et al., 2015) may indeed be influenced by irrational thoughts seen in other gambling addicts (Mercier et al., 2018), as well as an empowering pressure that keeps or expedites sports gambling active participation to the moment of establishing a gambling addiction (Hing et al., 2016).

2.2.3.3 Normative Risk Factors of Online Sports Bettors

The news and critical people, such as household members and social circle, have been linked to certain behavioural patterns associated with gambling in general. A prominent business development is the development of sports gambling branding

(GBGC 2013). Increased advertising has been credited with increasing the normality of online sports betting. Regular conversations and bet locations now happen in socio-cultural, workforce and research regions, according to respondents in Sproston et al.'s (2015), with marketing messages depicting gambling websites as everyday tasks, an effective social motivation among youths and an interaction no longer associated with either the stigma associated with It has been stated that sports gambling marketing has increased their colleagues' and families' engagement in sports gambling, as well as others' willingness to gamble on games and real sports gambling conduct. Thomas (2014) discovered an increasing prevalence of sports gambling among younger adult men who expressed social influence to gamble to blend in with their peers.

In terms of relationship status, several aspects of a failed marriage have been related to gambling problems when it comes to digital soccer gambling. They have very few monetary and relational obligations, which may help them limit their gambling; they are more inclined to notice and bet on sporting events with classmates who also enjoy online gambling; they are more inclined to extensive social configurations, such as frames, where sports betting among male colleagues is prevalent; and they have a higher probability of patronizing social environments, such as nightclubs, where online gambling among male colleagues is prevalent (Gordon, Gurrieri & Chapman, 2015).

Peers and important people have an impact. The most popular sport among bettors is football. A popular "sports betting prospect" was placing a wager with a buddy on a sporting event (Statista, 2018). Social interactions with colleagues and significant others could expose you to situations where sports gambling is the norm and societal incentives to gamble on sports abound. Furthermore, this risk factor might be connected to a proclivity for gravitating into gambling-friendly relationship groupings (Gordon et al., 2015).

Peer influence on internet gambling may be similar to peer influence on other dangerous behaviours, including excessive drinking activities, which are often associated with both an aggressive atmosphere and excessive behaviour (Grossbard, Geisner, Neighbors, Kilmer & Larimer, 2007). Hing et al. (2016) conducted cross-sectional research of Australian athletics gamblers and found that being male, youthful, not in marriage, residing alone or with a group family and having an advanced education were all possible causes for gambling disorders. Hardoon et al. (2004) discovered that teenagers who express family issues and believe their relatives to be unappreciative are more likely to develop a gambling addiction.

In addition, a variety of psychosocial variables may have an impact on children's wagering views and purchasing aspirations. Socio-cultural elements, such as the impact of friends and family members, for example, have been demonstrated to play a major role in encouraging wagering practices amongst youths in research (Thomas, 2014). Children's earliest official experiences with gambling are generally via their parents or household relations, according to studies, affecting how they wager (Thomas & Lewis, 2012). Furthermore, studies looked at how gaming surroundings, as well as the marketing of betting within these contexts, may influence people's acceptance of betting as a manner of life. (Thomas, 2014).

Gordon, Gurrieri and Chapman (2015). Investing more revenue on betting and accruing greater debts as a result of relationships and family economic position might be regarded as an indication of the gambler's gaming issue intensity or socio-economic condition. There's no way of knowing if poverty increases the chance of gambling addiction or whether betting addiction enhances the probability of destitution. There are a number of studies that find relationships between problem gambling and socio-

economic status. The perceived economic consequences of online sports betting are discussed in detail in section 2.4.

2.3 Perceived Economic Effect of Online Betting

Previous studies have identified harmful financial aftermath among gamblers as the most noticeable effect of online sports betting. The likelihood of sports bettors engaging in the game of chasing their losses is high. This behaviour cannot deter betting but rather fuels it, thus accruing debt (Griffith, Wood, Parke & Parke, 2007). Moreover, financial losses have been noted to be an important aspect of online betting. The financial disadvantages include decreased savings, loans, debt, missed payments, and a common feeling of having to do without them (Taylor et al. 2001, MacDonald, McMullan & Perrier (2004), Productivity Commission, 2010). Students' athletes are at risk from other financial obligations such as increased spending from tuition and other university expenses. This led to increased debts, irresponsible borrowing, and misuse of tuition fees, among others.

Furthermore, as cited by Shead, Derevensky and Paskus (2014) research was conducted to study the degree of gambling among Midwestern University College students by Cullen and Latessa in 1996. The study employed an exploratory research design, which included a practical sample of 155 college athletes. In this study, Shead, Derevensky and Paskus (2014) reported that 4% of sports enthusiasts made their own bets, whereas more than 26% had made bets on another athletic event. Moreover, the study showed that most (93%) utilized their own income, while 7% utilized money from family and parents. 55.5 percent of those polled said they bet between $1 and $5 per day. While 12% of self-recognized expenditure was $250-$999 in year spending, 78% (n =116) said they only used $250 the previous year and 17.6% (n =27) said they spent more than $500. Shead, Derevensky and Paskus (2014) , while another 12 (7.8

percent) pay at least $1,000 per year, which is the most common outcome of online gambling and is more likely to lead to debt (Shead, Derevensky & Paskus).It doesn't appear to be very high, but it could indicate a significant economic hardship for university athletes, whose earnings are much lower than those of adults in the commercial world. At the domestic level, overspending can disrupt home life to such an extent that it has some social effect, such as the break-up of families, and in its last stage, the only deceptive course of action that remains is all too often, committing suicide.

Consequently, Losch, Cornish, Sundin, Heiden, Park, Avery and Lutz (2013) carried out a study of gambling attitudes and behaviour. The study was conducted at the Centre for Social and Behavioural Research (CSBR) at two Iowa institutions. The institutions were Kirkwood Community College and the University of North Iowa (UNI). The study evaluated an online quantitative survey and a qualitative focus group questions. The study indicated that roughly one-half of student-athletes who reported online betting in the previous year indicated that they used less than $25 on betting annually, while 19% specified having spent between $25 and $50. Moreover, 12% are estimated to have spent $51 to $100 and only 20% are indicated to have spent more than $100 on betting annually.

Another consideration is that three-fourths of UNI respondents in the study established that they lost cash during at least one of the last three times they participated in online sports betting (74%). Consistently, 26% confirmed not having lost cash during any of their last three online betting undertakings. However, 38% stated that they had not won any money in their last three sports online betting attempts. Student sportsmen who have acknowledged gambling over the previous year have bet, lost or earned $50 or less on a particular day. On the other hand, some students reported that the largest

amount of cash they had bet with, won, or lost was more than $500 (Losch, Cornish, Sundin, Heiden, Park, Avery & Lutz, 2013). There is a growing tendency for money to be spent, won, and lost while betting online, where student athletes engage more in money betting in order to get more earnings, where in most instances they end up losing.

Further, Stuhldreher, Stuhldreher and Forrest (2007) conducted a cross-sectional survey on gambling as an emerging health problem on a university campus, conducted by students from the Survey of College Students' Health, known as the Student Health Assessment Project (SHAP), where a total of 1,079 students participated in the research. The study found that gambling debt for men was 6% and for women it was 1%. While gambling debt for student athletes was 5% compared to that of non-students, which was 1%. Another study predicted that problem gamblers in treatment have an average rate of accrued debt of between $75,000 and $150,000 (Stuhldreher et al., 2007). The gambling debts for men tend to be higher than the accrued debts for women who engage in betting to problematic levels.

An almost similar investigational study was carried out by Rockey, Beason and Gilbert (2002) on nine universities in the South Eastern Conference of the NCAA. The aim was to evaluate student athletes with non-student gamblers' selection rates of pathological and problematic gambling. The study sample of 954 was used, and respondents were reached through a mail survey. Cross-tabulations were used to establish the prevalence rate. The study results indicated that out of 954, up to 14% were classified as athletes and 89% as non-athletes. Among the participants, 71% indicated betting less than $100 on a single online visit. While 13% indicated betting between $10 and $100, Student-athletes bet a similar amount. On the other hand, another study was conducted by Lesieur, Cross, Frank, Welch, White, Rubenstein and

Mark (1991) using a sample of 1,771 from six universities and colleges targeting student-athletes. The study used the South Oaks Gambling Screen (SOGS). The study found that 85% of the study athletes had been involved in betting at some time. Up to 44% had bet $10 or more in one day and 12% had bet $100 or more in one day. Student athletes have a higher likelihood of engaging in betting than non-athletes in colleges.

Overall, the most common forms of financial harm because of online sports betting include bankruptcy. These punitive outcomes are frequently observed at the point of help-seeking bettors (Carroll, Davidson, Marsh & Rodgers, 2011).It is estimated that 10% to 20% of problem gamblers are prone to bankruptcy (Komoto, 2014). Gamblers who declared bankruptcy were more likely to have had financial, work, or school-related issues.

Shead, Derevensky, Fong and Gupta (2012) said that almost one-third of the online bettors use credit cards, 27% use debit cards and 17% use wire to transfers bets with their credit cards. In the research, students at UCLA spent $25–$500 when they played the internet, with 56.1% spending $25 or less, 21.2% spending $26–$100 during a session, 13.6% spending $101–$500, and 3% spending over $500 (Shead, Derevensky, Fong & Gupta, 2012). In particular, the aggregate amount spent on games a month by university students was less than $200, according to Atkinson, Sharp, Schmitz and Yaroslavsky (2012) in a survey of 1,079 students, in which 25% of students were classified as athletes, 5% of athletes indicated carrying a betting debt at one time or another; this was in contrast to 1% of non-athletes (Stuhldreher et al., 2007; Downs, & Woolrych, 2010). Studies at two Mississippi colleges have shown that considerably older student athletes are more likely to acquire problem-solving economic difficulties (Worthy, Jonkman & Blinn-Pike, 2010). These financial issues are linked with

sensational activities such as gambling, because it is prevalent for adult learners to wager online with their card payments, credit cards, or personal loans. However, this conduct can have significantly greater negative financial repercussions for youthful sportsmen as well. They also have a prevalent practice among adult gamblers. Online sports' gambling is a psychological issue with financial ramifications, not a financial one. It also affects how the student athlete with the disease interacts with his or her family and friends. They could, for example, neglect key family occasions as well as job or school. In this regard, financial losses bring about relationship breakdowns among other stressors that also affect the student-athletes socially, as discussed in the next section.

All these studies focused on institutions from other countries but none that had focused on students from Kenyan universities and how they are affected economically and this resulted to a gap and hence the need for this study.

2.4 Perceived Social Effect of Online Sports Betting

Authorities attribute perceived socials effect to social cost; although the social cost is not easy to quantify the experts suggest that it can be quantified by looking into details of the ABCs of social cost. These ABCs are: Dependency to internet gambling, Debt as a result of online wagering, Expense of Criminality and Bribery, as well as the amount of time the athlete spends on internet gambling rather than with his or her significant other. The social costs of betting are "concealed costs" to the level that they are frequently misunderstood ignored or overlooked. (Thompson, Gazel, & Rickman, 2000). The social effects of online sports betting are usually a lengthy list of mostly negative consequences linked to betting dependence. Among other issues, these negative societal consequences may include bankruptcy, criminality and family troubles including divorce.

Different studies have tried to quantify the currency worth of these many social costs. The overall sum each problem player every year is of course accessible to these estimates. An estimates of about 2,000 dollars to over 30,000 dollars may vary considerably (Grinols, 2004). Other researchers estimated societal cost from 1994-2004 studies fluctuating between $9,500 and more than $53,000 per problem player annually (Grinols, 2004). The price of crime and the expense of fines, prosecutions, probation and detention; therapy of problem gaming players; and social expenses is also included. All this constitutes the societal benefit ABC (Blaszczynski, Ladouceur, Goulet & Savard, 2006). The societal costs recognized by various research vary, but usually include loss of productivity at work or school, poor debt, labour expenses including missed working hours and payment for unemployment, civil cases expenses, and legal expenditure for criminal law. A Sweden study estimated the societal costs of problem gambling to amount to 1.42 billion euros in 2018, conforming to 0.30 per cent of the gross GDP, exceeding two fold the tax revenue from gambling that year (Hofmarcher, Romild, Spångberg, Persson and Håkansson, 2020). On the other side, a research in the United Kingdom is attempting to determine the expense to the government of bettors who are gambling addicts (Thorley, Sterling and Huyhn, 2016).

To fuel their betting appetites and bridge the loss gap, a small level of internet sports wagering may resort to illicit activities (Australian Institute of Criminology & Price water house Coopers, 2003; Paterson & Garrett, 2010; Warfield, 2008). For student-athletes, the consequences include criminal prosecution, penalties, jail and the loss of their scholarship (Crofts, 2003). The rates of breaching have been estimated to vary from 0.8 percent to 26.5 percent, depending on the study (Taylor et al., 2001). The consistent desire to engage in betting influence the students to engage in social crimes to get the extra funds they need for betting.

Latvala, Lintonen and Konu (2019) attest that student-athletes with a serious gambling problem may cause massive costs to society, individuals, teammates, peers and their relatives. Rosenthal (2020) claims that student-athletes are more vulnerable to personal medical conditions, such as anxiety, depression and suicidal thoughts. The greatest incidence of suicide attempts among players is psychologically (Latvala, Lintonen and Konu, 2019). Moreover, student athletes with severe gambling issues may suffer the detrimental breakdown of intimate links with colleagues, friends, team members and family (Paterson & Garrett, 2010; Warfield, 2008). Brothers and sisters of student sportsmen who are gambling addicts tend to fail in school, some get unhappy and have issues with the use of drugs (Australian Institute of Criminology & Price water house Coopers, 2003; Paterson & Garrett, 2010; Warfield, 2008). The students with a problem of gambling are more prone to conduct crimes such as robbery, misuse or other criminal activities than the general public that they do to repay their habits. This may lead to individual social disconnection with the society.

Studies by Browne, Greer, Rawat and Rockloff (2017) affirmed that online sports betting effects can be perceived at the individual, interpersonal and community/society levels. The gamblers and relational levels are addressed by people related to the gambler: friends, family, co-workers, and the consequences of bankruptcy and homelessness on the community may be seen. It is important that multi-level effects be investigated. Furthermore, online sports betting has been shown to negatively impact educational success, self-esteem, social connections, health, finances, and future job prospects (Browne, Langham, Rawat, Greer, Li, Rose, & Bryden 2016; Seifried, Krenzelok, Turner & Brett 2009).However, the percentage involvement of NCAA student-athletes in gambling for the combined group of at-risk and probable pathological gamblers between 2004 and 2012 was reported to have decreased over

time among male athletes (4.0% in 2004, 3.8% in 2008, and 1.9% in 2012), while among female athletes, participation remained constant at 1% across all years (Richard, Paskus & Derevensky, 2019). The current study went out to see if the parts for gambling were the same for athletes in Kenyan universities.

Weinstock, Whelan, Meyers, and Watson (2007) carried out a study that involved 736 student-athletes and 1,071 non -athletes from four universities from different regions. The research aimed to examine the incidence of gambling, NCAA gaming and problematic gambling infractions among the student-athletes, 57.3% were male and 42.7% female. For student men who were not athletes, the incidence proportion for males was 34.1% and for females 65.9%, 75% greater for non-athletes than 66% for non-athletes. Female student athletes did not vary substantially from other female learners, 55% of all women playing since college started, while 52% of all females playing in the previous year. Generally, the study revealed that males had betted 12.7times in the year while female betted 3.6 times, among the male student-athletes, 88.1% were non-gamblers, while 6.5 % were problem gamblers and while 5.4 % were designated pathological gamblers. On the other hand, the study revealed that 96.4 % of Female student-athletes were non-problem gamblers, 2.1% were problem gamblers and 1.4% was pathological gamblers (Weinstock, Whelan, Meyers & Watson, 2007 ; Platz, Knapp & Crossman, 2005).

Many epidemiologic frequency surveys claim that 75%-80% of college students say they have made an online wager in general (Blinn-Pike, Worthy, & Jonkman, 2007; Barnes, Welte, Hoffman & Tidwell, 2010; Lostutter, Lewis, Cronce, Neighbors & Larimer, 2014). The study assessed the severity in gambling and gambling activities among the students and found that there is an increasing number of online betting

frequencies. The current study assessed the impact of gambling severity on perceived socials wellbeing; the results of this are table in chapter four.

In the year 2000, the Connecticut State University (CSU) carried a project survey to assess students' behaviour. Out of 1,500, up to1,348 (90%) filled and returned survey questionnaires that had 120 questions mainly from South Oaks Gambling Screen (Gose, 2000). The result from the study showed that on average there are 30% non-gamblers, 58.6% social gamblers, while 6.2% were problem gamblers and finally 5.2 % were classified as pathological gamblers, this reflects some kind of addiction. In addition, among the social gamblers when asked to indicate their source for gambling fund majority 83% indicated household money while 9% indicated that they borrowed money from family,7% indicated their source as from credit card, while 1% sold properties to get betting fund and another 1% indicated getting fund for betting from bookie loans. While among the problem gamblers the results of the same question were different: 61% indicated getting their source of funds for betting from the household, 18% from family, while 15% got their funds from credits cards and 2% and 4% indicated getting funds from selling properties and bookie loan respectively. Moreover, the pathological gamblers on the same question had different results 32% indicated their source of betting fund as from household, 38% from family and 15% indicated source as from credit cards while 8% sold properties to get betting fund and another 8% also indicated loan from bookie as a source of their betting fund. This seemed to tally with response rate from SOGS where 38%, 20.9% and 0.5% were problem gamblers, social gamblers and pathological gambler who indicated borrowed money and failed to pay back respectively. Two New York scholars have been suspected of participating in the athletics gaming ring in1998, whereas students from the University of Texas had been detained for a wagering ring in 1989. Others have

been accused of taking part in point-shaving schemes to the extent of hiring "hitmen" to collect negligent debts (Gose, 2000). Gose (2000) reported cases of student-athletes who had been condemned for forming prohibited campus gambling rings. Several college students have been reported taking part in a range of unlawful activities like theft. The current study focused on private and public universities in Kenya in an attempt to pick up the apparent patterns locally.

Following the 2001 report from Harvard School of Public Health, 47% of college players and 38% of other student populations who were neither top athletes nor sporting enthusiasts were involved in gambling last year (Nelson, LaBrie, LaPlante, Stanton, Shaffer & Wechsler, 2007). College Alcohol Study (CAS) also showed that nearly 33% of players, 32% of sports enthusiasts and 18% of other learners had 'sport' expertise among college students. Not unexpectedly, male students engaged in sport and attending a highly “sporting” institution were more inclined to participate in online gambling. The study assessed the impact of severity in gambling on the social wellbeing of individuals.

The NCAA also performed comparable research, referenced by Huang, Jacobs, Derevensky, Gupta and Paskus (2007). This included a sample of 20,739 to investigate the prevalence and relationship between gambling issues and health risk behaviours. The research referred as an autonomous and anonymous survey which gathered the necessary information on the basis of the DSM-IV Sports Betting Display (American Psychiatric Association, 2000). The result indicated that overall, 55% reported betting in the past year and 7.9% gambled weekly, while 2.1% were at risk of gambling and another 0.8% indicated being problem gamblers. Another 25.5% of men's game, soccer, and basketball athletes said they had spent money on college sports and 3.7% had gambled digitally on a match they were playing. Further, in division III, 71% of

NCAA student-athletes had a high percentage of gamblers, while in division II and I, they had 60% and 56% of gamblers, respectively. On a rule infringement question among selected division I student-athletes, 0.5% and 1.1% of both the basketball players and football players, respectively, admitted taking bribes to play poorly in a game, while 1.2% and 2.0% of the same players reported providing teams inside information about the game. Another 2.1% and 2.3% of the basketball players' and footballers' men respectively admitted having asked to affect the outcome of the game, while 1.5% and 2.5% of the same players respectively indicated having placed a bet on the game involving their team, which was illegal according to NCAA rules (Huang, Jacobs, Derevensky, Gupta & Paskus, 2007). This is a clear indication of student-athletes having experienced the ABC (addiction, bankruptcy and crime) consequences of online sports betting.

Gambling issues are linked to intimate partner violence (IPV) and domestic conflict in general, according to a growing body of evidence from throughout the world (Dowling, Rodda, Lubman & Jackson, 2014). Persons with gambling issues are more likely to be victims and offenders of IPV than persons without gambling addictions, despite the fact that the linkages are complex. IPV is defined by the World Health Organization (2002) as any behaviour that causes physiological, mental, or sexual damage to persons in a close connection. Physical aggression, sexual violence, mental (psychological) cruelty, and controlling behaviours are all examples of this. According to a worldwide review of data undertaken by Dowling et al (2014), almost one-third of persons with betting issues reported being victims of exploitation of aggressive IPV (37 percent). Furthermore, 11% of IPV perpetrators have gambling issues. Although the majority of the data focuses on interpersonal partnerships, there is some

indication that violence is also perpetrated against spouses and children (Suomi, Dowling & Jackson 2014).

Additionally, according to Yuan, Yuan and Janes (1996), who were investigating the identities of college students gambling, a study on addiction and crime was given to students at Central Michigan University. The results were gathered utilizing self-reported survey technique. The return rate was 70 percent of the 801 questioners provided (540). The majority of individuals betted 59%, while 62% revealed that they had betted once to twice and 28% (3 to 5 times), while the residual 10% reported that they placed a bet 6 to 40 times, averaging 3 to 4 times a week throughout a semester. Moreover, 82 percent of respondents saw betting as entertaining and 17 percent said they regularly wager in cash. Other evolving evidence shows that the utmost social effects of online betting include domestic violence/ conflict and relationship breakups (Hodgins, Shead & Makarchuk, 2007; Dowling, Smith & Thomas, 2009; Rocky, Beason & Gilbert, 2014).

The student-athletes are a vulnerable group this is even more when they are secluded from the outside opinion; and when they are in their group when they are anticipated to be obedient to their seniors and when there are no vibrant guidelines and instruction for decision making. Other reported consequences linked with betting include symptoms of mental health including anxiety, despair and drug addiction (Martin, Usdan, Cremeens & Vail-Smith, 2014). Mental health effects are discussed in section 2.6.

All these studies focused on institutions from other countries but none that had focused on students from Kenyan universities and how they are affected socially and this resulted to a gap and hence the need for this study.

2.5 Perceived Mental Health Effect of Online Sports Betting

Mental health is a leading concern in universities globally, which is linked to problem gambling among student-athletes (Crutcher, 2015). Athletes, in general, are at a higher risk of mental illness than non-athletes due to the stress of balancing academic and athletic outcomes. Stress in the wider public has repeatedly been proven to contribute to sorrow and other mental healthcare problems (Hammen, 2005). Emotional illnesses, including panic, anxiety, sadness, concern, and hostility towards sports outcomes and results, were the major reasons for stress among student athletes (Barnes, Welte, Hoffman & Tidwell, 2010). Furthermore, some researchers asserted that the unrivalled combination of time commitment, physical demands, and high expectations placed on student-athletes by coaches, families, and fans may trigger a slew of psychological fears or exacerbate existing mental health conditions such as drug and substance use and abuse, disordered eating, depression, and anxiety (Etzel, 2006; Park & Griffiths, 2006; Pritchard & Wilson, 2005).The combination of alcohol consumption with a variety of addictive behaviours, including problem gambling, was highlighted by Barnes, Welte, Hoffman & Tidwell (2010). Certain research has sought to understand the connection between drug addiction, depression and suicidal thoughts. For example, unordered gambling seems to be linked to depression and suicidal thoughts in certain epidemiological research (Cottler, Campbell, Krishna, Cunningham-Williams & Abdallah, 2005). Other examinations of pathological players who are seeking therapy also indicate the connection between play, depression, and suicide. Studies in which standardized diagnostic tools were employed on players requiring medical treatment found that major depressive disorder rates varied between 32% and 76% (Black, Coryell, Crowe, McCormick, Shaw & Allen, 2015; Maccallum & Blaszczynski, 2003). Betting is certainly connected to a number of heightened health risks, which include alcohol and cigarette use.

According to Ladouceur and Dube (1997) (as quoted by Coelho, Rangel, Ramos, Martins, Prata & Barros, 2000), 27% of compulsive gamblers tried to commit suicide, compared to 7% of learners who did not have gambling issues. It is expected that levels of depression among drug abusers usually vary from about 30% to 50% (Coelho, Rangel, Ramos, Martins, Prata & Barros, 2000; Black et al., 2015). High levels of co-morbidity between problems of drug use and betting have been documented. Nevertheless, the connection between suicide and disease games in the context of problems in the use of substances is a potential confusion in the research. According to reports (Welte, Barnes, Wieczorek, Tidwell & Parker, 2004), about 30 to 50% of problematic players have a drug use issue.

According to Derevensky and Gupta (2007), wagering among student athletes is connected to emotional issues such as anxiety, nervousness, and even suicide, as well as social issues such as conduct problems, tobacco use, substance use and abuse; and a history of community and peer problems. More than ten individual's risk considerations (alcohol use incidence, negative behaviours, feelings of hopelessness, male gender, illegal drug use, impulsive behaviour, amounts of online betting, wagering intensity, sensation pursuing, crime) were quantified by Dowling, Rodda, Lubman & Jackson (2014), as well as one marriage possible risk (peer antisocial behavioural patterns), one society-known risk (low educational achievement), one specific protective element (socio-economic designation), and different marriage potential treatments. Farhat, Wampler, Steinberg, Krishnan-Sarin, Hoff & Potenza (2021) affirmed that gambling was more common among adolescents who played games of chance for excitement. According to Zhai et al. (2019), gambling in the family and among peers contributes individually to adolescents' risking gambling and excessive drinking.

McGrath and Barrett (2009) noted that there have been few studies on student-athlete sleep patterns and sports betting, given the schedule of practices, competitions and sports tourism status. According to Crutcher (2015) the concern about perceived mental health for student-athletes is evident; an investigation of perceived stress on wellbeing and interpersonal interaction conducted at Michigan States University clearly indicated this. A total of 489 individuals were involved, including 256 student athletes and 233 non-athletes. The study used a non-experimental survey methodology, and a discriminating analysis of felt stress and the adverse anxiety stress level revealed a T-score or higher reported by 27% of student athletes, along with 8.9% of depression, tiredness, and sleep disruption. The percentage of depressed university student-athletes is anticipated to be between 19.2% and 23.6%. This is considerably higher than in the non-athlete population (Storch, Storch, Killiany & Roberti, 2005; Nower, Caler, Pickering & Blaszczynski, 2018). Wolanin, Gross & Hong (2015) noted that athletes may under-report signs of depression. The frequency of depressive symptoms among student-athletes in college varies from 15.6% to 21%, as opposed to 17% among college athletes in particular (Hunt & Eisenberg, 2010). Female athletes are more prone than male players to indicate depressive symptoms (Wolanin, Gross & Hong, 2015; Armstrong & Oomen-Early, 2009). Being a new guy also has greater self-reported depressive characteristics (Yang et al., 2007). University student-athletes similarly might have a higher frequency of betting. As a group, they report risky behaviours such as unsafe sexual practice; alcohol abuse, physical aggression, and smokeless tobacco use (Nelson & Wechster, 2001). Student-athletes are more likely to develop sleep difficulties. Furthermore, extra time demands, which include harmonising athletics with academics, can decrease the sleep opportunities of athletes. The current study context went in the direction of assessing the consequences of gambling severity on the economic wellbeing of students.

In addition, research carried out by Korros (2016) in Kenya examines the influence of online betting on Kenya University students' behaviour. The study utilized a sample of 100 university students; among them student-athletes a survey design method was used while the data was collected using self-reported questioners. Among the questions was a question on whether the respondents had used money from a bet win to drink smoking or having fun with their friends? The result showed that 50% of the students indicated very often, 40% often, 8% sometimes, and 2% never. As cited by Hagger (2019), Korn and Shaffer (1999) also indicate that internet betting tends to take place when one has other problems, such as tobacco abuse and excessive drinking of alcohol. The current study aimed at assessing how gambling severity contributes to the related mental health issues of individuals.

The widespread accessibility of gambling and the associated support, especially for sports betting via the Internet, has given rise to serious worry about gambling danger (Winters & Anderson, 2000). Several studies have found a strong link between gambling and delinquency from drug abuse (Gupta & Derevensky 2000). Gupta and Derevensky (2000) also cited Giacopassi, Stitt and Vandiver's work of 1998, that betting and alcohol, have substantial commonality in those who are addicted to alcohol drinking and those who are problem gamblers. As a Florida State University psychologist has pointed out, around 90% of obsessive bettors are equally addicted to alcohol and drugs (Henry, 2003). In principle, the chance of betting losses may increase with even reasonable drinking (Giacopassi, Stitt and Vandiver, 1998). Gambling harms include alcohol misuse and substance abuse. One alcohol indicator misuse is binge drinking, which is the consuming of more than five bottles of alcohol in a session. The consequences of problem gambling or even regular online betting can

be overwhelming. The current study context will go in the direction of assessing the consequences of gambling severity on the economic wellbeing of students.

As a result, the National College Athletes Association (NCAA) conducted a nine-year study in the United States from 2003 to 2012, utilizing the research project, Retrospective Cohort Study, which was utilized to assess student athlete suicide rates in the NCAA. 3,733 individuals were sampled. Results indicate that a survey of 477 student athletes found 35 suicide incidents. The total suicide rate each year was 0.93/100,000. Total fatalities among NCAA student-athletes were 7.3 percent (35/477).The yearly suicide rate for male players was 1.35/100,000 and 0.37/100,000 for female athletes, while the highest suicidal rate was in male soccer players (2.25/100,000). The rates of suicide and online sports betting have increased, and there are a number of studies indicating greater rates of suicidal thoughts and preceding attempts (Blaszczynski & MacCallum, 2003). Suicide, suicide ideations and suicide attempts are said to be common among regular bettors, more so when they experience depression since online sports betting brings frustration, anger and guilt due to huge losses. The current study context will go in the direction of assessing the consequences of gambling severity on the economic wellbeing of students.

Mihaylova, Kairouz and Nadeau (2013) carried out another quantitative study to compare the negative consequences of online betting and land-based betting. The study utilized a sample of 360 Canadian college students from a total pool of over 2,139 respondents. The study used a correlation research design and the result indicated that online gamblers were more likely to be frequent bettors. Regarding harmful consequences, they indicate a similar rate of illicit drug use (18%), alcohol dependence (22.1%), and cannabis sativa use (30%). Online gambling has also shown addictive

possibilities similar to drugs and goods associated with cigarettes and alcohol (LaBrie et al., 2003; Engwall, Hunter & Steinberg, 2004).

Stahldreher, Stuhldreher and Forrest (2007) undertook a study whose purpose was to correlate the prevalence of gambling among student-athletes and non-athletes. They used a survey cross-sectional study method. The sample used was 1,079 students, consisting of both student-athletes and non-athletes. Student-athletes numbered 272, while non-athletes were 788. The result indicated that 9% (23) of student-athletes wanted to stop gambling but could not, while 6% of the non-athletes indicated wanting to stop gambling. Stuhldreher, Stuhldreher and Forrest (2007) in the same study carried a question on whether you have tried to quit tobacco and other drug use and binge drinking. Approximately 47% indicated yes, while 55% indicated no. In terms of trying to stop sexual behaviour, 31% designated yes, while a proportion of 18% designated no. Consequently, on eating disorders like the use of vomiting and the use of laxatives to lose weight, 15% chose yes, while 6% opted for no on the same. Further, on indicating if they have tried to quit binge drinking, 69% indicated yes and 55% indicated no.

Yusko, Buckman, White and Pandina (2008) in a study relating athlete and non-athletes' students' on abuse of substances showed that students-athletes are involved in excessive irregular drinks and use smokeless tobacco more often than those who are non-athletes. The current study assesses the impact of gambling severity on the mental health wellbeing of all students who engage in gambling. The results of this are found in chapter four of the current study. Yusko et al. in their study on whether the students had ever used marijuana indicated that up to 42% of the participants indicated yes, while 25% indicated no, while on cocaine use, 13% designated yes and 5% designated

no. On a question on whether they have ever used both alcohol and drugs, a proportion of 33% chose yes and another 18% chose no. Of the 35%, 23% showed a positive score for depression on the Beck Depression Inventory, though 23% showed a negative score on the same. Lastly, on suicide, 27% indicated they had considered suicide, though an attempted suicide proportion of 18% was designated yes and another 5% indicated no on the same.

Several investigations have demonstrated consistency in the connection between the internet and high-risk online gambling, mainly between male and female learners. While internet betting is not addressed in the same manner as other problems relating to students' health, such as alcohol and drug usage, there are numerous links (Huang et al., 2007). Student athletes and the growing prevalence of online sports have created new opportunities for students to meet their appetite for their hobby (Mahan, Drayer & Sparvero, 2012). Alcohol consumption has a significant impact on online betting behaviours regardless of age or gender and many student players report that alcohol consumption influences their online betting behaviour, increases spontaneous gambling choices, reinforces the desire to take financial risks and increases the amount of time spent on online betting. There is therefore a need for a study between online gambling and the mental health and wellbeing of individuals. This current study attempted to fill this gap.

Huang, Jacobs, Derevensky, Gupta and Paskus (2007) claim that in certain trials, student athletes have seen a substantial upward linear connection between the seriousness of gambling and average drug and alcohol problems. While not statistically meaningful, the distinction between severe problem betting and problem betting was increased among athletes, and serious problem betting was more seriously influenced by difficulties associated with drug or alcoholic substances (Huang, Jacobs,

Derevensky, Gupta & Paskus, 2007). The current study aimed to assess the association between online gambling severity and the mental health of individuals.

The NCAA (National Collegiate Athletic Association) undertook research that included a group of 20,739 student-athletes as a representative sample. The research was aimed at investigating the prevalence and relationship between collegiate athletes' gambling issues and health risk behaviours. The findings of the risk-behaviour study among university athletes revealed that university athletes appeared to use alcohol more frequently and heavily than other university students. Pathological players were 98.9% in their drinking habits, whereas problem players were 91.7%, and social players and non-players were 88.2% and 77.4%, respectively. Heavy sporadic drinking among betting student-athletes was reported to be between 76.6% and 85.5%, compared to that of gambling college students, which was 52%. Football playing student athletes were 29.7 percent less likely to smoke cigarettes than university students in general (LaBrie, Shaffer, LaPlante & Wechsler, 2003).

In terms of the use of substances, Hing, Russel, Lamont & Vitartas (2017) noted that there was a strong probability of alcohol or illegal drugs being consumed while betting online as compared with non-problem gamers, and it was greater among severe problem gamblers. This result links with the broader issue literature on gambling referred to (Salonen, Hellman, Latvala & Castrén, 2018; Wrisberg, Simpson, Loberg, Withycombe & Reed, 2009; Petry, 2007; Welte, Barnes, Wieczorek, Tidwell, & Parker, 2004). The current fear from the perspective of public health is that online gambling and the use of sports substances is usually labelled as a dangerous combination, with online gambling being isolated and easy to use, while online gambling is combined with a detrimental effect on making decisions. Therefore, the study aims to assess the impact of gambling severity on the metal health of individuals.

Problem gambling has been described as the most serious consequence of gaming addiction; suicide thoughts and attempts to get therapy for gaming addiction have been studied by Ledgerwood and Petry (2004). Ledgerwood and Petry reported that 40 percent of participants identified as intending to gamble and 10 percent acknowledged a suicidal attempt at least once in their lifetime. Those who had at least once tried suicide were more likely to get married, whereas the divorced indicated more suicidal ideas. Increased suicide was linked to: previous gambling situations, higher gambling severity scores, more frequent gambling, using gambling for escaping, dissociating and attention-seeking, and more impulsiveness. Subsequently, these responses may have heightened individual being prone to suicide compared to those with problem gambling concerns as a whole. However, it was testified that suicide is a real concern in problem gambling, which highlights the extreme harm of problem gambling behaviours (Ledgerwood & Petry, 2004; Parke & Griffiths, 2006). All individuals with problem gambling should be assessed for suicidal tendencies, particularly those who began gambling at a younger age and demonstrate more severe problem gambling. Further, individuals who gamble to escape aversive emotions are more likely to have a history of suicide. The current study assesses the impact of gambling severity on the mental health wellbeing of all students who engage in gambling.

In 2004, the NCAA performed another gambling study, including over 2,000 national teams, using 21,000 student-athlete samples in universities and colleges around the country. The survey revealed that 20% of men and 5% of women gambled on university sports. Up to 17% of men were classed as "potential problem gamblers" or worse, compared with 3% of women. The study revealed that problem gamblers are more likely to have sex, many sexual partners, and behave riskily. They have also been found to be more often connected to increased alcohol intake (LaBrie et al., 2003;

Hanss et al., 2004). Online sports betting is the foremost silent addiction behaviour among our student-athletes who keep on chasing losses, spending time and money, thus affecting their academic endeavours as discussed in section 2.7.

Most of these studies focused on institutions from other countries but none that had focused on students from Kenyan universities and how they are affected mentally and this resulted to a gap and hence the need for this study.

2.6 Perceived Effect of Online Sports Betting on Academic performance

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 (Robst & Keil, 2000). Academics estimate that student athletes complete normal class tasks and their training but often do not have time to finish their schoolwork due to their participation in athletics and sports wagering. The level of school athletes' involvement with college rather than their interaction with online gambling is interconnected with academic achievement. School athletes who are disconnected from wagering are far more likely to drop out of school, whether before, after, or concurrently with underperformance (Rumberger, 2001).Students 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 (Petry & Weinstock, 2007; Black et al., 2015; Bischof et al., 2015; Stinchfield, Hanson & Olson, 2006). 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.

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).

In 2016, Korros conducted an online gambling survey in Kenya to research the impact of the behaviour of learners at Kenyan universities. The study utilized a sample of 100 university students, among them student-athletes, where a survey research design method was used while the data was collected using self-reported questioners. The result indicated that a proportion of 50% and 40% very often and often lost time from

school to bet online, respectively, while another 40% and 30% often and very often thought of online betting while in school, thus affecting their academic concentration. When asked whether they had ever used fees or daily money, 30% of the students said they did it very often, 25% often, 20% occasionally, and 25% never. This shows primarily student-athletes the university's academic implications of online gambling. There was a need, therefore, to study the academic consequences of gambling among students. Hence the current study.

A survey of 1,348 university students in Connecticut was conducted in the USA by Engwall, Hunter and Steinberg (2004). Educators in either sports clubs or college programmes have been discovered to have a considerably greater opportunity to have a gambling issue. A study, as previously mentioned, included four universities sampled at 1,500; Central Connecticut State University (500), the State University of Southern Connecticut in New Haven (500), the State University of Western Connecticut in Dunbury (300), and the State University of Eastern Connecticut in Willimantic (200). Of these learners, 1,348 (90%) of the survey tools were duly filled out and submitted for data analysis. To evaluate the gambling habit, the South Oaks Gambling Screen (SOGS) was utilized. Learners were asked about problems in academic achievement with gambling and alcohol use (memory loss, school proposal/test failed, skipped class, wasted class hours). In terms of memory loss, the results were indicated as follows: non-players 32%, social gamblers 37%, problem gamblers 49%, and pathological gambling addicts 44%.

On testing achievement, the results showed as follows: non-players 26%, social gamblers 30%, problem gambling addicts 41% and pathologically active gamblers 50%. However, 35% of non-gamblers, 42% of social players, 50% of addicted betting players, and 60% of pathological gamblers missed classes. Eventually, when social

gambling addicts lose time from school, the results are indicated as follows: 0.9%, problem gambling, 12.3%, and pathological players, 41.8%. The current study evaluates the consequences of gambling severity on the scholarly and academic performance of students who engage in gambling.

It is noted that there are very few studies that have been carried out on the effect of online gambling severity on the academic performance of student-athletes in Kenya. For this reason, a student population survey was included. 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%.

Enwereuzor, Ugwu, and Ugwu (2016) conducted a cross-sectional study with 278 male students from a Nigerian federal institution who used their mobile phones to gamble online. A self-reported questionnaire evaluating game enthusiasm, smart phone dependency, and schoolwork involvement was completed by respondents. The School Engagement Index of Salmela-Aro and Upadaya (2012), including nine elements that evaluate the energy of the research and the study utilized were examined. The desire for gambling was evaluated using a scale (GPS). The Smartphone Addiction Scale, Short Version (SAS-SV), created by Kwon, Kim, Cho & Yang (2013) was assessed. There were 10 items in the SAS-SV. The answers of respondents to each item ranged from 1 (strongly opposed) to 6 using a 6-point scale (strongly agree). The research showed that the compulsive desire for gambling was substantially unfavourable to the

addiction of smart phones (=.26, p 001). Playing passion was negatively related to schoolwork (=.19, p =.002).The research also found that student athletes expend extra time on internet betting during school hours on their smart phones (Salmela-Aro & Aro, 2012).

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.

Additionally, Lo, Wang, and Fang (2005) noted that athletic students represent the highest level of healthcare professionals at universities and hospitals who are expected to perform both in sports and in academia. Athletes are expected to attend courses, participate in projects and tasks, and study (Salmela-Aro and Upadaya 2012). Siu, Bakker & Jiang (2014) noted student athletes aim to achieve specific goals such as

rigorous coursework, academic achievement, graduation, and so on. However, it is essential to examine the variables that may have an effect on schoolwork as well as the physiological responses that could underlie that impact in the light of apparent indications of dedication to schooling. Student athletes are frequently urged to gamble and play on the web (Salmela-Aro and Upadaya, 2012).

Yip et al. (2011) studied 2,484 Connecticut high school students to investigate how game intensity is related to a variety of problems ranging from academic achievement to negative behaviours. Academic achievement has been evaluated using your average level of questions. The findings revealed that learners who received As were mainly non-bettors, whereas compulsive and pathological gamblers were more likely to get grade Ds. The survey contrasted risk-low and risk-prone players with problem or pathological players. They found that lower-risk gamblers invested one hour more betting a week, depleting students' studying time more than both at-risk and problem/pathological gamblers. Moreover, problem/pathological players acknowledged more than one hour of betting each week compared to risky players (Gupta & Derevensky, 2000; Yip et al., 2011).

A previous study by Jacobs (2000) also showed that students with lower social economic status have a tendency to get lower math outcomes along with greater participation in gambling activity. Further, Jacobs (2000) reported that online betting on sports reduces math learning by one twentieth of a standard deviation. The finding submitted was that students who engaged in gambling behaviour through any means answered a third of a question correctly (Jacobs, 2000). 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.

Adequate relaxation is frequently linked to a relaxing atmosphere. Nonetheless, when one's resting situation is influenced by online gambling operations, one's resting routine will be altered (Van, 2004). According to Gradisar (2013), using electronics around midnight is becoming an obligatory ritual in the United States. Those hooked on internet gambling are likewise willing to give up their slumber. Hershner and Chervin (2014)noted that online gambling and betting on a regular basis may reduce sleep time, induce sleep disruptions, and affect a player's sleep schedule (Hershner and Chervin 2014). Gradisar (2013) also discovered that internet addiction and betting included certain betting components, leading to players becoming compulsive and reducing their sleep. To improve both their intellectual and athletic performance, college athletes require appropriate time to rest, learn, and relax (Hysing, Pallesen, Stormark, Jakobsen, Lundervold & Sivertsen, 2015). Several digital gamblers would rest during the day, giving the false impression that using advanced technologies at night resulted in less sleep (Hysing et al., 2015).The use of smart phones for online gambling before sleep has become ingrained in today's society (Gradisar 2013). According to a study conducted by Hershner and Chervin (2014), using cell phones before bed reduces sleep patterns and results in 51 percent of users waking up fatigued. Online college athletes' sleep are affected by the bright light from smart phones (Hershner and Chervin, 2014).

According to research by Cheung and Wong (2011), 719 youthful college athletes in Hong Kong had restlessness as a result of their obsession with online gaming. According to a study conducted by Syracuse University in 2007, unregulated internet betting decreased the quality of sleep and influenced the digital athletic gambler,

becoming a societal issue. Staying up past midnight and not getting enough sleep may cause health concerns and damage student athletes' academic performance, resulting in poor grades. Cheung and Wong (2011) discovered that when sleeping, engaged student course sports bettors' brains become too responsive to sounds and lighting. One of the numerous indications of sleeplessness is numbness, which may progress to nerve injury.

According to Hirshkowitz (2015) of the American National Sleep Foundation, multiple agreements on the suggested resting timeframe for different age groups have been issued. For students aged 18 to 25, the proposed sleeping average length for a healthy sleep schedule is between seven and nine hours. According to study results conducted by the American Thoracic Society, the negative consequences of not getting enough sleep include daytime sleep deprivation that affects accumulation during lectures and accidents caused by a shortage of concentration (Hirshkowitz, 2015). Furthermore, it has been claimed that even a mere one-hour decrease in sleep duration might affect the following day's cognitive process and behaviours. Sleep deprivation may cause excessive weariness, which can hinder performance in the workplace and on campus. Insufficient sleep is linked to a variety of health concerns, including increased blood pressure, hypertension, stroke, renal difficulties, and mood changes (Hirshkowitz, 2015). All of these theories suggest that sleep deprivation has a significant impact on learner athletes' educational performance, wellness and overall well-being (Cheung and Wong, 2011).

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. Problem gamblers are also more susceptible to having low academic achievement, as shown by both cross-cutting surveys (Latvala, Lintonen and

Konu, 2019) and persistent research (Winters, Stinchfield, Botzet & Anderson, 2002). Personality has been characterized in gambling research as a participant's capacity to resist engaging in gambling problems (Barbaranelli, Ghezzi, Fida and Vecchione, 2017).

2.7 Theoretical Framework

Fishbein and Ajzen (1975) developed a Theory of Reasoned Action (TRA) that focuses on the factors that influence deliberately planned behaviour (Hagger, 2019). The TRA is intuitive, frugal, and perceptive in its capacity to explain behaviour from a theoretical standpoint (Hagger, 2019). The TRA believes that people are typically reasonable and would think about the consequences of their actions before choosing whether or not to do anything (Hagger, 2019).

According to Ajzen, TRA as cited in Otieno, Liyala, Odongo and Abeka (2016), the following were outlined as the main scope of TRA: first, TRA explains behaviour that involves conscience decision making. Secondly, it excludes thoughtless, expected and scripted behaviour. Thirdly, the theory deals with the behaviour of the participants. Lastly, the behaviour must be voluntary behaviour, which is intentional (Albarracin, Johnson, Fishbein & Muellerleile, 2001).

Otieno et al. (2010) affirmed that the critical outcome of the theory is behaviour prediction, the model predicts behaviour based on seven casual variables; behaviour intention, attitude, subjective norm (social norm or social component), belief strength, evaluation, normative belief (the view of others) for instance, teammates' peer influence helps to promote favourable social standards for sports betting and sports gambling (Ahaibwe, Lakuma, Katunze & Mawejje 2016). Online sports on peer-based sports mean that peers or cohorts are active in gambling activity (Situ & Mo, 2016).

Ogden (2003) explains behaviour prediction as participant's plans, drive, motivation or desire as the close predictors of behaviour. The theory assumes that the direct determinant of behaviour is participants' intention to perform or not to perform a behaviour. The immediate determinant of action, the intention is to change and is not independent. Intentions are explained as a result of both the athlete's attitude and subjective norms. According to Ogden (2003) students athlete's attitude is explained as a general orientation toward behaviour grounded on a variety of athlete's beliefs and evaluation.

Ajzen (2010) outline three general constructs of TRA namely; behavioural intention, attitude and subjective norm. Subjective norms are defined as the social components of behavioural intentions, and they are said to make up normative belief. Normative beliefs are defined as the views important to others regarding the behaviour. In this case, the view of the athlete's teammates, coach and sports officer regarding online sports betting is crucial. The normative belief goes hand in hand with the motivation to comply which is the pressure to please others like athletes, peers and teammates with the eco society of sports. The subjective norm and motivation to comply are relative. An athlete may be more influenced by one sports group than by others. (Otieno et al. 2010).

The function of these social factors is explained by the Theory of Reasoned Action. According to Ajzen (2010) TRA highlights the part played by intentions in conduct, with three variables determining intentions: behavioural perspectives, compliance control assessments and moral attitudes (subjective norms). Established subjective standards depends on the relative moral pressure to conduct or not to do the normal behaviour, whether the person is compelled to conform (Oh & Hsu, 2001). This is why normative beliefs are sometimes described as what others believe the person should do

is significant (Griffiths & Barnes 2008; Kristiansen et al., 2015; Reith & Dobbie, 2011). Student sportsmen must be aware of the standard to have an effect on their conduct (Gordon, Gurrieri, & Chapman, 2015).

Berger (2008) confirmed that peer pressure was recognized as a positive factor to encourage gaming and action in youth, as a reason for social refusal was the lack of involvement in group gambling. The fear of being kicked out of student-athletes peer group may also facilitate the online sports betting behaviour. In additional, social acceptability in the form of peer recognition, respect and acceptance has been shown to be obtained by student-athletes' involvement in online gambling. Likewise, the presence of peers had the reverse impact on a minority of respondents, decreasing the likelihood that they would participate in betting. Mcdonald and Crandall (2014) highlighted that since student athletes may not be prepared to handle gambling issues with one another, fear of being kicked out of a peer group boosted conduct. Some student athletes are seen as being more prone than others to be susceptible to risk taking or addiction (Van Hoorn, Rieffe, Meuwese, Van Dijk & Crone, 2016).

During this period and in the stages of uncertainty, student athletes may be mostly susceptible to societal norms. Smith et al. (2014) showed an increase in the risk management of student athletes between the ages of 15 and 18. This is due to the existence of peers in online gambling, but only for those who have a reduced probability of winning (Smith et al., 2014).

In addition, the SIT promotes the acquisition of TRA's behaviour. It implies that it supports a person to be a team member or group that comprises peers, colleagues, or others. It is thought to improve positive self-image, self-esteem and help to choose decisions (Smith et al., 2014).

When an athlete forms a social identification with the targeted group or peer, he or she is more motivated to adhere to the recognized standards of the subgroup or group (Marino et al. 2016).The impact of social identification among young people who are still building their personalities may be much bigger. Foster et al (2014), who discovered that young students aged 15 to 20 are more prone to wagering when their peer group identification is evident, are encouraged to put the same thing by gaining an internet betting by one of them.

In addition, Raylu and Oei (2004) assert that cultural beliefs and values can influence help-seeking attitudes and online sports betting behaviours. If the cultures have beliefs and values that support online betting, for instance, the Kenya culture has embraced online betting and hence there is a possibility that more people to gamble online compared to other countries where their cultures do not support betting through their values, for instance, Muslims and other stern Christian. The knowledge to gamble is therefore limited and its cultural norms mandate rejection of games Muslim and certain Christian cultures prohibit betting (Raylu & Oei, 2004).

Student-athletes form a sub-culture in a university setting since they identify with the same customs, traditions and values. This sub-culture gives its members more precise socialization and identification. Students sharing the same lifestyle, geographic location, nations, religion, and racial groups all form subcultures that are very difficult to control or discourage (Raylu & Oei, 2004; Larimer & Neighbors, 2003).

According to Ajzen (2010), In spite of the popularity of this theory, it has been criticised in a number of ways. First, the sufficiency of the attitude and the subjective norm to explain the behavioural change. There is a question of why intention is in the model, yet it highly correlates with behaviour. Secondly, there is the question of

separation of both the conceptual and operational of attitude and subjective norms which are said to be highly correlated. Thirdly, it has been criticized for the narrowness to which it is applied. Finally, there was the question of effect sizes of the TRA studies, that is, how much change can be described by the mentioned variables, in this study as the diagram of the TRA illustrates herein the variables (Ajzen**,** 2010).

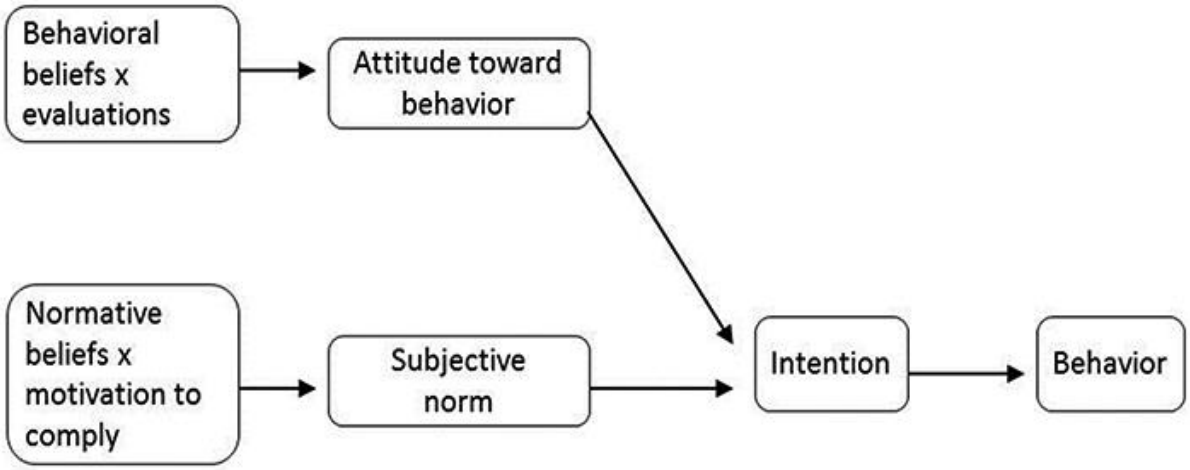

Figure 2.1: Theory of Reasoned Action as Adopted from (Ajzen, 2010).

2.8 Conceptual Framework

The level of harm experienced by student athletes in various areas of daily operations is operationally determined by online gambling methods. The gender, age, the student type, and the categories of the students act as moderating variables in the online betting of the student-athlete. The perceived effects by sports officers and student-athletes can be broadly categorised into three: changes in resources, the change in the relationship, and the general personal change in the total wellbeing of the student-athletes (dependent variables). The conceptual framework displays the interplay between the independent, dependent, and moderating variables of this study.

Essentially, the interplay of the mentioned variables results in the loss of resources in terms of finances, opportunities, and academic losses. Financial losses are the most

common aspect of online sports betting, with athletes reporting total financial losses and overspending on funds intended for tuition. Overspending, among others, sets off several financial challenges: missed or postponed examinations, debts and an overall sense of economic insecurity. This financial insecurity may undermine the student's academic and social productivity on campus or at home. Subsequently, this may lead to accrued debt, which may be long-term or even short-term. Long-term debts may include loans from High Education loan Board (HELB) is Kenya's largest higher education financier HELB was established in 1995 by an Act of Parliament (Cap 213A). The Board's aim is to help students who are pursuing higher education at approved institutions with loans, bursaries, and scholarships in Kenya. short-term loans may include loans from friends and loans from mobile phone apps. In terms of opportunity and academic losses, in unadorned cases, this may lead to individual bankruptcy and involvement in punishable criminal activities either on campus or by society. This may have other related consequences such as material effects, the inability to buy an academic station or pay for supplementary examinations in the event of failing to excel in an examination, and individual athletes' diet and nutrition may also be affected. This may compromise his performance or productivity both in class and in the field.

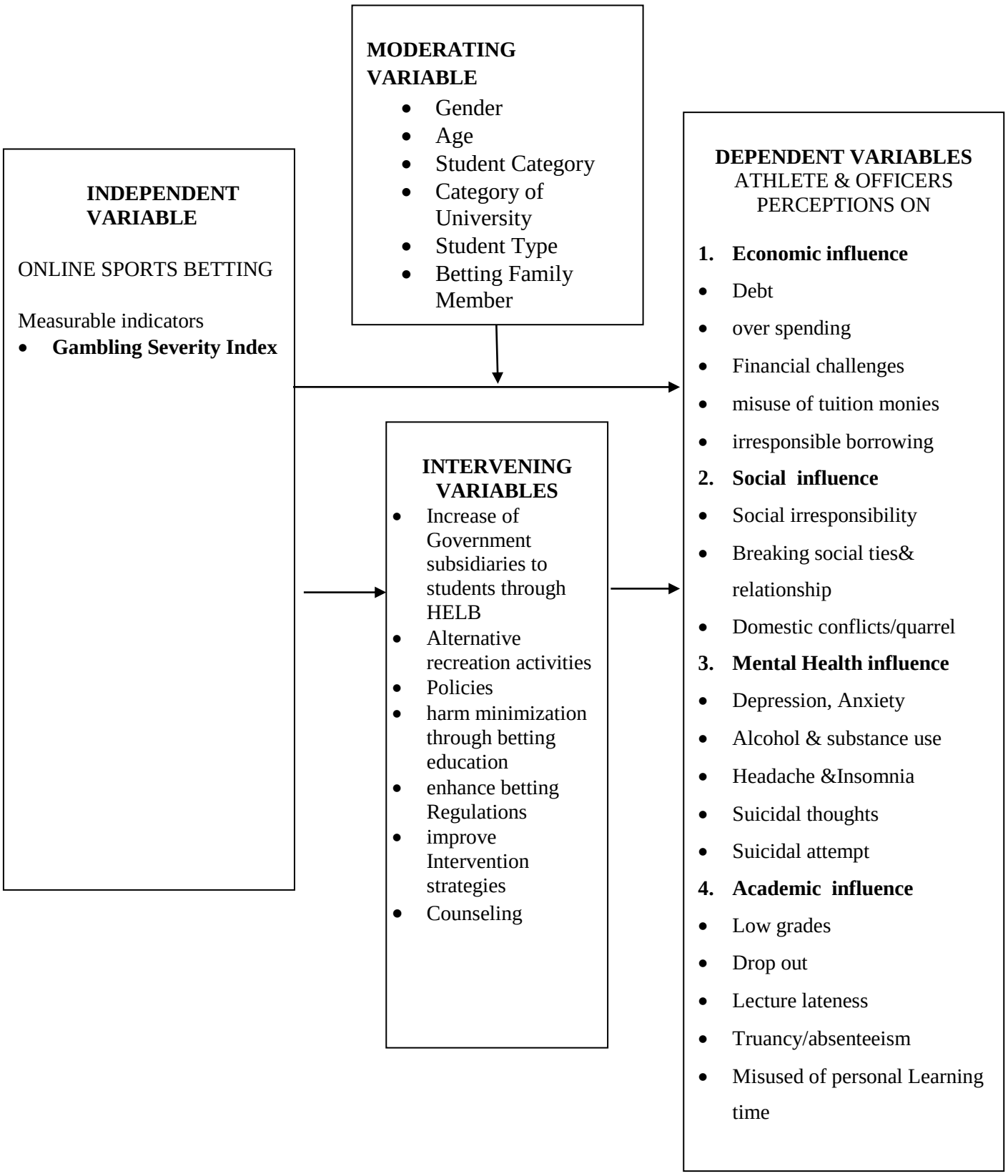

Figure 2 2: Perceived effect of online sports betting to students' athletes

2.9 Summary

There is a growing tendency for money to be spent, won, and lost while betting online, where student athletes engage more in money betting in order to get more earnings, where in most instances they end up losing. Financial and economic issues are linked with sensational activities such as gambling, because it is prevalent for adult learners to wager online with their card payments, credit cards, or personal loans.

The social effects of online sports betting are usually a lengthy list of mostly negative consequences linked to betting dependence. Among other issues, these negative societal consequences may include bankruptcy, criminality and family troubles including divorce. Student-athletes are more vulnerable to personal medical conditions, such as anxiety, depression and suicidal thoughts. The students with a problem of gambling are more prone to conduct crimes such as robbery, misuse or other criminal activities than the general public that they do to repay their habits.

Student- athletes, in general, are at a higher risk of mental illness than due to the stress of balancing academic and athletic outcomes. Examinations of pathological players who are seeking therapy also indicate the connection between play, depression, and suicide. Gambling in the family and among peers contributes individually to adolescents' risking gambling and excessive drinking.

Student-athletes' educational attainment has been a crucial topic. The level of school athletes' involvement with college rather than their interaction with online gambling is interconnected with academic achievement. School athletes who are disconnected from wagering are far less likely to drop out of school, whether before, after, or concurrently with underperformance.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Chapter three is divided up into the following eleven subsections: research design, location of study, sampling and sampling methods, target population, data collection tools, reliability of research tool, validity of tools, pilot test, data collection procedures, analysis of data and ethical considerations.

3.2 Research Design

The study used a cross-sectional survey design , so that extrapolations of certain traits, attitudes or behaviours in the population may be made from a sample to a population (Babbie, 2001; Gall, Gall, & Borg, 2003). Cross-sectional surveys design, include the determination of specific attribute rates (or levels), such as a certain exposure of public and private athletes from universities in Kenya who are involved in defined and systematic university sports. These cross-sectional surveys attempted to provide data on the characteristics of concern in study participants by collecting information on both the characteristics of significance and potential threats, and also included key informant interviews with deans of Students and sports tutors.

3.3 Location of Study

The current study was carried out countrywide with a target of reaching out to athletes in the institutions. The current study was based on 74 university institutions in both public and private institutions. The institutions are located across most of the counties in the nation (Appendix H: shows list of recognized Universities in Kenya by CUE).

3.4 Target Population

The targeted population was comprised of 74 public and private universities in Kenya recognized by the Commission for University Education (CUE) (Appendix H), which for the purpose of the current research were further categorized into urban and rural universities. As a result, the target population of 24639 comprised of diploma, undergraduate, and post-graduate student-athletes together with the university sports officers within the department of sports and games concerned with students' sports issues. The diploma, undergraduate, and post-graduate student-athletes participated in this study since they are the most involved in online betting while the university sports officers also participated in the study since they interact with the students most of the times and therefore had a knowledge on how the students have been affected by online betting.

3.5 Sample Size and Sampling Procedure

Table 3. 1 Sample Size and Sampling Procedure

	Sampled athletes	Sampled Sports officer	Sampled university
	385	38	19 public & 19 private
Total Sample	423		38

The CUE-approved institutions were divided into strata, including private and government universities, as well as urban and rural universities. Every stratum has been chosen to account for 50% (37) of public institutions and 50% (37) of private institutions. This guaranteed that every stratum was equally represented. A total of 38 institutions, 19 of which were public and 19 of which were private universities, were sampled. Random sampling was employed for the selection of games and games officials and the deans of students' of the sampled institutions. Half were from

government institutions, while the other half (37) were from private universities. There were a total of 38 athletics officials. Simple random sampling was performed in six popular ball sports, for student athletes involved in athletic competitions at Kenya University Sports Federation (KUSF). The sample size of university student athletes was estimated using the Cochran formular, by Blaszczynski, Sharpe, Walker, Shannon and Coughlan (2005). This technique is used when the demographics are unknown and a sample size cannot be determined. The following is the formula Taherdoost (2016);

$$\text{Sample size} = \frac{Z_{1-\alpha/2}{}^{2} p(1-p)}{d^2}$$

margin error of plus or minus 5%. The sample size for the formulation was therefore:

When there is a significant undetermined population, this formula is usually employed (Taherdoost, 2016). Where; Z1-a/2 = This is the standard curve, which chops a region of α off at 95% confidence in tails that is 1.96 on Z (Babbie, 2013). Further, (p) is the percentage of people known from previous studies or other sources. In this instance, the worst case situation was chosen and set (P) to = 0.5 and presumed the heterogeneous maximum since current statistics was not available, on the percentage of university students and athletes who are playing online; (de) The accuracy level is the allowable error margin. In this instance, (de) = 0.05 may provide a more or less 5 percent margin of inaccuracy. The sample size was thus applicable to the formula.;

$$\text{Sample Size} = \frac{1.96^2 \times 0.5(1-0.5)}{0.05^2} = 385$$

Table 3. 2: Summary of the Sample Size

Universities category	Universities sampled	Athletes sampled	sports office from sampled universities
Public	50% (37) =19	½ of 385 =193	50% (37) =19
Private	50% (37) =19	½ of 385=192	50% (37) =19
Sample	**38**	**385**	**38**
	Total respondents' sample	**423**	

3.6 Instruments for Data Collection

The researcher used three tools for the data collection: a self-reporting questionnaire (Appendix A), key informant interview schedules (Appendix B), and an observation interval scoring sheet (Appendix C).

There were three parts to the questionnaire for self-reports (Appendix A). Section 1 consisted of background information, and Section 2 included the questions used to assess the problem gambling levels amongst university student-athletes, which were adopted from the Canadian Problem Gambling Index (CPGI). The CPGI is a 9-point index used to evaluate the level/severity of gambling practice. The CPGI scale used implies that 0–7 is a non-issue, 8–17 implies there is a gambling problem, and 18-27 is a gambling problem that is severe. Additional authors have used the cuts review to maintain statistical capacity (Ferris & Wynne, 2001).

Finally, Section 3 included questions reflecting the four study factors (perceived economic wellbeing, perceived social wellbeing, perceived mental health wellbeing, and perceived academic performance). There were five questions in each research factor on a four-point Likert scale (0 = Never, 3 = nearly often). Respondents registered their assessment of perceived economic wellbeing, perceived social wellbeing, perceived mental health wellbeing, and perceived academic performance by replying to each item on a four-point scale (0=Never, 3=almost often). The Likert scale

was selected because it enables the investigator to do statistical procedures on the data collected (Sekaran & Bougie, 2010).

The key informant interview schedules were for sports tutors and deans of students' or other officers in charge of student development programmes (Appendix B). The use of interviews proved helpful in gathering information and insights into the experience of sports officials in online gambling (Turner, 2010). The employment of an observation interval scoring sheet (Annex C), extends beyond counting events to include online activity and behaviour. Furthermore, concerning observation interval scoring sheet, Angrosino (2005) calls for continuous or discrete recording of any behaviour or activity. This technique divided the observatory time into 15 equivalent periods of three minutes each and documented online behaviour by placing a circle at + or not by placing the circle - at each interval (Herzegovina.com, 2016).

3.7 Validity of Research Instrument

Validity, according to Oluwatayo (2012) is the proportion with which a selection of test items accurately reflects the substance of the exam. The degrees to which data obtained using a certain instrument reflects a particular region or substance of a specific idea is measured by content validity, which was used in this research. Expert comments (three supervisors from the University of Nairobi's Department of Physical Education and Sports) were consulted and asked to reflect on the generalization and applicability of questions, as well as provide ideas for changes to the research instruments' framework. The questionnaire and interview guide were then modified to accommodate the changes suggested from the three supervisors. Adequate review of literature and feedback from the three reviewers were engaged in each instrument's construction. This was important for the consistency and clarity of questionnaire and interview guide.

3.8 Reliability of Research Instrument

Reliability is the degree to which a test is continuously measured and consistent (Fraenkel & Wallen, 2003; McMillan & Schumacher, 2006). The reliability of the surveys was determined using Cronbach's alpha. After the pilot research, the instruments were assessed using Cronbach's alpha. Cho (2016) states that questions that yield less than 0.7 alpha are deleted or removed prior to data collection. Factors with an alpha greater than 0,7 were deemed adequate and sufficient in measuring the intended purpose. In addition, a method with high confidence for gambling problems was utilized to measure the severity of online gambling using the Canadian Problem Gambling Index (CPGI).

The following formula, as stated in Cho (2016), has been utilized in the calculation of Cronbach's Alpha coefficient for factual accuracy.

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N-1) \cdot \bar{c}}$$

The count of items is N, the averaged covariance between item sets is c, and the averaged variance is v̄. The interval observations, on the other hand, employed more than one observer at the same time to obtain the statistical measure of the percentage of agreement between observers using the Kappa formula. For the purpose of this study, fO (frequency observed) and fC (frequency expected) were used to determine Kappa, with N being the total number of observations. The Kappa formula is as follows, as stated by (Kabir, 2016; Angrosino, 2005).

$$k = \frac{f_O - f_C}{N - f_C}$$

Cronbach’s Alpha Co-efficient values were calculated for all the variables.

3.9 Pilot results

The pilot study was conducted to establish the validity and reliability of data collection instruments. Pilot testing was done using 45 questionnaires administered to university students' athletes, sports, and games officers in Kenya's public and private universities. According to Tejinde and Sahu (2015), when having a sample size of less than 500 respondents, using 5% to 10% of the sample size as the piloting sample would be appropriate in an academic work.

3.10 Data Collection Procedures

The researcher sought permission from the National Commission for Science, Technology, and Innovation NACOSTI and obtained research permit for the study (Appendix J). The sampled institutions received a formal letter requesting authorization from student athletes and sports officials. Through their responsible sports agents. Student athletes were contacted with both written and verbal instructions on the topic of the study. The informed written consent was signed by all respondents after the information was provided while the researcher handed self-reporting surveys to the athletes. After the discussion, the surveys and consent papers were signed, completed, and submitted. This was intended to enhance the respondents' response rate. In addition, during trips to the institutions, the observation programme was carried out under the same method for the sports officers/deans of students.

3.11 Data Analysis

The data was coded and analyzed using the SPSS version 25 programme. Cross-tabulation was used to organize and aggregate data for descriptive statistics such as percentages, means, and recurrence characteristics. The data was shown in a graph, tabular, or textual format depending on the kind of data supplied (Berg, 2004, Mills, Airasian & Gay, 2009). The influence of demographic characteristics on the

connection between dependent and independent variables was investigated using regression evaluation with an interaction effect. The link between independent (the scope of online sports betting) and dependent parameters was investigated using correlation analysis (economic wellbeing, social wellbeing, mental wellbeing, academic performance).

Table 3. 3: Analysis of Variables

Objective	**Variable**	**Variable Type**	**Analysis**
To investigate the effects of online sports betting /gambling severity on the perceived economic wellbeing of student-athletes.	Economic wellbeing	Dependent	✓ Regression analysis with an interaction effect ✓ Correlation analysis
To examine the effects of online sports betting /gambling severity on the perceived social wellbeing of student-athletes.	Social wellbeing	Dependent	✓ Regression analysis with an interaction effect ✓ Correlation analysis
To establish the effects of online sports betting /gambling severity on the perceived mental health wellbeing of student-athletes.	Mental wellbeing	Dependent	✓ Regression analysis with an interaction effect ✓ Correlation analysis
To determine the effects of online sports betting /gambling severity on the perceived academic performance of student-athletes.	Academic performance	Dependent	✓ Regression analysis with an interaction effect ✓ Correlation analysis

3.12 Ethical Consideration

The researcher obtained a letter of introduction from the Chairman Department of Physical Education and Sports Nairobi of University (Appendix I). Research permission was acquired from the NACOSTI (Appendix J), as well as permits from both the state and private institutions of the study. An authorization was then acquired from NACOSTI. General principles ethical standards were followed and respondents were assured of confidentiality and that the information provided would solely be used for academic purposes. Barnes, Welte, Hoffman and Tidwell (2010) called for appropriate data management and security to guarantee confidentiality. Any reports or published materials must omit identification information. An informed consent was applied where the respondents were free to withdraw their participation from the study anytime they felt like it. Respondents were provided with consent letter for participation (Appendix F).

CHAPTER FOUR

FINDINGS, ANALYSIS INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter presents the findings of the study on student-athletes' and sports officers' perceptions of online sports betting in universities in Kenya. The chapter covers the tool response rate, the demographic results, and the descriptive analysis of the findings based on the variables of the study. The variables were gambling severity, economic wellbeing, social wellbeing, mental wellbeing, and academic performance. Inferential analysis is also covered in this chapter.

4.2 Response Rate

The selected size of the sample was 423 respondents who are, 385 university students' athletes, sports and, 38 games and sports officers from 38 private and public universities. A total of 423 questionnaires were distributed for the students, which was the sample size of the study. In total, 286 questionnaires were completed and returned from the questionnaires sent to the respondents, representing 68% of the response rate.

4.3 Demographic Results and General Information

The demographic information and general information regarding gambling of respondents were collected and presented.

4.3.1 Demographic Information

The demographic findings from the study areas are herein indicated. The motive of demographic data is to establish the organizational background that corresponds with the main theme of the study. The demographic information sought in this study for

the students was gender, age, category of student, year of study, category of university, and student type. The illustration is shown in Table 4.1.

Table 4. 1: Demographic Information

	Category	Frequency	Percentage
Gender	Female	114	40
	Male	172	60
Age	18-21 years	71	25
	22-25 years	90	33
	26-30 years	88	32
	31-34 years	37	10
Category of student	Diploma	70	24
	Undergraduate	208	74
	Post graduate	8	2
Year of study	1st year	30	10
	2nd year	91	32
	3rd year	127	45
	4th year	33	11
	Post-graduate	6	2
Category of university	Public urban	54	18
	Public rural	177	63
	Private urban	29	10
	Private rural	3	1
	Faith based urban	23	8
Student type	Self-sponsored	75	26
	Government sponsored	199	70
	International student	12	4

The findings reveal that male students were 60% (n = 172) while female students were 40% (n = 114). The age groups of the respondents were collected and the findings revealed that 33% (n = 76) of the respondents were aged between 22 and 25 years, 32% (n = 88) were aged between 26 and 30 years, 25% (n = 71) were aged between 18 and 21 years, and 10% (n = 37) were aged 31-34 years. The majority of students under the age of 30 are involved in betting. Considering the category of students, the majority of respondents were undergraduate students. 74% (n = 208), 24% (n = 70) were diploma students, whereas 2% (n = 8) were postgraduate degree holders, which

implies that all the levels of tertiary learners were involved in the study to minimize bias. The number of respondents from the post-graduate education level was small, owing to their small population. With reference to the year of study, 45% (n = 127) of respondents were in their 3rd year, 33% (n = 91) were in their second year (both diploma and undergraduate), 11% (n = 33) were in their fourth year, whereas 10% (n = 30) were in the first year (both diploma and undergraduate). The post-graduate students consisted of 2% (n = 8). The study assessed the category of the university the respondents were studying in, where 63% (n = 177) were in public rural institutions, 18% (n = 54) were in public urban institutions, 10% (n = 29) were in private urban institutions, 8% (n = 23) were in faith-based urban institutions, and 1% (n = 3) were in private rural institutions. Regarding the student type of the respondents, the majority 70% (n = 199) were government-sponsored, 26% (n = 75) were self-sponsored, whereas 4% (n = 12) were international students. The study further assessed the betting practices in the respective families of the respondents. The number of sports officers in the institutions that participated in the interviews conducted was 38. Sports officers, sports tutors, and deans of students participated in the interviews. From the interviews, the study revealed that the perception of sports officers is that student-athletes are more prone to online sports betting. The findings assessed the respondents' sports preferences in betting games. The results are illustrated in Table 4.2.

Table 4. 2: Sports Preference in Betting Games

Type of sports betting game(s) you mostly bet ONLINE	No	Yes
Handball	96.2% (275)	3.8% (11)
Football	37.8% (108)	62.2% (178)
Basketball	76.9% (220)	23.1% (66)
Rugby	95.5% (273)	4.5% (13)
Hockey	96.5% (276)	3.5% (10)
Volleyball	96.5% (276)	3.5%)10
Netball	96.9% (277)	3.1%(9)

From the findings in Table 4.3, the majority of 96.2% (n = 275) of the participants indicated they do not bet on handball games, while a proportion of 62.2% (n = 178) indicated that they bet on football games, another 76.9% (n = 220) indicated they do not bet on basketball games, and a majority of 95.5% (n = 273) indicated they do not bet on rugby games, 96.5% (n = 276) indicated they do not bet on hockey games, 96.5% (n = 276) indicated they do not bet on volleyball games, and 96.9% (n = 277) indicated they do not bet on netball games. The findings reveal that the most preferred game in betting is football, whereas the least preferred game is netball. Furthermore, based on the findings of the respondents' interviews, the dominant sites for online sports betting include betika, sporty bet and Bet 254.The football game is the most prevalent and of high interest among bettors since the game is structural and hence can be predicted. Moreover, the football games are many, with varying competition levels and standards. Most betting sites concentrate on football betting, excluding other games, thus making football more popular.

4.3.2 General Information on Motives of Gambling Behaviours

This study assessed the key reasons for betting on sports online among university students, the findings are captured on Table 4.3.

Table 4. 3: Online Betting Reasons

Main reason for betting on sports online	No	Yes
To relieve boredom 10 people missing	76.4% (216)	23.6% (70)
Desire to win more money	35.1% (97)	64.9% (179)
Financial constraints	77.9% (223)	22.1%(63)
Peer/team pressure	89.1% (255)	10.9%(31)
Media influence for leisure	87.6%(251)	12.4% (35)

The findings in Table 4.3 reveal that 24% (n = 70) of the students sampled bet to relieve boredom, 65% (n = 179) bet due to a desire to win more money, 22% (n = 63) indicated they bet due to financial constraints, 11% (n = 31) bet due to peer pressure, and 12% (n = 35) betted due to media influence for leisure. The majority of the respondents noted that they bet to win money.

Using the observation scoring sheet, the study observed that the betting frequency every three minutes among the participants was recorded and presented as follows.

Table 4. 4: Observation Scoring

Intervals 15-3 minutes	Frequency	Percent
0	38	13.3%
1	48	16.8%
2	86	30.1%
3	51	17.8%
4	38	13.3%
5	23	8%
6	2	0.7%
	286	100%

The findings revealed that the majority of the participants 86(30.1%) were betting twice in every observational session. Approximately 51(18%) were betting thrice in every session, 38(13.3%) were betting four times in each session, another proportion of approximately 48(17%) were observed betting once in every session, 38(13%) were observed not betting even once in observed sessions, 23(8%) were observed betting five times, and 2(0,7%) were observed betting six times in a session.

4.4 Online Sports Betting/Gambling Severity

4.4.1 Reliability of Online Sports Betting/Gambling Severity

Cronbach's Alpha was used to measure reliability for betting/gambling severity in the research. The Cronbach's Alpha reliability score determines how all items on an examination relate to one another and to the entire test-internal consistency of data. Values of Cronbach's Alpha above 0.7 indicate that the variable is reliable.

Table 4. 5: Reliability - Gambling Severity

Variables	**Cronbach's Alpha**	**Number of Items**
Gambling severity	0.782	9

The findings reveal that the nine items assessing gambling severity had a Cronbach alpha of 0.782, which was reliable. This implies that the statements on the betting/gambling severity factor are adequate and consistent for analysis in this study.

4.4.2 Validity of Online Sports Betting/Gambling Severity

Validity is the degree by which the sample of test items represents the content the test is designed to measure. A validity test was conducted in KMO and Bartlett's Test of Sphericity measures. It is used to determine whether the research instrument actually measures what it anticipated to measure. Table 4.6 shows the KMO and Bartlett's Test for gambling severity.

Table 4. 6: KMO and Bartlett's for Gambling Severity

Kaiser -Meyer -Olkin Measure of Sampling Adequacy.		0.603
Bartlett's Test of Sphericity	Approx. Chi-Square	205.275
	Df	36
	Sig.	0.000

The results show a KMO statistic of 0.603, which was significant; that is greater than the critical level of significance of the test, which was set at 0.5. Bartlett's test of sphericity was significantly high (Chi-Square = 205.275 with 36 degrees of freedom, at $p<0.05$). This implies that the sample data collected is adequate for making conclusions and findings based on the analysis of the data. The data results are further reliable. "

4.4.3 Communalities of Online Sports Betting/Gambling Severity

Factor communality analysis was conducted on statements regarding gambling severity to proportion predicted variance in variables. In order to be regarded appropriate and relevant, the factor should have a rotational factor loading of at minimum |0.4| (+. 4 or –. 4) onto each of the components.

Table 4. 7: Communalities - Gambling Severity

	Initial	Extraction
How long have you sports betted online more than you could really afford to lose?	1.000	0.654
How often have you needed to sports bet online with larger amounts of money to get the same feeling of excitement?	1.000	0.616
When you sports bet online, how often have you gambled on subsequent day to try to win back the money you lost?	1.000	0.674
How often have you borrowed money or sold anything to get money to sports bet online?	1.000	0.725
How often have you felt that you might have a problem with online sports betting?	1.000	0.603
Are you aware of any student athlete who has any health problems, including stress or anxiety resulting from betting?	1.000	0.513
Have you ever criticized your friends' online sports betting or have you been told that you had an online betting problem, regardless of whether or not you thought it was true?	1.000	0.724
Are you aware of any financial problems caused by online sports betting for you, your friend or your household?	1.000	0.475
How often have you felt guilty about the way your friend's sports bet online or what happens when they sports bet online?	1.000	0.646

The findings reveal that the factor communalities loadings were between 0.475 and 0.725, and therefore the communalities were above 0.4. This implies that the statements of the economic wellbeing factor have diverse measurement aspects. Therefore, all the statements are useful in assessing the economic well-being factor and are useful for the study. The findings on factor communalities loadings also reveal that the factor items are relevant for application in the inferential analysis in this study.

4.4.4 Descriptive Statistics on Online Sports Betting/Gambling Severity

A descriptive analysis was conducted on the data collected and presented in the form of mean and standard deviation values. The research analysed the frequency of gambling severity practices, which was in the form of betting amounts of more than one can cope with, betting large amounts of money, gambling to cover bet losses, borrowing money for betting, anxiety challenges of betting, criticism of other individuals towards betting, and experience of guilt towards betting. Table 4.9 captures this information.

Table 4. 8: Descriptive Results- Gambling Severity

	Mean	**Std. Dev**
How long have you sports betted online more than you could really afford to lose?	1.2205	1.13112
How often have you needed to sports bet online with larger amounts of money to get the same feeling of excitement?	1.4044	0.93223
When you sports bet online, how often have you gambled another day to try to win back the money you lost?	1.5846	1.0274
How often have you borrowed money or sold anything to get money to sports bet online?	1.4596	1.06184
How often have you felt that you might have a problem with online sports betting?	1.6111	1.05634
Are you aware of any student athlete who has any health problems, including stress or anxiety?	1.5474	1.07908
Have you ever criticized your friends' online sports betting or have you been told that you had an online betting problem, regardless of whether or not you thought it was true?	1.5018	0.95534
Are you aware of any financial problems caused by online sports betting for you, your friend or your household?	1.6444	1.00901
How often have you felt guilty about the way your friend's sports bet online or what happens when they sports bet online?	1.8869	1.08856

The findings show respondents sometimes sports bet online more than they could afford to lose, as shown by the (Mean=1.22, SD=1.13). The respondents revealed that sometimes they needed to place sports bets online with larger amounts of money to get the same feeling of excitement, with (Mean=1.40, SD=0.93). The (Mean=1.58, SD=1.02) reveal that the respondents often gambled another day to try to win back the money they previously lost. The majority of respondents sometimes borrow money or sell something personal to get money to bet on sports online, as revealed by (Mean=1.45, SD=1.06) Rosenthal (2020) also noted that as losses increase, the online bettor becomes preoccupied with betting. The online bettor then starts misusing credit cards, wagering or selling personal property, using tuition money, and borrowing heavily.

The respondents indicated they have often felt that they might have a problem with online sports betting, with a (Mean=1.61, SD=1.05). The majority indicated that students are aware of other student athletes who have health problems, including stress or anxiety due to betting, as per the (Mean=1.54, SD=1.07). Griffiths (2007) in his gambling psychology reports attests that athletes are at a higher risk of mental illness, including headaches, insomnia, stress, anxiety, depression, suicide ideation, alcohol and substance use due to the pressure of balancing both academic and sports outcomes.

The respondents indicated most of the time they criticized their friends' online sports betting or that friends told them that they had an online betting problem, regardless of whether they thought it was true or not, with a (Mean=1.50, SD=0.95). The (Mean=1.64, SD=1.01) reveal that the respondents most of the time are aware of financial problems caused by online sports betting for their colleagues or households. The respondents most often feel guilty about the way their friend's sports bet online or what happens when they sports bet online, as shown by the response (Mean=1.88,

SD=1.08). Similarly, Griffiths (2006) noted that the monetary and emotional stakes get higher sometimes for the bettors. This may result in addiction hence the vicious cycle of chasing the losses.

Table 4. 9: Gambling Severity

	Frequency	Percentage
Not Problematic	13	4.5
Problematic	222	77.4
Seriously Problematic	51	18.1
Total	286	100

The findings reveal that the majority of the students who sport bets online are problematic, 222(77.4%) these proportion consider gambling as a valid form of recreation activity, they are social gamblers, 51(18%) of the students in online betting are seriously problematic, these are heavy and frequent gamblers. Whereas about 13(5%) of the students are not problematic, that is they have very little concern on online sports betting. The findings show that the rates of online sports betting among the students who participate are problematic due to addiction. Stuhldreher et al (2007) study revealed that gambling state for students who engage in betting is to problematic levels and continues to rise.

4.5 Effect of Online Sports Betting On the Economic Wellbeing of Students

The research looked at the impact of online sports betting on students' financial well-being. The association between online sports betting and economic well-being indicators were investigated using correlation and regression analysis. The interplay of respondents' demographics on the relationship between online sports betting and economic wellbeing was tested using general linear modelling.

4.5.1 Reliability of Economic Wellbeing of Students

The study tested reliability for economic wellbeing using Cronbach's Alpha test of reliability. The Cronbach's Alpha reliability coefficient estimates internal consistency by determining how all items on a test related to all other items and to the total test-internal coherence of data. Values of Cronbach's Alpha above 0.7 indicate that the variable is reliable.

Table 4. 10: Reliability - Economic Wellbeing

Variables	Cronbach's Alpha	Number of Items
Economic wellbeing	0.733	5

The results reveal that the five items assessing economic wellbeing had a Cronbach alpha of 0.733, which was reliable. This implies that the statements on the economic wellbeing factor are adequate and consistent for analysis in this study.

4.5.2 Validity of Economic Wellbeing of Students

Validity is the degree by which the sample of test items represents the content the test is designed to measure. A validity test was conducted in KMO and Bartlett's Test of Sphericity measures. It is used to determine whether the research instrument actually measures what it anticipated to measure. Table 4.11 shows the KMO and Bartlett's Test for Economic Wellbeing.

Table 4. 11: KMO and Bartlett's for Economic Wellbeing

Kaiser -Meyer -Olkin Measure of Sampling Adequacy.		0.604
Bartlett's Test of Sphericity	Approx. Chi-Square	159.506
	Df	10
	Sig.	0.000

Table 4.11 reveals that a KMO statistic of 0.604 was significant; that is greater than the critical level of significance of the test set at 0.5. The Bartlett's Test of Sphericity was significantly high (Chi-Square=159.506 with 10 degrees of freedom, at $p<0.05$). This

implies that the sample data collected is adequate for making conclusion and findings based on the analysis of the data. The data results are further reliable.

4.5.3 Communalities of Economic Wellbeing of Students

Factor analysis was conducted on statements regarding gambling severity. Salonen, Alho and Castrén (2017) affirmed the use factor analysis in studying gambling-related harms. In order to be deemed relevant and adequate, the factor should have a rotational factor loading of at minimum |0.4| (+. 4 or –. 4) onto each of the components.

Table 4. 12: Communalities - Gambling Severity

	Initial	Extraction
How long have you sports betted online more than you could really afford to lose?	1.000	0.654
How often have needed to sports bet online with larger amounts of money to get the same feeling of excitement?	1.000	0.616
When you sports bet online, how often have you gambled another day to try to win back the money you lost?	1.000	0.674
How often have you borrowed money or sold anything to get money to sports bet online?	1.000	0.725
How often have you felt that you might have a problem with online sports betting?	1.000	0.603
Are you aware of any student athlete who has any health problems, including stress or anxiety resulting from betting?	1.000	0.513
Have you ever criticized your friends' online sports betting or have been told that you had an online betting problem, regardless of whether or not you thought it was true?	1.000	0.724
Are you aware of any financial problems caused by online sports betting for you, your friend or your household?	1.000	0.475
How often have you felt guilty about the way your friend's sports bet online or what happens when they sports bet online?	1.000	0.646

The findings reveal that the factor communalities loadings were between 0.475 and 0.725, and therefore the communalities were above 0.4. This implies that the statements of the economic wellbeing factor have diverse measurement aspects. Therefore, all the statements are useful in assessing the economic well-being factor and are useful for the study. The findings on factor communalities loadings also reveal that the factor items are relevant for application in the inferential analysis in this study.

4.5.4 Descriptive Statistics on Economic Wellbeing of Students

A descriptive analysis was conducted on the data collected and presented in the form of mean and standard deviation values. The research analysed economic wellbeing practices due to gambling in the form of betting amounts exceeding intended amounts, gambling to cover bet losses, borrowing money for betting, spending tuition money on betting and the intention to reduce money spent on betting. This information is illustrated in Table 4.13.

Table 4. 13: Descriptive Results- Economic Wellbeing

	Mean	**Std. Dev**
Have you ever sport betted online more than you intended?	1.0294	1.15539
How often did you go back online to sports bet try to win back the money you lost?	1.5224	0.94585
How often have you ever borrowed money or thought of peddling something to sports bet online?	1.5316	0.99059
Have you ever intended to use money meant for tuitions to sports bet online?	1.5277	1.02477
Have you ever intended to reduce the amount of money you spend on online sports betting?	1.6882	1.06368

Most respondents indicated that sometimes they have betted online more than they intended, with a (Mean=1.02, SD=1.15). The majority indicated that most of the time they did go back online to sports betting to try to win back the money they lost, as per

the response (Mean=1.52, SD=0.94). The study agrees with Losch, Cornish, Sundin, Heiden, Park, Avery & Lutz (2013). Where respondents indicated most of the times they had borrowed money or thought of peddling something to bet online, with a response (Mean=1.53, SD=0.99). Losch et al. (2013) found that on money spent, won, and lost while betting online, roughly one-half of student-athletes who reported online betting in the earlier year indicated that they engaged more in money betting in order to get more earnings and recover their losses.

The (Mean=1.52, SD=1.02) reveals that the respondents most often intend to use money meant for tuitions for sports betting online. The finding is in agreement with MacDonald, McMullan and Perrier (2004) who concluded that student-athletes are at risk from other financial obligations such as increased spending from tuition and other university expenses. This led to increased debts, irresponsible borrowing, and misuse of tuition fees, among others. The respondents most often intend to reduce the amount of money they spend on online sports betting, as shown by the response (Mean=1.68, SD=1.06).

From the interviews conducted among the students' athletes, most of them indicated that they spend an average of Kshs 500 to 1,000 on a weekly basis. The respondents further noted that the financial effects of betting include financial challenges and over-spending as students aim to get more money to bet with. The study is in support of Worthy, Jonkman, and Blinn-Pike (2010) findings where most students indicated that betting online affects other members of society through consistent borrowing from gamblers to get their finances for betting online. It is noted that financial issues are linked with sensational activities such as gambling, because it is common for learners to wager online with loans.

4.5.5 Diagnostic Tests: Normality Test between Gambling Severity and Economic Wellbeing

Normality is utilized in this study to determine the distribution form and aids in the prediction of dependable variables (Gastwirth, Gel & Miao 2009). In parametric experiments, normality is a crucial property. According to the normality assumption, residuals are normally distributed and have a mean of zero.

Table 4. 14: Normality test

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Economic wellbeing	0.085	266	0.000	0.984	266	0.004

The results in Table 4.14 showed that the factor's significant value was lower than 0.05 which imply that the data is normally distributed.

4.5.6 Diagnostic Tests: Linearity Test between Gambling Severity and Economic Wellbeing

The linearity assumption was tested on gambling severity and Economic Wellbeing using linear regression. The linear regression test determines the linearity and significance of the data; if the test is significant, the data is linear. Table 4.15 shows the results.

Table 4. 15: Linearity Test

	Sum of Squares	**Df**	**Mean Square**	**F**	**Sig.**
Regression	22.167	1	22.167	78.526	.000b
Residual	66.621	236	0.282		
Total	88.788	237			

From the Table 4.15 above, the linear regression test gave a $P>0.0001$. This indicates that the data is substantial, and hence the linearity assumption is met. This means the

data can be utilized to investigate the linear association between gambling severity and other measures of financial well-being.

4.5.7 Diagnostic Tests: Heteroscedasticity Test Between Gambling Severity and Economic Wellbeing

When a set of data has unequal variability or scatter it is referred as hetroskedasticity. Hence, the amount of the error term varies across quantities of explanatory variables; heteroscedasticity is observed (Gastwirth, Gel & Miao 2009). When the residuals are not uniformly distributed along the line, heteroscedasticity is present. In order to determine group-wise heteroscedasticity in the error terms, the Breusch Pagan Test was used to test heteroscedasticity in this study.

Table 4. 16: Heteroscedasticity test

Breusch-Pagan Test (heteroscedasticity)	
chi2(1)	0.821
Prob > chi2	0.2134

Since the p-value is 0.2134, which is more significant than 0.05. The null hypothesis is not rejected, and the alternative hypothesis is rejected. Hence, there was no heteroscedasticity. This implies that the data has minimal errors and thus there is accuracy in the results of the analysis. Further, the condition of no heteroscedasticity ensures that there is un-biasness and consistency in the regression analysis predictions.

4.5.8 Correlation between Gambling Severity and Economic Wellbeing

A correlation value of zero implies that there is no linear link between two dependent variables, while a coefficient of correlation of -1 or +1 shows that the relationship is ideal. The correlation coefficient approaches one as the link between variables becomes stronger. In this study, Pearson correlation was utilized.

Table 4. 17: Correlation between Gambling Severity and Economic Wellbeing

		Gambling severity	Economic effect
Gambling severity	Pearson Correlation	1	.600**
	Sig. (2-tailed)		0.000

The findings reveal a positive and significant association between online sports betting/gambling severity and poor economic wellbeing (r = 0.600, P>0.0001). This coefficient of correlation ranged within 0.6 and 0.7, showing a high positive link as a factor affecting individuals' economic well-being. The students who frequently participated in the online sports betting are more likely to experience poor state on their economic wellbeing. This means that gambling's severity aspects have contributed to a lack of financial stability. In a study, Cullen and Latessa (1996) found that the most common result of online gambling and is more likely to lead to debt which indicate a major economic pain for athletes in the university whose incomes are much lower than for an adult in the commercial world.

4.5.9 Regression Analysis between Gambling Severity and Economic Wellbeing

Regression analysis was done to determine the influence of gambling severity on the economic wellbeing of students. Table 4.18 summarized the findings.

Table 4. 18: Model Summary of Gambling Severity and Economic Wellbeing

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.500a	0.25	0.246	0.53131

The adequacy of the linear regression model was provided in Table 4.19. The R square, or coefficient of determination, was 0.25. This demonstrates that the intensity of gambling accounts for 25% of a student's economic well-being. This also means that other parameters not included in the model account for 75% of the difference in

students' economic well-being. This findings is in agreement with Stuhldreher, Stuhldreher & Forrest, (2007) who conducted a cross-sectional gambling survey and discovered that financial issues have significantly greater negative financial ramifications in young athletes.

The ANOVA model assessment of the association is shown in Table 4.19.

Table 4. 19: ANOVA for Gambling Severity and Economic Wellbeing

	Sum of Squares	**Df**	**Mean Square**	**F**	**Sig.**
Regression	22.167	1	22.167	78.526	.000b
Residual	66.621	236	0.282		
Total	88.788	237			

The model was significant, according to the ANOVA findings. An F statistic of 78.526 and a reported P > 0.0001 backed up this theory. The findings suggest that the degree of gambling is a major predictor of students' low financial well-being. As a result, gambling's intense characteristics have resulted in poor financial health. An almost similar investigational study carried out by Rockey, Beason and Gilbert (2002) on 9 universities, indicated that bettors are more likely to acquire problem-solving economic difficulties.

Table 4. 20: Coefficients of Regression for Gambling Severity and Economic Wellbeing

	Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	0.362	0.128		2.825	0.005
Gambsevere	0.711	0.08	0.5	8.861	0.000

Regression of coefficients results revealed that students' gambling severity and poor economic wellbeing are positively and significantly related (= 0.711, *P* > 0.0001).

This implies that a unit increase in gambling severity would increase students' economic wellbeing deterioration by 0.711.

4.5.10 Interaction Effect of Demographic Factors on the Relationship between Gambling Severity and Economic Wellbeing of Student Athletes.

The interaction effect of demographic factors on the relationship between gambling severity and students' economic and wellbeing 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 4. 21: Hypothesis Testing of Gambling Severity and Economic Wellbeing with Interaction

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	36.222a	108	0.335	2.167	0.001
Intercept	1.281	1	1.281	8.276	0.006
v.S1.1 * v.S1.2 * v.S1.3 * v.S1.4 * v.S1.5 * v.S1.6 * v.S1.7 * problem Gambling	36.222	108	0.335	2.167	0.001
a R Squared = .791 (Adjusted R Squared = .426)					

From Table 4.21, the interactive impact of demographic parameters on the connection between betting severity and economic welfare of college athletes had an F-value of 2.167, according to the data. The R Squared value was 0.791 (with demographic elements interactions) larger than 0.25 (without interaction). The interaction impact of demographic variables was significant (p-value =0.001). As a result, the null hypothesis must be rejected. This suggests that demographic characteristics have a substantial interactive effects on the severity of gambling and the link between gambling and economic well-being. Similarly, Welte, Barnes, Wieczorek, Tidwell & Parker (2011) found demographic factors of age and gender predicting problem

gambling between the two cohorts. The study found that gambling problems were much more often than alcohol dependency after the age of 21 (Welte, Barnes, Wieczorek, Tidwell & Parker 2011)

A general linear regression model was used to show the interaction effect of gender on gambling severity and the economic well-being of student athletes. Illustrations are as shown in Table 4.22.

Table 4. 22: Gender Interaction on Gambling Severity and Economic Wellbeing

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	23.046a	2	11.523	41.016	0.000
Intercept	2.414	1	2.414	8.594	0.004
v.S1.1 * Problem Gambling	23.046	2	11.523	41.016	0.000
Error	65.739	234	0.281		
Total	591	237			
Corrected Total	88.785	236			
a R Squared = .260 (Adjusted R Squared = .253)					

The findings reveal that the interaction effect of gender on the relationship between gambling severity and economic wellbeing of student athletes had an F-value of 41.016. The gender interaction effect was significant (P>0.0001). The R Squared value was 0.260 (with gender interaction) greater than 0.25 (without interaction). This implies that gender has a significant influence on gambling severity and economic wellbeing. Similarly, Welte et al. (2011) found demographic factors of age and gender predicting problem gambling between the two cohorts. The study found that gambling problems were much more common than alcohol dependency after the age of 21 (Welte, Barnes, Wieczorek, Tidwell & Parker 2011).

The general linear regression model was used to show the interaction effect of students' age on gambling severity and the economic well-being of student-athletes. Illustrations are as shown in Table 4.23.

Table 4. 23: Age Interaction on Gambling Severity and Economic Wellbeing

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	20.372a	4	5.093	30.556	0.000
Intercept	1.548	1	1.548	9.287	0.003
v.S1.2 * problem Gambling	20.372	4	5.093	30.556	0.000
Error	30.668	184	0.167		
Total	421.48	189			
Corrected Total	51.04	188			

a R Squared = .399 (Adjusted R Squared = .386)

The findings reveal that the interaction effect of students' age on the relationship between gambling severity and economic wellbeing of student-athletes had an F-value of 30.556. The students' age interaction effect was significant (P>0.0001). The R Squared value was 0.399 (with students' age interaction) greater than 0.25 (without interaction). This implies that students' age has a significant influence on gambling severity and economic wellbeing. Similarly, Welte et al. (2011) found demographic factors of age predict problem gambling between the two cohorts. The study found that gambling problems were much more common than alcohol dependency among males.

A general linear regression model was used to show the interaction effect of the students' category between gambling severity and the economic well-being of student athletes. The findings are as shown in Table 4.24.

Table 4. 24: Student Category Interaction on Gambling Severity and Economic Wellbeing

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	23.772a	3	7.924	28.692	0.000
Intercept	3.02	1	3.02	10.935	0.001
v.S1.3 * problem Gambling	23.772	3	7.924	28.692	0.000
Error	62.968	228	0.276		
Total	573.36	232			
Corrected Total	86.739	231			

a R Squared = .274 (Adjusted R Squared = .265)

The findings reveal that the interaction effect of students' category on the relationship between gambling severity and the economic wellbeing of student athletes had an F-value of 28.692. The students' category interaction effect was significant (P>0.0001). The R Squared value was 0.274 (with students' category interaction), which is greater than 0.25 (without interaction). This implies that students' category has a significant influence on gambling severity and economic wellbeing.

A general linear regression model was used to show the interaction effect of a student's year of study on gambling severity and the economic well-being of student athletes. Findings are as shown in Table 4.26.

Table 4. 25: Year of Study Interaction on Gambling Severity and Economic Wellbeing

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	22.836a	4	5.709	20.894	0.000
Intercept	2.861	1	2.861	10.472	0.001
v.S1.4 * problem Gambling	22.836	4	5.709	20.894	0.000
Error	61.204	224	0.273		
Total	573.52	229			
Corrected Total	84.039	228			
a R Squared = .272 (Adjusted R Squared = .259)					

The findings reveal that the interaction effect of a student's year of study on the relationship between gambling severity and economic wellbeing of student athletes had an F-value of 20.894. The student's year of study interaction effect was significant (P>0.0001). The R Squared value was 0.272 (with student's year of study interaction), which is greater than 0.25 (without interaction). This implies that students' years of study have a significant influence on gambling severity and economic wellbeing.

A general linear regression model was used to show the interaction effect of a category of university between gambling severity and the economic well-being of student athletes. Findings are as shown in Table 4.26.

Table 4. 26: University Category Interaction on Gambling Severity and Economic Wellbeing

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	22.930a	5	4.586	16.05	0.000
Intercept	2.397	1	2.397	8.389	0.004
v.S1.5 * problem Gambling	22.93	5	4.586	16.05	0.000
Error	65.431	229	0.286		
Total	586.08	235			
Corrected Total	88.361	234			

a R Squared = .259 (Adjusted R Squared = .243)

The results reveal that the interaction effect of university category on the[61] relationship between gambling severity and the economic wellbeing of student athletes had an F-value of 16.05. The category of university interaction effect was significant (P > 0.0001). The R Squared value was 0.259 (with the category of university interaction), which is greater than 0.25 (without interaction). This implies that the category of university has a significant influence on gambling severity and economic wellbeing.

A general linear regression model was used to show the interaction effect of student type on gambling severity and the economic well-being of student athletes. Findings are shown in Table 4.27.

Table 4. 27: Student Type Interaction on Gambling Severity and Economic Wellbeing

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	22.346a	3	7.449	26.186	0.000
Intercept	2.066	1	2.066	7.262	0.008
v.S1.6 * problem Gambling	22.346	3	7.449	26.186	0.000
Error	65.991	232	0.284		
Total	589.76	236			
Corrected Total	88.336	235			

a R Squared = .253 (Adjusted R Squared = .243)

The results reveal that the interaction effect of student type on the relationship between gambling severity and economic wellbeing of student athletes had an F-value of 26.186. The student type interaction effect was significant (P>0.0001). The R Squared value was 0.253 (with student type interaction) greater than 0.25 (without interaction). This implies that student type has a significant influence on gambling severity and economic wellbeing relationship.

The General linear regression model was used to show the interaction effect of betting family members between gambling severity and the economic being of student-athletes. Findings are as shown in Table 4.29.

Table 4. 28: Family Member Betting Interaction on Gambling Severity and Economic Wellbeing

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	22.098a	5	4.42	15.559	0.000
Intercept	2.147	1	2.147	7.56	0.006
v.S1.7 * problem Gambling	22.098	5	4.42	15.559	0.000
Error	65.049	229	0.284		
Total	581.96	235			
Corrected Total	87.147	234			
a R Squared = .254 (Adjusted R Squared = .237)					

The results reveal that the interaction effect of betting family member on the relationship between gambling severity and economic wellbeing of student athletes had an F-value of 15.559. The betting family member interaction effect was significant (P>0.0001). The R Squared value was 0.254 (with betting family member interaction) which is greater than 0.25 (without interaction). This implies that betting family member has a significant influence on gambling severity and economic wellbeing relationship.

General linear regression model was used to show interaction effect of type of game/sports between gambling severity and economic being of student athletes. Findings are as shown in Table 4.30.

Table 4. 29: Type of Game Interaction on Gambling Severity and Economic Wellbeing

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	28.009a	16	1.751	6.365	0.000
Intercept	2.549	1	2.549	9.269	0.003
v.S1.8a * v.S1.8b * v.S1.8c * v.S1.8d * v.S1.8e * v.S1.8f * v.S1.8g * problem Gambling	28.009	16	1.751	6.365	0.000
Error	60.778	221	0.275		
Total	592.96	238			
Corrected Total	88.788	237			
a R Squared = .315 (Adjusted R Squared = .266)					

The analysis reveals that the interaction effect of the type of game/sports on the relationship between gambling severity and economic wellbeing of student athletes had an F-value of 6.365. The type of game/sports interaction effect was significant (P > 0.0001). The value of 1 R Squared was 0.315 (with type of game/sports interaction), which is higher than 0.25 (without interaction).This implies that the type of game/sport has a significant influence on gambling severity and economic wellbeing.

4.6 Effect of online sports betting on the social wellbeing of students

To achieve the second objective, the study assessed the effects of online sports betting on the social wellbeing of students. The association between online sports gambling and social welfare characteristics was investigated using correlation and regression research. The interplay of respondents' characteristics on the relationships between online sports betting and social wellbeing was tested using general linear regression.

4.6.1 Reliability of Social Wellbeing of Students

The reliability test for Social wellbeing was illustrated in table 4.31.

Table 4. 30: Reliability - Social Wellbeing

Variables	Cronbach's Alpha	Number of Items
Social wellbeing	0.721	5

The analysis reveals that the five items assessing social wellbeing had a Cronbach alpha of 0.721, which was reliable. This implies that the statements on the social wellbeing factor are adequate and consistent for analysis in this study. The data collected based on the statements on social wellbeing is reliable.

4.6.2 Validity of Social Wellbeing of Students

Validity is then measured by the degree to which the sample of test items represents the content that the test is designed to measure. A validity test was conducted on KMO and Bartlett's tests of sphericity. It is used to determine whether the research instrument actually measures what it was anticipated to measure. Table 4.32 shows the KMO and Bartlett's Test for Social Wellbeing.

Table 4. 31: KMO and Bartlett's for Social Wellbeing

Kaiser -Meyer -Olkin Measure of Sampling Adequacy.		0.654
Bartlett's Test of Sphericity	Approx. Chi-Square	102.043
	Df	10
	Sig.	0.000

Table 4.31 reveals a KMO statistic of 0.645 which was significant; that is greater than the critical level of significance of the test set at 0.5. The Bartlett's Test of Sphericity was significantly high (Chi-Square=102.043 with 10 degrees of freedom, at $p<0.05$). This implies that the sample data collected is adequate for making conclusion and findings based on the analysis of the data. The data results are further reliable.

4.6.3 Communalities of Social Wellbeing of Students

Factor analysis was conducted on statements regarding social wellbeing. In order to be deemed relevant and adequate, the factor should have a rotational factor loading of at minimum |0.4| (+. 4 or –. 4) onto each of the components.

Table 4. 32: Communalities - Social Wellbeing

	Initial	Extraction
How often have you intended to avoid domestic argument or conflict after online sports betting?	1	0.742
Have you ever intended to use alcohol after winning or losing online sports bets?	1	0.58
How often have you intended to skip training sessions to sports bet online?	1	0.55
Have your comrades or family members ever intended to advise you to stop betting online?	1	0.479
How often do you prefer betting online alone than with your comrades?	1	0.553

The findings reveal that the factor communalities loadings were between 0.479 and 0.742, and therefore the communalities were above 0.4. This implies that the statements of the social wellbeing factor have diverse measurement aspects. Therefore, all the statements are useful in assessing social wellbeing factors and are useful for the study. The findings on factor communalities loadings also reveal that the factor items are relevant for application in the inferential analysis in this study.

4.6.4 Descriptive Statistics on Social Wellbeing of Students

The data was subjected to descriptive statistics and illustrated inform of mean and standard deviation numbers. The study looked at social wellness following online athletics wagering in the manner of household disagreements or disputes, alcohol drinking after wins and losses, skipping training courses for athletes betting online. Table 4.33 summarizes the data on social wellbeing outcomes.

Table 4. 33: Descriptive Results- Social Wellbeing

	Mean	Std. Dev
How often have you intended to avoid domestic argument or conflict after online sports betting?	1.1157	1.16987
Have you ever intended to use alcohol after winning or losing online sports bets?	1.2285	0.94802
How often have you intended to skip training sessions to sports bet online?	1.4366	1.10823
Have your comrade or family members ever intended to advise you to stop betting online?	1.6493	1.03683
How often do you prefer betting online alone than with your comrades?	1.7594	1.13703

A mean of 1.11 ±1.16, indicate that the majority of respondents planned to avoid household disagreements or conflict as a result of online sports betting. Wardle, Reith, Best, McDaid and Platt (2018) identified lower social capital and social connectivity, as well as increased amplified arguments and relationship stress, as a fundamental feature of the impact of online sports betting that raises concern. According to the result a mean of 1.22± 0.95,indicated that the majority of respondent planned to drink after wins and losses in online sports bets. As reported by Black et al. (2015) betting has historically been linked to a variety of increased health hazards, including excessive alcohol use.

With a response mean of 1.43± 1.04, the respondents imply that they sometimes planned to miss training sessions in order to sports bet online. The average of 1.64± 1.03 indicates that most of the time, friends or family members are trying to persuade them to quit gambling online. As seen by the answer a mean of 1.68± 1.06, most respondents prefer gambling online alone than gambling with friends. According to Kristiansen, Trabjerg and Reith (2015), the social influences of family and co-workers

are equally essential in deciding whether or not to gamble. During betting sessions, the bettor interacts with friends and relatives.

The research finds that social negligence, isolation from community and relationships, disputes, aggressiveness and other interpersonal breakups are some of the repercussions of online sports betting on students' social life, based on the interviews performed. It was also found that excluding gamblers from society reduces social cohesiveness, particularly among family members and other co-workers of students who engage in problematic gambling. Paterson and Garrett (2010) discovered that students with a gambling addiction are more likely than the general population to commit crimes like robbery, misuse, or other illegal actions to pay for their bad habits. Individual social isolation from society eventually resulted as a result of this.

4.6.5 Diagnostic Tests: Normality Test between Gambling Severity and Social Wellbeing

Normality is used to know the distribution form and helps predict the reliable variables (Gastwirth, Gel & Miao 2009). Normality in parametric experiments is a critical feature. The normality assumption avers that residuals are normally distributed and have a mean of zero.

Table 4. 34: Normality Test

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Social wellbeing	0.088	266	0.000	0.981	266	0.001

The results in Table 4.35 showed that the factor's significant value was lower than 0.05 which imply that the data is normally distributed.

4.6.6 Diagnostic Tests: Linearity Test Between Gambling Severity and Social Wellbeing

The linearity assumption was tested using linear regression. The linear regression tested the linearity of the data and the significance; if the test is significant, then the data is linear. Table 4.35 shows the results.

Table 4. 35: Linearity Test

	Sum of Squares	**Df**	Mean Square	**F**	**Sig.**
Regression	13.21	1	13.21	45.615	.000b
Residual	68.635	237	0.29		
Total	81.845	238			

From the Table 4.35 above, the linear regression test gave a $P>0.0001$ which implies that the data is significant, and therefore the assumption of linearity is met. This implies that the data can be used to test the linear relationship between gambling severity and social wellbeing aspects.

4.6.7 Diagnostic Tests: Heteroscedasticity Test Between Gambling Severity and Social Wellbeing

When the amount of the error term varies across variations of an independent variable, heteroscedasticity is prevalent (Dette, 2002). In order to determine group-wise heteroscedasticity in the residuals, the Breusch-Pagan Test test was used to test heteroscedasticity in this research.

Table 4. 36: Heteroscedasticity Test

Breusch-Pagan Test (heteroscedasticity)	
chi2(1)	0.676
Prob > chi2	0.132

Since the p-value is 0.132 and is more than 0.05 we fail to reject the null hypothesis and reject the alternative hypothesis. Hence, there was no heteroscedasticity. This implies that the data has minimal errors and thus there is accuracy in results of the analysis. Further, the condition of no heteroscedasticity ensures that there is un-biasness and consistency in the regression analysis predictions.

4.6.8 Correlation between Gambling Severity and Social Wellbeing

A correlation value of zero implies that no linear link exists between two continuous data, while a coefficient of correlation of -1 or +1 suggests that the connection is excellent. The correlation coefficient approaches one as the link between variables becomes stronger.

Table 4. 37: Correlation - Gambling Severity and Social Wellbeing

		problem Gambling	Social
problem Gambling	Pearson Correlation	1	.702**
	Sig. (2-tailed)		0.000
	N	254	239

The results show a positive and significant association between gambling severity and poor social wellbeing (r = 0.702, P 0.0001). This suggests that gambling severity characteristics have had an impact on students' social wellbeing. This coefficient value ranged between 0.7 and 0.8, showing a strong positive link as a factor affecting individuals' social wellbeing. Individuals who engage in internet sports gambling on a regular basis are more likely to have a negative impact on their societal wellbeing. This suggests that the intensity of gambling has contributed to a lack of interpersonal well-being. Weinstock, Whelan, Meyers and Watson (2007) carried out a study and found that the severity of gambling and gambling activities has led to an increasing social disconnection among gamblers.

4.6.9 Regression Analysis between Gambling Severity and Social Wellbeing

The outcomes of the regression model assessment are provided in Table 4.38.

Table 4. 38: Model Summary- Gambling Severity and Social Wellbeing

R	R Square	Adjusted R Square	Std. Error of the Estimate
.402a	0.161	0.158	0.53814

The model fitness of the linear regression was provided in Table 4.39. The value of R square was 0.161. This indicates that gambling severity accounts for 16.1% of undergraduate social well-being. This also means that other factors not included in the model account for 83.9 percent of the variance in students' social well-being. Rocky, Beason and Gilbert (2014) looked into the identities of college students who gambled online and discovered that the most severe social consequences of online gambling were domestic abuse, disagreement and partnership breakdowns.

The ANOVA analysis shows the association is shown in Table 4.39. ANOVA is used to test the significance of the model.

Table 4. 39: ANOVA - Gambling Severity and Social Wellbeing

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	13.21	1	13.21	45.615	.000b
Residual	68.635	237	0.29		
Total	81.845	238			

The model was statistically significant, according to the ANOVA findings. This was supported by an F statistic of 45.615 and a recorded P > 0.0001, which was lower than the traditional significance threshold of 0.05. The findings suggest that the intensity of gambling is a major indicator of students' low social welfare. As a result of the intensity of gambling, low social well-being has resulted. Huang, Jacobs, Derevensky, Gupta and Paskus (2007) looked at the prevalence of gambling problems and their links to risky behaviours. According to the study, student-athletes have encountered

the ABC social influence of digital sports gambling (addiction, insolvency and criminality).

The parameters of the regression are shown in Table 4.40. Regression Coefficients shows the prediction strength of gambling severity in predicting social wellbeing.

Table 4. 40: Regression Coefficients- Social Wellbeing

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.605	0.129		4.698	0.000
problem Gambling	0.544	0.081	0.402	6.754	0.000

According to the findings of the regression estimates, students' gambling severity and low social wellbeing are positively and significantly associated (=0.544, P 0.0001).This means that every unit of gambling intensity reduces students' social wellbeing by 0.544. Therefore;

Poor social wellbeing = 0.605 + 0.544 (gambling severity) + e

4.6.10 Interaction Effect of Demographic Factors on the Relationship between Gambling Severity and Social Wellbeing of Student Athletes

The interactive impact of demographic parameters on the link between gambling severity and social welfare of students was investigated, and the results of a generalized linear regression models were given. Interaction effect is useful to determine whether the demographic factors are a consideration in the relationship between the variables.

Table 4. 41: Hypothesis Testing of Gambling Severity and Social Wellbeing with Interaction

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	37.042a	106	0.349	2.654	0.000
Intercept	0.839	1	0.839	6.368	0.014
v.S1.1 * v.S1.2 * v.S1.3 * v.S1.4 * v.S1.5 * v.S1.6 * v.S1.7 * problem Gambling	37.042	106	0.349	2.654	0.000
a R Squared = .810 (Adjusted R Squared = .505)					

The interaction impact of demographic parameters on the connection between gambling severity and student athletes' social welfare had an F-value of 2.654, according to the data. The value of R square was larger than 0.161 (with demographic factors interaction) and without interaction. The interaction impact of demographic variables was substantial (P > 0.0001). As a result, the null hypothesis must be rejected. This suggests that demographic characteristics have a strong interaction impact on the severity of gambling and the link between gambling and social welfare. Similarly, Welte et al. (2011) found that there is a link between gambling addiction and socioeconomic status. In lower SES groups, the proportion of problem gamblers was higher than in intermediate or higher levels.

A general linear regression model was used to show the interaction effect of gender on gambling severity and student athletes' social wellbeing. Illustrations are as shown in Table 4.42.

Table 4. 42: Gender Interaction on Gambling Severity and Social Wellbeing

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	16.225a	2	8.113	29.065	0.000
Intercept	5.417	1	5.417	19.408	0.000
v.S1.1 * problem Gambling	16.225	2	8.113	29.065	0.000
Error	65.594	235	0.279		
Total	576.72	238			
Corrected Total	81.82	237			

a R Squared = .198 (Adjusted R Squared = .191)

The findings reveal that the interaction effect of gender on the relationship between gambling severity and student athletes' social wellbeing had an F-value of 29.065. The gender interaction effect was significant (P 0.0001). The R square value was 0.198 (with gender interaction) greater than 0.161 (without interaction). This implies that gender has a significant influence on gambling severity and social wellbeing relationships.

A general linear regression model (GLM) was used to show the interaction effect of a student’s age on gambling severity and the social wellbeing of students. Illustrations are as shown in Table 4.43.

Table 4. 43: Age Interaction on Gambling Severity and Social Wellbeing

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	12.489a	4	3.122	14.621	0.000
Intercept	4.749	1	4.749	22.238	0.000
v.S1.2 * problem Gambling	12.489	4	3.122	14.621	0.000
Error	39.507	185	0.214		
Total	426.64	190			
Corrected Total	51.997	189			

a R Squared = .240 (Adjusted R Squared = .224)

The findings reveal that the interaction effect of students' age on the relationship between gambling severity and student athletes' social wellbeing had an F-value of 14.621. The student's age interaction effect was significant (P>0.0001). The value of R square was 0.240 (with student age interaction), which was greater than 0.161 (without interaction).This implies that a student's age has a significant influence on their gambling and social wellbeing relationships.

A general linear regression model (GLM) was used to show the interaction effect of student category on gambling severity and student athletes' social wellbeing. Illustrations are as shown in Table 4.44.

Table 4. 44: Student category interaction on gambling severity and social wellbeing

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	13.811a	3	4.604	16.039	0.000
Intercept	6.227	1	6.227	21.694	0.000
v.S1.3 * problem Gambling	13.811	3	4.604	16.039	0.000
Error	65.728	229	0.287		
Total	558.32	233			
Corrected Total	79.539	232			

a R Squared = .174 (Adjusted R Squared = .163)

The findings reveal that the interaction effect of student category on the relationship between gambling severity and students athletes' social wellbeing had an F-value of 16.039. The student category interaction effect was significant (P>0.0001). The R square value was 0.174 (with student category interaction) which is greater than 0.161 (without interaction). This implies that student category has a significant influence on gambling severity and social wellbeing relationship.

A general linear regression model (GLM) was used to show the interaction effect of a student year of study between gambling severity and the athletes' social wellbeing. Illustrations are as shown in Table 4.45.

Table 4. 45: Year of Study Interaction on Gambling Severity and Social Wellbeing

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	15.720a	4	3.93	14.396	0.000
Intercept	5.716	1	5.716	20.939	0.000
v.S1.4 * problem Gambling	15.72	4	3.93	14.396	0.000
a R Squared = .203 (Adjusted R Squared = .189)					

The results show that the interaction effect of a student's year of study on the relationship between gambling severity and student social wellbeing had an F-value of 14.396. The student year of study interaction effect was significant (P>0.0001). The R Squared value was 0.203 (with student year of study interaction) greater than 0.161 (without interaction). This implies that a student's year of study has a significant influence on gambling severity and social wellbeing.

A general linear regression model (GLM) was used to show the interaction effect of the category of university on gambling severity and the social wellbeing of student-athletes. Illustrations are as shown in Table 4.46.

Table 4. 46: University Category Interaction on Gambling Severity and Social Wellbeing

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	17.775a	5	3.555	12.802	0.000
Intercept	7.119	1	7.119	25.637	0.000
v.S1.5 * problem Gambling	17.775	5	3.555	12.802	0.000
a R Squared = .218 (Adjusted R Squared = .201)					

The results show that the interaction effect of the category of university on the relationship between gambling and social wellbeing of student-athletes had an F-value of 12.802. The category of university interaction effect was significant (P >0.0001).

The R Squared value was 0.218 (with the category of university interaction), which is greater than 0.161 (without interaction). This implies that the category of university has a significant influence on gambling severity and social wellbeing.

A general linear regression model (GLM) was used to show the interaction effect of student type on gambling severity and student social wellbeing. Illustrations are as shown in Table 4.47.

Table 4. 47: Student Type Interaction on Gambling Severity and Social Wellbeing

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	12.707a	3	4.236	14.407	0.000
Intercept	5.983	1	5.983	20.349	0.000
v.S1.6 * problem Gambling	12.707	3	4.236	14.407	0.000
a R Squared = .156 (Adjusted R Squared = .146)					

The results reveal that the interaction effect of student type on the relationship between gambling severity and student athletes' social wellbeing had an F-value of 14.407. The student type interaction effect was significant (P>0.0001). The R Squared value was 0.156 (with student type interaction) which is lower than 0.161 (without interaction). This implies that student type has a weak significant influence on gambling severity and social wellbeing relationship.

A general linear regression model (GLM) was used to show interaction effect of betting family members between gambling severity and student athletes' social wellbeing. Findings are as shown on Table 4.48.

Table 4. 48: Betting Family Member Interaction on Gambling Severity and Social Wellbeing

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	17.327a	5	3.465	12.621	0.000
Intercept	6.53	1	6.53	23.784	0.000
v.S1.7 * problem Gambling	17.327	5	3.465	12.621	0.000
a R Squared = .215 (Adjusted R Squared = .198)					

The results show that the interaction effect of betting family members on the relationship between gambling severity and student athletes' social wellbeing had an F-value of 12.621. The betting family member interaction effect was significant (P > 0.0001). The R Squared value was 0.215 (with betting family member interaction), which is greater than 0.161 (without interaction). This implies that a betting family member has a significant influence on gambling severity and social wellbeing.

A general linear regression model (GLM) was used to show the interaction effect of the type of game/sports on the severity of gambling and the athletes' social wellbeing. Findings are as shown in Table 4.49.

Table 4. 49: Type of Game Interaction on Gambling Severity and Social Wellbeing

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	16.996a	17	1	3.407	0.000
Intercept	5.756	1	5.756	19.615	0.000
v.S1.8a * v.S1.8b * v.S1.8c * v.S1.8d * v.S1.8e * v.S1.8f * v.S1.8g * problem Gambling	16.996	17	1	3.407	0.000
a R Squared = .208 (Adjusted R Squared = .147)					

The results show that the interaction effect of type of game on the relationship between gambling severity and student athletes ' social wellbeing had an F-value of

3.407. The game type interaction effect was significant (P>0.0001). The R Squared value was 0.208 (with betting family member interaction) which is greater than 0.161 (without interaction). This implies that betting game type has a significant influence on gambling severity and social wellbeing relationship.

4.7 Effect of Online Sports Betting on the Mental Health Wellbeing of Students

The research looked at the impact of digital sports gambling on students' mental health. The association between digital sports gambling and mental wellness indicators was investigated using correlation and regression analysis. The interplay of respondents' characteristics on the association between digital sports gambling and mental wellness was tested using general linear modelling.

4.7.1 Reliability of mental health wellbeing of students

The reliability test for mental health wellbeing was captured in table 4.50.

Table 4. 50: Reliability - Mental Wellbeing

Variables	Cronbach's Alpha	Number of Items
Mental wellbeing	0.759	5

The results reveal that the five items assessing mental wellbeing had a Cronbach alpha of 0.759, which was reliable. This implies that the statements on mental health wellbeing factor are adequate and consistent for analysis in this study. The data collected based on the statements on mental health wellbeing is reliable

4.7.2 Validity of Mental Health Wellbeing of Students

Validity is the degree by which the sample of test items represents the content the test is designed to measure. A validity test was conducted in KMO and Bartlett's Test of Sphericity measures. This is used to determine whether the research instrument

actually measures what it anticipated to measure. Table 4.51 shows the KMO and Bartlett's Test for Mental wellbeing.

Table 4. 51: KMO and Bartlett's for Mental Wellbeing

Kaiser -Meyer -Olkin Measure of Sampling Adequacy.		0.62
Bartlett's Test of Sphericity	Approx. Chi-Square	128.752
	Df	10
	Sig.	0.000

The findings reveal a KMO statistic of 0.62, which was significant. Bartlett's Test of Sphericity was significantly high (Chi-Square=128.752 with 10 degrees of freedom, at $p<0.05$). Therefore, justification for further statistical analysis to be conducted. This implies that the sample data collected is adequate for making conclusion and findings based on the analysis of the data. The data results are further reliable.

4.7.3 Communalities of Mental Health Wellbeing of Students

Factor analysis was carried out on measurement items regarding mental health wellbeing. In order to be deemed relevant and adequate, the factor should have a rotational factor loading of at minimum |0.4| (+. 4 or –. 4) onto each of the components.

Table 4. 52: Communalities - Mental Wellbeing

	Initial	Extraction
Have you ever heard of a friend intending to commit suicide due to online sports betting outcomes?	1	0.775
Are you aware of any comrade who committed suicide due to online sports betting?	1	0.664
How often have you felt unhappy after online sports betting attempts?	1	0.47
Have you ever suffered from headaches and affected your sleep after a loss or win on online sports betting?	1	0.412
How often have you been anxious or worried of the online sports bet outcome?	1	0.655

The findings reveal that the factor communalities loadings were between 0.412 and 0.775 and therefore the communalities were above 0.4. This implies that the statements of mental health wellbeing factor have diverse measurement aspects. Therefore, all the statements are useful in assessing mental health factor and are useful for the study. The findings on factor communalities loadings also reveal that the factor items are relevant for application in the inferential analysis in this study.

4.7.4 Descriptive statistics on mental health wellbeing of students

Descriptive analysis was done on the data collected and presented in the form of mean and standard deviation values. The research analysed mental wellbeing due to gambling in form of suicide mission after betting, emotional effects after losing, health effects after winning or losing and anxiousness on betting practices. All this is Illustrated in Table 4.53.

Table 4. 53 Descriptive Results- Mental Wellbeing

	Mean	**Std. Dev**
Have you ever heard of a friend intending to commit suicide due to online sports betting outcomes?	0.7912	1.03451
Are you aware of any comrade who committed suicide due to online sports betting?	1.2198	0.87618
How often have you felt unhappy after online sports betting attempts?	1.5778	0.98665
Have you ever suffered from headaches and affected your sleep after a loss or win on online sports betting?	1.6434	1.09073
How often have you been anxious or worried of the online sports bet outcome?	1.8897	1.09795

Most respondents indicated that sometimes they have heard of a friend intending to commit suicide due to online sports betting outcomes, with a mean of 0.79± 1.03. The majority indicated that sometimes they are aware of some friends who committed

suicide due to online sports betting, as per the response mean of 1.21± 0.87. Blaszczynski and MacCallum (2003) noted that the rates of suicide and online sports betting had increased, and indicated greater rates of suicidal thoughts and attempts.

The respondents indicated most times they had felt unhappy after online sports betting attempts with a response mean of 1.57± 0.98. Warfield (2008) noted that brothers and sisters of student athletes who are gambling addicts tend to fail in school, some get unhappy and have issues with the use of drugs. The mean of 1.64± 1.09 reveals that most of the time they suffered from headaches and disturbed sleep after a loss or win in online sports betting. The respondents have been anxious or worried about the outcome of the online sports betting bet, as shown by the response mean of 1.88± 1.09. McGrath and Barrett (2009) noted that the frequency of depressive symptoms among student-athletes was coupled with depression, fatigue and sleep disruption.

The findings from the interviews conducted reveal that there is a correlation between online sports betting and alcohol and substance abuse. It was revealed that in the instances of alcohol abuse, student-athletes were more influenced to engage in online sports betting. According to Gupta, and Derevensky (2000), those who are addicted to alcohol drinking and those who are problem gamblers have a lot in common.

4.7.5 Diagnostic Tests: Normality Test Between Gambling Severity and Mental Health Wellbeing

Normality is essential when it comes to knowing the distribution form and helps to predict the reliable variables (Gel, Miao & Gastwirth 2009). Normality in parametric experiments is a critical feature. The normality assumption avers that residuals are normally distributed and have a mean of zero.

Table 4. 54 Normality test

	Kolmogorov-Sirona			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Mental wellbeing	0.083	266	0.000	0.986	266	0.009

The results in Table 4.54 showed that the factor's significant value was lower than 0.05 which imply that the data is normally distributed.

4.7.6 Diagnostic Tests: Linearity Test Between Gambling Severity and Mental Health Wellbeing

The linearity assumption was tested using linear regression. The linear regression tested the linearity of the data and the significance; if the test is significant, then the data is linear. Table 4.55 shows the results.

Table 4. 55: Linearity Test

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Regression	15.074	1	15.074	49.659	.000b
Residual	74.368	245	0.304		
Total	89.442	246			

From the Table 4.55 above, the linear regression test gave a $P>0.0001$ which implies that the data is significant, and therefore the assumption of linearity is met. This implies that the data can be used to test the linear relationship between gambling severity and mental health wellbeing aspects.

4.7.7 Diagnostic Tests; Heteroscedasticity Test Between Gambling Severity and Mental Health Wellbeing

When the amount of the error term varies across variations of an independent variable, heteroscedasticity is prevalent (Gastwirth, Gel & Miao 2009). In order to determine

group-wise heteroscedasticity in the residuals, the Breuschy-Pagan Test was used to test heteroscedasticity in this research.

Table 4. 56: Heteroscedasticity Test

Breach-Pagan Test (heteroscedasticity)	
chi2(1)	0.423
Prob > chi2	0.127

Since the p-value is 0.127 and is more significant than 0.05 we fail to reject the null hypothesis and reject the alternative hypothesis. Hence, there was no heteroscedasticity. This implies that the data has minimal errors and thus there is accuracy in results of the analysis. Further, the condition of no heteroscedasticity ensures that there is un-biasness and consistency in the regression analysis predictions.

4.7.8 Correlation Between Gambling Severity and Mental Health Wellbeing

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 4. 57: Correlation Between Gambling Severity and Mental Wellbeing

		Problem Gambling	Mental health
problem Gambling	Pearson Correlation	1	.711**
	Sig. (2-tailed)		0.000
	N	254	247

The results show that there was a positive and significant association between gambling severity and poor mental health wellbeing (r = 0.711, P>0.0001). This suggests that gambling severity characteristics have had an effect on learners' mental health. This correlation coefficient ranged from 0.7 to 0.8, showing a strong positive

link as a factor affecting learners' mental health. Students who engage in sports gambling on a regular basis are more likely to have a negative impact on their mental wellbeing. This suggests that gambling's severity aspects have contributed to mental health problems. Barnes, Welte, Hoffman and Tidwell (2010) found that compulsive gamblers are at a higher risk of mental illness, including headaches, insomnia, stress, anxiety, depression, suicide ideation, alcohol and substance use.

4.7.9 Regression Analysis between Gambling Severity and Mental Health Wellbeing

The regression analysis model was done and results were presented in Table 4.58.

Table 4. 58: Model summary- Gambling Severity and mental wellbeing

R	R Square	Adjusted R Square	Std. Error of the Estimate
.411a	0.169	0.165	0.55095

The findings demonstrate the predictive model's fitness. 0.169 was the R square value. This indicates that the intensity of gambling accounts for 16.9% of students' mental health problems. This also means that other factors not included in the model account for 83.1 percent of the variance in students' mental health. According to Crutcher (2015), the concern about perceived mental health for student-athletes is evident; an investigation of perceived stress on wellbeing and interpersonal interaction conducted at Michigan States University clearly indicated this.

Table 4.59 shows the ANOVA model analysis of the relationship. ANOVA is used to test the significance of the model.

Table 4. 59: ANOVA - Gambling Severity and Mental Wellbeing

	Sum of Squares	df	Mean Square	F	Sig.
Regression	15.074	1	15.074	49.659	.000b
Residual	74.368	245	0.304		
Total	89.442	246			

The ANOVA results indicated that the model was statistically significant. This was supported by an F statistic of 49.659 and a reported p value (0.000), which was less than the traditional significance threshold of 0.05. The findings suggest that the degree of gambling is a significant predictor of students' poor mental health. As a result of the intensity of gambling, mental health problems have resulted. Research carried out by Korros (2016) in Kenya, examined the influence of online betting on Kenya University students' behaviour and found that the chance of losing bets may increase reasonable alcohol drinking. Gambling harms include alcohol misuse and substance abuse. One indicator of alcohol misuse is binge drinking, which is the consumption of more than five bottles of alcohol in a session.

Table 4.60 shows the coefficients of regression. Regression Coefficients shows the prediction strength of gambling severity in predicting mental wellbeing.

Table 4. 60: Regression Coefficients -Gambling Severity and Mental Wellbeing

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.548	0.131		4.183	0.000
Problem Gambling	0.576	0.082	0.411	7.047	0.000

The findings of the regression of factors demonstrated that individuals' gambling intensity and low mental wellbeing are linked and; are positively and significantly

related (β =0.576, P>0.0001). This implies that a unit increase in gambling severity would deteriorate students' mental wellbeing by 0.576. Therefore;

Poor Mental wellbeing = 0.548 + 0.576(gambling severity) + *e*

4.7.10 Interaction Effect of Demographic Factors on the Relationship between Gambling Severity and Mental Health Wellbeing of Student Athletes

To test the hypothesis, the interaction effect of demographic factors on the relationship between gambling severity and students' mental wellbeing was assessed and findings presented using generalized linear regression modelling. Interaction effect is useful to determine whether the demographic factors are a consideration in the relationship between the variables.

Table 4. 61: Hypothesis Testing of Gambling Severity and Mental Wellbeing with Interaction

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	35.792a	109	0.328	1.668	0.012
Intercept	2.738	1	2.738	13.906	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	35.792	109	0.328	1.668	0.012
a R Squared = .731 (Adjusted R Squared = .293)					

The interaction impact of demographic characteristics on the connection between gambling severity and student athletes' mental wellness had an F-value of 1.668, according to the data. The value of R squared was 0.731 (with demographic variables interaction), which is higher than 0.169 (without interaction). The interaction impact of demographic variables was significant (p-value = 0.012). As a result, the null hypothesis must be rejected. This suggests that demographic characteristics have a

strong interaction impact on the connection between gambling intensity and mental well-being. In addition, Welte, Barnes, Wieczorek, Tidwell and Parker

(2011) discovered that demographic characteristics such as age and gender predicted problem gambling in both cohorts. According to the research, after the age of 21, gambling issues were shown to be much more common than alcoholism.

A general linear regression model was used to show the interaction effect of gender on gambling severity and student athletes' mental wellbeing. Illustrations are as shown in Table 4.62.

Table 4. 62: Gender Interaction on Gambling Severity and Mental Wellbeing

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	15.112a	2	7.556	24.722	0.000
Intercept	5.217	1	5.217	17.068	0.000
v.S1.1 * problem Gambling	15.112	2	7.556	24.722	0.000
a R Squared = .169 (Adjusted R Squared = .162)					

The findings reveal that the interaction effect of gender on the relationship between gambling severity and student athletes' mental wellbeing had an F-value of 24.722. The gender interaction effect was significant (P>0.0001). The R Squared value was 0.169 (with gender interaction), which is equal to 0.169 (without interaction). This implies that gender has a significant influence on gambling severity and mental well-being in relationships.

A general linear regression model was used to show the interaction effect of student age on gambling severity and student mental wellbeing. Findings are as shown in Table 4.63.

Table 4. 63: Age Interaction on Gambling Severity and Mental Wellbeing

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	14.017a	4	3.504	15.952	0.000
Intercept	4.103	1	4.103	18.677	0.000
v.S1.2 * problem Gambling	14.017	4	3.504	15.952	0.000
a R Squared = .249 (Adjusted R Squared = .234)					

The findings reveal that the interaction effect of student age on the relationship between gambling severity and student athletes' mental wellbeing had an F-value of 15.952. The student age interaction effect was significant (P>0.0001). The R Squared value was 0.249 (with student age interaction), which is greater than 0.169 (without interaction). This implies that the age of the student has a significant impact on the severity of gambling and mental well-being.

A general linear regression model was used to show the interaction effect of student category on gambling severity and student mental wellbeing. Findings are as shown in Table 4.64.

Table 4. 64: Student Category Interaction on Gambling Severity and Mental Wellbeing

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	16.150a	3	5.383	18.052	0.000
Intercept	6.218	1	6.218	20.853	0.000
v.S1.3 * problem Gambling	16.15	3	5.383	18.052	0.000
a R Squared = .187 (Adjusted R Squared = .177)					

The findings reveal that the interaction effect of student category on the relationship between gambling severity and student athletes' mental wellbeing had an F-value of 18.052. The student category interaction effect was significant (P>0.0001). The R Squared value was 0.187 (with student category interaction) which is greater than 0.169 (without interaction). This implies that student category has a significant influence on gambling severity and mental wellbeing relationship.

General linear regression model was used to show the interaction effect of student year of study between gambling severity and student athletes' mental wellbeing. Findings are as shown in Table 4.65.

Table 4. 65: Year of Study Interaction on Gambling Severity and Mental Wellbeing

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	17.793a	4	4.448	15.014	0.000
Intercept	5.287	1	5.287	17.846	0.000
v.S1.4 * Problem Gambling	17.793	4	4.448	15.014	0.000
a R Squared = .206 (Adjusted R Squared = .192)					

The findings reveal that the interaction effect of a student year of study on the relationship between gambling severity and a student athlete's mental wellbeing had an F-value of 15.014. The student year of study interaction effect was significant (P>0.0001). The R Squared value was 0.206 (with student year of study interaction) greater than 0.169 (without interaction). This implies that a student's year of study has a significant influence on gambling severity and mental well-being.

A general linear regression model was used to show the interaction effect of university category on gambling severity and the mental wellbeing of student athletes. Findings are as shown in Table 4.66.

Table 4. 66: University Category Interaction on Gambling Severity and Mental Wellbeing

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	15.245a	5	3.049	10.118	0.000
Intercept	5.553	1	5.553	18.426	0.000
v.S1.5 * problem Gambling	15.245	5	3.049	10.118	0.000
a R Squared = .175 (Adjusted R Squared = .158)					

The findings reveal that the interaction effect of the category of university on the relationship between gambling and mental well-being of student athletes had an F-value of 10.118. The category of university interaction effect was significant (P > 0.0001). The R Squared value was 0.175 (with the category of university interaction), which is greater than 0.169 (without interaction). This implies that the category of university has a significant influence on gambling severity and mental well-being.

A general linear regression model was used to show the interaction effect of student type between gambling severity and the mental wellbeing of student athletes. Findings are as shown in Table 4.67.

Table 4. 67: Student Type Interaction on Gambling Severity and Mental Wellbeing

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	16.257a	3	5.419	17.865	0.000
Intercept	4.027	1	4.027	13.275	0.000
v.S1.6 * problem Gambling	16.257	3	5.419	17.865	0.000
a R Squared = .182 (Adjusted R Squared = .172)					

The findings reveal that the interaction effect of student type on the relationship between gambling and mental well-being of student athletes had an F-value of 10.118. The student type interaction effect was significant (P>0.0001). The R Squared value was 0.175 (with student type interaction), which is greater than 0.169 (without interaction). This implies that student type has a significant influence on gambling severity and mental wellbeing relationships.

A general linear regression model was used to show the interaction effect of betting family members on the gambling severity and mental wellbeing of student athletes. Findings are as shown in Table 4.68.

Table 4. 68: Betting Family Member Interaction on Gambling Severity and Mental Wellbeing

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	15.489a	5	3.098	10.273	0.000
Intercept	5.369	1	5.369	17.804	0.000
v.S1.7 * problem Gambling	15.489	5	3.098	10.273	0.000
a R Squared = .178 (Adjusted R Squared = .160)					

The findings reveal that the interaction effect of betting family members on the relationship between student-athletes and gambling severity had an F-value of 10.273. The betting family member interaction effect was significant (P > 0.0001). The R Squared value was 0.178 (with betting family member interaction), which is greater than 0.169 (without interaction). This implies that a betting family member has a significant influence on gambling severity and mental wellbeing. General linear regression model was used to show interaction effect of type of game/sports between

gambling severity and student athletes ' mental wellbeing. Findings are as shown in Table 4.69.

Table 4. 69: Type of Game Interaction on Gambling Severity and Mental Wellbeing

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	18.811a	18	1.045	3.373	0.000
Intercept	4.983	1	4.983	16.084	0.000
v.S1.8a * v.S1.8b * v.S1.8c * v.S1.8d * v.S1.8e * v.S1.8f * v.S1.8g * problem Gambling	18.811	18	1.045	3.373	0.000
a R Squared = .210 (Adjusted R Squared = .148)					

The findings reveal that the interaction effect of the type of game/sport on the relationship between gambling severity and student-athletes' mental wellbeing had an F-value of 3.373. The type of game/sports interaction effect was significant (P > 0.0001). The value of R-square was 0.210 (with type of game/sports interaction), which was higher than 0.169 (without interaction).This implies that the type of game/sport has a significant influence on gambling severity and mental wellbeing.

4.8 Effect of online sports betting on the academic performance of students

The report looked at the impact of internet online gambling on student academic achievement. The association between online sports betting and academic performance indicators was investigated using correlation and regression analysis. The association of respondents' characteristics with the relationships between online sports betting and academic achievement was tested using general linear modelling.

4.8.1 Reliability of Academic Performance of Students

The reliability test for academic performance was illustrated in table 4.70.

Table 4. 70: Reliability - Academic Performance

Variables	Cronbach's Alpha	Number of Items
Academic performance	0.735	5

The findings reveal that the 5 items assessing academic performance had a Cronbach alpha of 0.735 which was reliable. This implies that the statements on academic performance factor are adequate and consistent for analysis in this study. The data collected based on the statements on academic performance is reliable.

4.8.2 Validity of Academic Performance of Students

Validity is measured by the degree to which the sample of test items represents the content that the test is designed to measure. A validity test was conducted on KMO and Bartlett's tests of sphericity. It is used to determine whether the research instrument actually measures what it was anticipated to measure. Table 4.71 shows the KMO and Bartlett's Test for Academic Performance.

Table 4. 71: KMO and Bartlett's for Academic Performance

Kaiser -Meyer -Olkin Measure of Sampling Adequacy.		0.702
Bartlett's Test of Sphericity	Approx. Chi-Square	153.613
	Df	10
	Sig.	0.000

Table 4.71 shows a KMO statistic of 0.702 which was significant; that is greater than the critical level of significance of the test set at 0.5. The Bartlett's Test of Sphericity was significantly high (Chi-Square=153.613 with 10 degrees of freedom, at $p<0.05$). This implies that the sample data collected is adequate for making conclusion and findings based on the analysis of the data. The data results are further reliable.

4.8.3 Communalities of Academic Performance of Students

Factor analysis was conducted on statements regarding Academic performance. In order to be deemed relevant and adequate, the factor should have a rotational factor loading of at minimum |0.4| (+. 4 or –. 4) onto each of the components. This is captured in Table 4.72.

Table 4. 72: Communalities - Academic Performance

	Initial	Extraction
Have you ever intended to bounce or absented yourself from lectures due to online sports betting?	1	0.501
Have you ever spent more time than you intended on online sports betting?	1	0.496
Have you ever intended to drop out from campus at any one-time due to online sports betting?	1	0.491
Are you aware of any student who scored low grades than he/she intended due to online sports betting?	1	0.468
How often have you ever intended to attend lectures late due to online sports betting?	1	0.499

The findings reveal that the factor communalities loadings were between 0.468 and 0.501 and therefore the communalities were above 0.4. This implies that the statements of academic performance factor have diverse measurement aspects. Therefore, all the statements are useful in assessing academic performance factor and are useful for the study. The findings on factor communalities loadings also reveal that the factor items are relevant for application in the inferential analysis in this study.

4.8.4 Descriptive Statistics on Academic Performance of Students

A descriptive analysis was conducted on the data collected and presented in the form of mean and standard deviation values. The research analysed academic performance due to gambling in the form of school and class attendance after betting, time spent on

betting, education stoppage due to betting, and grade score influences due to betting. This is illustrated in Table 4.73.

Table 4. 73: Descriptive Results- Academic Performance

	Mean	Std. Dev
Have you ever intended to bounce or absented yourself from lectures due to online sports betting?	0.8059	1.03737
Have you ever spent more time than you intended on online sports betting?	1.476	0.95761
Have you ever intended to drop out from campus at any one-time due to online sports betting?	1.2177	1.04377
Are you aware of any student who scored low grades than he/she intended due to online sports betting?	1.5735	1.06006
How often have you ever intended to attend lectures late due to online sports betting?	1.7059	1.13721

The majority of participants said that they were times they have intended to bounce or absented themselves from lectures due to online sports betting, with a mean of 0.80± 1.03. The majority of participants said that sometimes they have spent more time than they intended on online sports betting as per response mean of 1.47± 0.95. Participants said that they wanted to drop out on occasion from campus at any one time due to online sports betting of 1.21± 1.04. The mean of 1.57± 1.06 reveals that most times they were aware of some students who scored low grades than they intended due to online sports betting. The respondents often have intended to attend lectures late due to online sports betting, as shown by the response mean of 1.70± 1.13. Williams and Volberg (2010) had carried out a student population survey in Finland and indicated that they had experienced study harm leading to reduced study performance, as a result of lateness to study, using study time to bet, using study resources to bet, absence from classes and lack of progression in study.

4.8.5 Diagnostic Tests: Normality Test between Gambling Severity and Academic Performance

Normality is essential when it comes to knowing the distribution form and helps to predict the reliable variables (Gel, Miao & Gastwirth 2009). Normality in parametric experiments is a critical feature. The normality assumption avers that residuals are normally distributed and have a mean of zero.

Table 4. 74: Normality test

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Academic performance	0.09	266	0.000	0.971	266	0.000

The results in Table 4.74 showed that the factor's significant value was lower than 0.05 which imply that the data is normally distributed.

4.8.6 Diagnostic Tests: Linearity Test between Gambling Severity and Academic Performance

The linearity assumption was tested using linear regression. The linear regression tested the linearity of the data and the significance; if the test is significant, then the data is linear. Table 4.75 shows the results.

Table 4. 75: Linearity Test

	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			

From the Table 4.75 above, the linear regression test gave a $P>0.0001$ which implies that the data is significant, and therefore the assumption of linearity is met. This

implies that the data can be used to test the linear relationship between gambling severity and academic performance aspects.

4.8.7 Diagnostic Tests: Heteroscedasticity Test between Gambling Severity and Academic Performance

When the amount of the error term varies across variations of an independent variable, heteroscedasticity is prevalent (Gastwirth, Gel & Miao 2009). In order to determine group-wise heteroscedasticity in the residuals, the Breusch Pagan test was used to test heteroscedasticity in this research.

Table 4. 76: Heteroscedasticity test

Breusch-Pagan Test (heteroscedasticity)	
chi2(1)	1.12
Prob > chi2	0.0932

Since the p-value is 0.0932 and is more significant than 0.05 we fail to reject the null hypothesis and reject the alternative hypothesis. Hence, there was no heteroscedasticity. This implies that the data has minimal errors and thus there is accuracy in results of the analysis. Further, the condition of no heteroscedasticity ensures that there is un-biasness and consistency in the regression analysis predictions.

4.8.8 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 4. 77: Correlation - Gambling Severity and Academic Performance

		problem Gambling	Academic perf
problem Gambling	Pearson Correlation	1	.623**
	Sig. (2-tailed)		0.000
	N	254	248

The findings reveal 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.

4.8.9 Regression analysis between gambling severity and academic performance

The outcomes of the regression model assessment are provided in Table 4.78.

Table 4. 78: 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 demonstrate 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 4.80. ANOVA is used to test the significance of the model.

Table 4. 79: 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 4.80 shows the coefficients of regression. Regression Coefficients shows the prediction strength of gambling severity in predicting academic performance.

Table 4. 80: 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
problem Gambling	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 (β =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;

Poor Academic performance = 0.839 + 0.346(gambling severity) + *e*

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

The interaction 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 4. 81: Hypothesis Testing of Gambling Severity and Academic Performance with Interaction

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 show that the interaction impact of demographic variables is 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 0.840 (with demographic factors interaction) which is greater than 0. 05 (without interaction). The interaction impact of demographic variables was substantial (P>0.0001). As a result, the null hypothesis must be rejected. This suggests that demographic characteristics have a strong interaction impact on the connection between gambling intensity and academic success. Similarly, Welte et al., (2011) indicated that the there is a connection between gambling addiction and individual socioeconomic background. The prevalence of problem gambling were greater compared to intermediate or higher classes in lower categories SES.

General linear regression model was used to show interaction effect of gender between gambling severity and academic performance of student athletes. Illustrations are as shown in Table 4.82.

Table 4. 82: Gender interaction on gambling severity and academic performance

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	13.812a	2	6.906	17.846	0.000
Intercept	10.653	1	10.653	27.529	0.000
v.S1.1 * problem Gambling	13.812	2	6.906	17.846	0.000
a R Squared = .128 (Adjusted R Squared = .120)					

The results show that the interaction effect of gender on the relationship between gambling severity and academic performance of student athletes had an F-value of 17.846. The gender interaction effect was significant (P>0.0001). The R Squared value was 0.128 (with gender interaction) which is greater than 0.05 (without

interaction). This implies that gender has a significant interaction effect on gambling severity and academic performance relationship.

General linear regression model was used to show interaction effect of student age between gambling severity and academic performance of student athletes. Illustrations are as shown in Table 4.83.

Table 4. 83: Age Interaction on Gambling Severity and Academic Performance

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	11.743a	4	2.936	8.34	0.000
Intercept	7.312	1	7.312	20.772	0.000
v.S1.2 * problem Gambling	11.743	4	2.936	8.34	0.000
a R Squared = .148 (Adjusted R Squared = .130)					

The results show that the interaction effect of student age on the relationship between gambling severity and academic performance of student athletes had an F-value of 8.34. The student age interaction effect was significant (P>0.0001). The R Squared value was 0.148 (with student age interaction) which is greater than 0.05 (without interaction). This implies that student age has a significant interaction effect on gambling severity and academic performance relationship.

General linear regression model was used to show interaction effect of student category between gambling severity and academic performance of student athletes. Illustrations are as shown on Table 4.84.

Table 4. 84: Student Category Interaction on Gambling Severity and Academic Performance

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	7.699a	3	2.566	6.374	0.000
Intercept	12.162	1	12.162	30.206	0.000
v.S1.3 * problem Gambling	7.699	3	2.566	6.374	0.000
a R Squared = .075 (Adjusted R Squared = .063)					

The results show that the interaction effect of student category on the relationship between gambling severity and academic performance of student athletes had an F-value of 6.374. The student category interaction effect was significant (P>0.0001). The R Squared value was 0.075 (with student category interaction) which is greater than 0.05 (without interaction). This implies that student category has a significant interaction effect on gambling severity and academic performance relationship.

General linear regression model was used to show interaction effect of category of university between gambling severity and academic performance of student athletes. Findings are as shown in Table 4.85.

Table 4. 85: Category of University Interaction on Gambling Severity and Academic Performance

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	13.553a	5	2.711	6.967	0.000
Intercept	15.347	1	15.347	39.448	0.000
v.S1.5 * problem Gambling	13.553	5	2.711	6.967	0.000
a R Squared = .127 (Adjusted R Squared = .109)					

The results show that the interaction effect of category of the university on the relationship between gambling severity and academic performance of student athletes had an F-value of 10.298. The category of university interaction effect was significant

(P>0.0001). The R Squared value was 0.150 (with category of university interaction) which is greater than 0.05 (without interaction). This implies that category of university has a significant interaction effect on gambling severity and academic performance relationship.

General linear regression model (GLM) was used to show interaction effect of student type between gambling severity and academic performance of student athletes. Findings are as shown in Table 4.86.

Table 4. 86: Student Type Interaction on Gambling Severity and Academic Performance

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	5.754a	3	1.918	4.54	0.004
Intercept	11.306	1	11.306	26.759	0
v.S1.6 * problem Gambling	5.754	3	1.918	4.54	0.004
a R Squared = .053 (Adjusted R Squared = .042)					

The results show that the interaction effect of student type on the relationship between gambling severity and academic performance of student athletes had an F-value of 4.54. The student type interaction effect was significant (P>0.0001). The R Squared value was 0.053 (with student type interaction) which is greater than 0.05 (without interaction). This implies that student type has a significant interaction effect on gambling severity and academic performance relationship.

General linear regression model (GLM) was used to show interaction effect of betting family member between gambling severity and academic performance of student athletes. Findings are as shown in Table 4.87.

Table 4. 87: Betting Family Member Interaction on Gambling Severity and Academic Performance

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	15.541a	5	3.108	8.171	0.000
Intercept	10.549	1	10.549	27.732	0.000
v.S1.7 * problem Gambling	15.541	5	3.108	8.171	0.000
a R Squared = .146 (Adjusted R Squared = .128)					

The results show that the interaction effect of betting family member on the relationship between gambling severity and academic performance of student athletes had an F-value of 8.171. The betting family member interaction effect was significant (P>0.0001). The R Squared value was 0.146 (with betting family member interaction) which is greater than 0.05 (without interaction). This implies that betting family member has a significant interaction effect on gambling severity and academic performance relationship.

General linear regression model (GLM) was used to show interaction effect of type of game/sports between gambling severity and academic performance of student athletes. Findings are as shown in Table 4.88.

Table 4. 88: Type of game interaction on gambling severity and academic performance

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	15.522a	18	0.862	2.13	0.006
Intercept	9.585	1	9.585	23.675	0
v.S1.8a * v.S1.8b * v.S1.8c * v.S1.8d * v.S1.8e * v.S1.8f * v.S1.8g * problem Gambling	15.522	18	0.862	2.13	0.006
a R Squared = .143 (Adjusted R Squared = .076)					

The results show that the interaction effect of type of game/sports on the relationship between gambling severity and academic performance of student athletes had an F-value of 2.13. The type of game/sports interaction effect was significant (P>0.0001). The R Squared value was 0.143 (with type of game/sports interaction) which is greater than 0.05 (without interaction). This implies that type of game/sports has a significant interaction effect on gambling severity and academic performance relationship.

4.8 Overall hypothesis table

Table 4. 89: Summary of Hypotheses

Alternative Hypothesis	t-Calculated	P value	Conclusion
H_{a1}: There are significant effects of interaction between extend of online sports betting and the demographic variables on the perceived economic consequences of student- athletes.	2.167	0.000	The alternative hypothesis was not rejected indicating there is significant interaction between extend of online sports betting and the demographic variables on the perceived economic consequences of student- athletes. This was because the p value was less than 0.05
H_{a2}: There are significant effects of interaction between extend of online sports betting and the demographic variables on the perceived social consequences of student- athletes.	2.654	0.000	The alternative hypothesis was not rejected indicating there is significant interaction between extend of online sports betting and the demographic variables on the perceived social consequences of student- athletes. This was because the p value was less than 0.05
H_{a3}: There are significant effects of interaction between extend of online sports betting and the demographic variables on the perceived mental health consequences of student- athletes.	1.668	0.000	The alternative hypothesis was not rejected indicating there is significant interaction between extend of online sports betting and the demographic variables on the perceived mental health consequences of student- athletes. This was because the p value was less than 0.05
H_{a4}: There are significant effects of interaction between extend of online sports betting and the demographic variables on the perceived academic performance of student- athletes.	3.07	0.000	The alternative hypothesis was not rejected indicating there is significant interaction between extend of online sports betting and the demographic variables on the perceived academic performance of student- athletes. This was because the p value was less than 0.05

4.9 Discussions

The discussion based on the objectives is presented below.

4.9.1 Economic wellbeing

This study assessed the athletes' and sports officers' perceptions of the effect of online sports betting on universities in Kenya. Online sports' betting is becoming more accepted within society and within university settings, where it is becoming a culture among students. According to the findings, there is a substantial interaction between the level of online sports gambling and demographic characteristics and student-athletes' reported economic wellbeing. This implies that the demographic background of a student has an effect on the sports betting practices and thus the economic wellbeing thereof. Griffith, Wood, Parke, and Parke (2007) noted that students' engagement in the game of chasing their loss is high. This behaviour does not deter betting, but rather fuels it, resulting in accrued debt. It has been reported that financial losses are a crucial feature of online betting, which leads to reduced savings, credit issues, debt, missed payments. MacDonald, McMullan and Perrier (2004) indicated that the likelihood of suffering from debt is one of the greatest known consequences of online sports betting. According to the findings, students place significant wagers on sports online to receive a surge of excitement. Sports betting may lead to expenditures, which can disturb family life to the point where it has social consequences, such as family break-up, and in its latter stages, the only possible line of action is to consider suicide or complete the ideation. The study revealed that students are most often aware of financial problems caused by online sports betting for their colleagues or households. Students have often gambled on other days to try to win back the money they previously lost. Stuhldreher, Stuhldreher and Forrest (2007) study noted the predictability that problem gamblers in treatment or rehabilitation have high rates of accrued debt. Financial losses bring relationship breakdowns, among other stressors.

4.9.2 Social wellbeing

According to the findings, there is a substantial relationship between the level of online sports gambling and demographic factors and student-athletes' subjective community wellbeing. Students anticipate to consume alcohol after wins and losses online sports betting, according to the data. This is despite friend or family members' advise to cease betting online, they also miss training sessions to bet online. The study found that: social carelessness, disassociation from community and relatives, quarrels and extremism, addiction to gambling activities, financial crises based on online gambling, violence and corruption, as well as the time a player spends on internet sports wagering rather than with his or her significant others, are all consequences of sports gambling on the socioeconomic lifestyles of students. According to Paterson and Garrett (2010) a percentage of internet sports betting would resort to unlawful means to support their gambling addiction, which includes damage such as possible offences, penalties, jail, and the cancellation of a student-scholarship (Crofts, 2003). Seifried, Krenzelok, Turner and Brett (2009) indicated that they is a negative impact on various aspects of life, including scholastic achievement, social ties, healthcare, money, self-esteem, and prospective career chances. Domestic violence/conflict, as well as relationship break-ups, are the most serious societal consequences of internet betting (Dowling, Smith & Thomas, 2009).

4.9.3 Mental health wellbeing

The study revealed that students have heard of a friend intending to commit suicide due to online sports betting outcomes. Moreover, the study reveals that gamblers have felt unhappy after online sports betting attempts and regularly suffered from headaches and affected sleep after a loss or win on online sports betting. In the instances of alcohol abuse, the students are influenced more to engage in online sports betting.

According to Wolanin, Gross and Hong (2015) the rates of depression among university student-athletes ranged from 15.6 percent to 21%, as opposed to 17% among all university students. Suicide and suicide ideations and suicide attempts are said to be a common things among regular bettors more so when they experience depression since online sports bettors do bring in frustrations, anger and guilty feelings due to suffering huge losses (Parke, & Griffiths 2006). Furthermore, online sports gambling, like pharmaceuticals, tobacco-related goods, and alcohol, has been found to have a risk of addiction. Engwall, Hunter and Steinberg (2004) noted that the use of both alcohol and drugs has led to depression inventory and considered suicides thoughts.

4.9.4 Academic performance

The study revealed the intention of gambling students to be absent from lectures due to online sports betting. This is because they have spent more time than they intended on online sports betting. Moreover, the students intended to drop out from campus in some instances due to losses on online sports betting. Most times students are aware of some students who scored lower grades than they intended due to online sports betting. Academically student-athletes are expected to complete normal course work and their programme, however owing to their engagement in sports and entertainment betting, they often skip lessons or have less opportunity to finish coursework. According to Rumberger (2001) student-athletes who are alienated from sports and disengaged from school are much more likely to drop out. Bischof et al. (2015) revealed that university student-athletes experience problems with online sports betting. They have been regarded as having a negative impact on academic performance, engaging in communally isolating behaviours from peers, experiencing different aspects of social partnerships, and being at a higher risk of suicide ideation, all of which have a negative

impact on students' education department. Due to their engagement in sports and entertainment gambling, Apaak and Osei (2015) found that student-athletes are frequently forced to leave courses and have far less chance to finish class work. Further, Korros (2016) indicated that a proportion of 50% and 40% of the students very often and often lost time from school to bet online respectively another 40% and 30% often and very often thought of online betting while in school respectively thus affecting their academic concentration.

CHAPTER 5

SUMMARY CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter is organised in the following manner: the summary of the findings based on the themes of the objectives of the study, conclusions of the study and recommendations of the study. The chapter concludes by giving areas of further researchers.

5.2 Summary of Findings

The segment on the summary of results summarizes the results in relation to each of the research goals. The findings are based on data analytics findings such as model fitness, R2, F-statistic, and statistical significance to help accept or reject the null hypothesis, regression coefficients for each and every assertion of predictor variables, and the general moderated regression model.

The main objective of the study was to look at student-athletes' and sports officers' perceptions of the effect of online sports betting in universities in Kenya. The results are summarized in the following sections in accordance with the objectives.

5.2.1 Online sports betting and economic wellbeing of students

Objective one was aimed at determining the effects of interaction among extended online sports betting and demographic variables on the perceived economic well being of student- athletes. The results disclosed that there was a positive and significant association between gambling severity and economic wellbeing ($r = 0.600$, $P>0.0001$). This indicates that gambling severity factors have affected the economic wellbeing of student-athletes. The results on the fitness of the model of the regression model show

the coefficient of determination, that the R square was 0.25. This shows that gambling severity explains 25% of the economic wellbeing of student-athletes.

The ANOVA outcome showed that the model was statistically significant. This was supported by an F statistic of 78.526 and a stated p value (0.000) which was below the conventional probability level of 0.05 significance level. The results of the coefficient regression revealed that gambling severity and students' economic wellbeing are positively and significantly related (= 0.71, P > 0.0001).This indicated that a unit rise in gambling severity would result in a rise in the economic wellbeing of student-athletes by 0.711. The interaction effect of various demographic factors on the relationship between online betting severity and economic wellbeing of student athletes had an F-value of 2.167, where the R Squared value was 0.791 (with interaction), which is greater than 0.25 (without interaction). The demographic factors' interaction effect was significant (p-value = 0.001). This suggests that demographic factors have a significant interaction effect on the gambling severity and economic wellbeing of student-athletes.

The study discovered that student-athletes bet online with large amounts of money to get the feeling of enjoyment and satisfaction. Online sports betting leads to excess spending, which can unsettle home life to the extent that it has some social consequences, such as disconnect and break-up of families, and eventually the only deceptive course of action that remains is committing or thinking of committing suicide. According to one study, student-athletes are often aware of the financial ramifications of online sports betting for their peers or households. These student-athletes repeatedly bet on other days to chase back the money they previously lost. According to the report, the effects of online sports betting on student-athletes' social lives include disconnectedness from the community and peers, social negligence,

tensions and delinquency, and online sports betting preoccupations. Insolvencies caused by online betting, crime, and corruption, as well as the time spent by student-athletes participating in online betting rather than with their significant others. To fund their online betting obsession and fill the loss void, a small number of online bettors will turn to unlawful practices. For student-athletes, the consequences involve disciplinary prosecution, fines, imprisonment, and the loss of their education.

5.2.2 Online sports betting and social wellbeing of students

Objective two was to determine the interaction effect between the extent of online sports betting and the demographic variables on the alleged social consequences of student-athletes. The results indicated that there was a positive and significant relationship between gambling severity and social wellbeing ($r = 0.702$, $P > 0.0001$). This indicates that gambling severity features have affected the social wellbeing of student-athletes. The fitness of the model of the regression model confirmed that the R square value was 0.161. This was illustrated by the fact that gambling severity explains 16.1% of the social wellbeing of students. The ANOVA outcome showed that the model was statistically significant. This was further reinforced by an F statistic of 45.615 and a testified p-value of (0.000). The outcome implied that gambling severity is a noble predictor of the social wellbeing of student-athletes.

The results of the coefficient regression revealed that the severity of gambling and the social well-being of student-athletes are positively and significantly related ($\beta=0.544$, $P > 0.0001$).The F-value for the interaction of demographic factors on the association between gambling severity and social well-being of student athletes was 2.654. R Squared value was 0.810 (with interaction), which is greater than 0.161 (without interaction). The demographic factors' effect of interaction was significant ($P >$

0.0001). This suggests that demographic factors have a significant interaction effect on gambling severity and student-athlete social wellbeing relationships.

Conferring to the results, student-athletes have learnt of peers trying to commit suicide owing to the consequences of online sports betting. Moreover, the results demonstrated that online bettors were disappointed after online betting struggles and that exhaustion and lack of sleep were common after a win or loss in online sports betting. When student-athletes consume alcohol, they are more inclined to partake in online sports betting.

5.2.3 Online sports betting and mental wellbeing of students

The third objective was to determine the effects of the interaction between the extended of online sports betting and the demographic variables on the alleged mental health consequences of university-athletes. The outcome showed that there was a positive and significant association between gambling severity and mental wellbeing ($r = 0.711$, $P > 0.0001$). This indicates that gambling severity factors have affected the mental wellbeing of student-athletes. The fitness of the model of the regression model indicated that the R square value was 0.169. This showed that gambling severity explains 16.9% of the mental wellbeing of student-athletes. The ANOVA results showed that the model was statistically significant. This was supported by an F statistic of 49.659 and a testified p-value (0.000). The results indicate that gambling severity is a good predictor of the mental wellbeing of student-athletes. The results of the coefficient regression revealed that gambling severity and student mental wellbeing are positively and significantly related ($\beta = 0.576$, $P > 0.0001$).This indicates that a unit surge in gambling severity would lead to a surge in the mental wellbeing of student-athletes by 0.576. The findings revealed an F-value of 1.668 for the interaction effect

of demographic factors on the relationship among student-athletes. R Squared value was 0.731 (with interaction), which is greater than 0.169 (without interaction). The demographic factors' interaction effect was significant (p-value = 0.012). This implies that demographic factors have a significant interaction effect on gambling severity and mental wellbeing.

According to the results, students have learnt of a classmate having suicidal thoughts or even attempting to commit suicide as a result of the outcomes of online sports betting. Furthermore, the report demonstrated that online bettors were frustrated after online sports betting efforts and that headaches and inadequate sleep were common after a win or loss in online sports betting. When student-athletes consume alcohol, they are more likely to participate in online sports betting.

5.2.4 Online sports betting and academic performance of students

The fourth objective was aimed at determining the effects of the interaction between the extent of online sports betting and the demographic variables on the perceived academic performance of student-athletes. There was a positive and significant relationship between betting severity and academic performance ($r = 0.623$, $P>0.0001$). This indicates that betting severity factors have affected the academic performance of students. The fitness of the model of the regression model revealed an R square value of 0.05. This demonstrated that betting severity explains 5% of the academic performance of student-athletes. The ANOVA outcomes showed that the model was statistically significant. This was sustained by an F statistic of 12.907 and the stated p-value (0.000). The results of the coefficient regression show that betting severity and student academic performance are positively and significantly related ($\beta=0.346$, $P > 0.0001$).This infers that a unit rise in betting severity would lead to an upsurge in the academic performance of students by 0.346. The findings reveal that the interaction

effect of demographic factors on the relationship between gambling severity and academic performance of student-athletes had an F-value of 3.07. The R Squared need for consistence in the presentation of this term value was 0.840 (with interaction), which is greater than 0.05 (without interaction). The demographic features interaction effect was significant (P>0.0001). This implies that demographic characteristics have a significant interaction effect on the relationship between betting severity and academic performance.

The study showed that bettors intended to miss classes or skip out due to online sports betting since they had spent more time on online sports betting than they expected. Furthermore, owing to online sports betting, some learners threatened to drop out of school. Student-athletes are commonly aware of learners who earned lower grades than they expected as a result of online sports betting. Educationally, student-athletes are supposed to perform daily class work, but due to their interest in athletics and sports betting, they often skip classes or have less time to accomplish schoolwork.

5. 3 Conclusions of the Study

The interaction effect between the extension of online sports betting and the demographic variables on the perceived economic harm of student-athletes is significant. Monetary damage is a central feature of online sports betting, which leads to reduced reserves, indebtedness, credit issues, and missed payments. Sports betting leads to excessive spending and therefore, potentially those serious problem gamblers in treatment or rehabilitation have great rates of accumulated debt.

On the other hand, the effects of interaction among extending online sports betting and demographic variables on the perceived negative social consequences of student-athletes are significant. Occasionally, student-athletes anticipate using liquor after

losing or winning online sports bets. Besides, individuals can skip sports training sessions to bet online, notwithstanding the comrade or family member's advice to halt betting online. The influence of online sports betting on students' social lives includes social laxity, disentanglement from kinfolk and relationships, stiffness and violence, online betting malady, insolvencies related to online betting, wrongdoing and bribery, and the time athletes spend on online betting instead of spending time with their loved ones.

The interaction between extending online sports betting and demographic variables has a significant effect on student-athletes' perceived mental well-being. Suicide thoughts and attempted suicides have been revealed to be popular among frequent bettors, predominantly when they are strained since online sports bettors encounter frustrations, anger, and shame as a result of significant losses. Moreover, internet sports betting has been accredited to obsession in the same manner as drugs, tobacco-related materials, and alcohol have been.

The interaction between extending online sports betting and demographic variables has a significant effect on student-athletes' perceived academic performance to their participation in athletics and sports betting; student-athletes are expected to perform daily class work and complete their course, but they are often forced to play truant or have inadequate time to undertake schoolwork. Student-athletes do have problems with internet sports betting, which has been found to have an extensive variety of harmful consequences on academic performance. Students' intellectual focus is also harmed as a result of time spent away from school betting online.

5.4 Recommendations of the Study

Based on the finding, the study makes the following recommendations:

1. With sports betting becoming more accepted within society and within university settings and becoming a culture within student-athlete fraternities, there is a need for strategies to educate students on the harm as a result of addiction gambling on their social, economic, mental and academic progress through campaigns especially for students.
2. According to the findings, suicide and suicidal behaviour were found to be common among repeat internet bettors, particularly when they were stressed. Problem gamblers should be sent to therapy or rehabilitative programmes to help them control their urges to gamble on sports digitally. This is essential in order to prevent more serious effects like suicide or contemplated suicide.
3. Given the increased growth and development of online sports betting in Kenya, scholars should be involved in the creation of policies that promote responsible gambling while discouraging harmful online sports betting activities. Before licensing, all betting companies should undergo a thorough social cost analysis. Also, betting companies should adopt technology that allows users to set gambling limits, particularly for university students' athletes who represent Kenyan universities, to ensure they do not overspend or become addicted. Both public and private universities must develop betting policies that promote good mental health, such as regular mental health seminars and mental health screening and inventory.

5.5 Areas of Further Research

The study makes the following proposals for further research:

1. The purpose of the research was to examine student-athletes' effects on online sports betting in universities in Kenya. The research has established why students in universities need to lessen their involvement in online sports betting. The study, hence, proposes further research needs to be done on other possible influences likely to be as a result of sports betting online.

2. Government and university struggles to address betting-related offences tend to have a significant impact on student-athletes' betting activities prevention. Disordered gaming continues to be a challenge for both students and student-athletes, necessitating the need for more research on the most suitable precautionary and response measures to guard all parties involved as well as the dignity of athletics.

3. Mental health is a significant part of the students' life. The need to investigate further the relationships between online betting, mental health and possible solutions cannot be over emphasised.

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APPENDICES

APPENDIX A: QUESTIONNAIRE FOR UNIVERSITY STUDENTS

ATHLETES

QUE.NO ☐

Date …….

Serial Number…….

Instruction: *The information given in this questionnaire will be treated very confidential, please give your opinion as honestly as possible*

Section 1: Background Information

1. **Gender**: Female [ ] Male [ ]

Age :(18-21) (22-25) (27-30) (31-34) (above 35)

2. **What category of students are you?**

Certificate [ ] Diploma [ ] undergraduate [ ] post graduate [ ]

2. **Which year are you?** 1st year [ ] 2nd year [ ] 3rd year [ ]4th year [ ] 5th year [ ] 6th year [ ]

3. **Which categories of university are you?**

Public urban [ ] Public rural [ ] private urban [ ] private rural [ ] faith based urban [ ] faith based rural [ ]

4What is your student type?

Self-sponsored [ ] Government sponsored [ ] International student [ ]

5. **Which family member(s) does sports betting REGULARLY online**?

'Regular' refers to AT LEAST ONCE A FORTNIGHT.

Mother [ ] father [ ] siblings [ ] Grandparents [ ] No family member [ ]

6. **What type of sports betting game/activity(s) do you mostly bet ONLINE?**

Boxing [ ] Football [ ] Basketball [ ] Rugby [ ] Hockey [ ] volleyball. [ ] Netball [ ]

Other: Please indicate_____

Section 2: INFORMATIVE INFORMATION

(i) **GENERAL INFORMATIVE:**

1. **What is/are your main reason(s) for betting on sports online?** Tick as many as apply to.

   To relieve boredom [ ] Desire to win money [ ] Financial constraints [ ] Peer/team pressure [ ] Media effect for leisure [ ] All of the above [ ]

2. **How did you learn about sports betting?**

   Friends/team mates [ ] Family [ ] Media advertisement [ ] Internet [ ]

3. **What are some of you favourite online sports betting sites you visit regularly?** (Tick as many times) Sport Pesa [ ] Elite Bet [ ] BetIn [ ] Betway [ ] Mcheza [ ] Bet Yetu [ ]. Any other

4. **On average how much do you spend in a week?**

   Ksh100-500 [ ] ksh 600-2,000 [ ] ksh 2,000-5,000 [ ] above ksh 5,000 [ ]

5. **Do you have any debt with the phone companies?**

   Mshwari [] Okoa Jahazi[ ] MCopa [ ] Tala [ ] Okolea [ ] Branch [ ] KCB [ ] Mkopa [ ] Okash [ ] Any other _____

6. **Where do you get most of the cash you use on betting? Pocket money**

   [ ] Helb [ ] from friends [ ] from relatives [ ] loans from phone companies [ ]

MEASURE OF GAMBLING SEVERITY

Thinking about **THE LAST** Three **MONTHS** for **ONLINE** sports betting ONLY, please
Indicate how often the question applies to you by ticking the appropriate response:

Never-0, Sometimes-1, Most of the time-2, Almost always-3

No	Canadian Problem Gambling Index(CPGI)	0	1	2	3
1	How often have you sports bet online more than you could really afford to lose?				
2	How often have you needed to sports bet online with larger amounts of money to get the same feeling of excitement?				
3	When you sports bet online, how often have you gambled another day to try to win back the money you lost				
4	How often have you borrowed money or sold anything to get money to sports bet online?				
5	Have often have you felt that you might have a problem with online sports betting?				
6	Are you aware of any student athlete who has any health problems, including stress or anxiety?				
7	Have you ever criticized your friends' online sports betting or told you that you had an online betting problem, regardless of whether or not you thought it was true?				
8	Are you aware of any financial problem/s caused by online sports betting for you, your friend or your household?				
9	How often have you felt guilty about the way your friend's sports bet online or what happens when they sports bet online?				

	Perceived Economic effect of online betting	**0**	**1**	**2**	**3**
	Item				
1	Have you ever sport betted online more than you intended?				
2	How often did you go back online to sports bet try to win back the money you lost?				
3	How often have you ever loaned money or thought of peddling something to sports bet online?				
4	Have you ever intended to use money meant for tuitions to sports bet online?				
5	Have you ever intended to reduce the amount of money you spend on online sports betting?				
	Perceived social effect of online betting	**0**	**1**	**2**	**3**
	Item				
1	How often have you intended to avoid domestic argument or conflict after online sports betting?				
2	Have you ever intended to use alcohol after winning or losing on online sports bets?				
3	How often have you ever intended to skip training sessions to sports bet online?				
4	Have your comrade or family members ever intended to advise you to stop betting online?				
5	How often do you prefer betting online alone than with comrades?				

	Perceived mental health effect of online betting	**0**	**1**	**2**	**3**
	Item				

1	Have you ever heard of a friend intending to commit suicide due to online sports betting outcomes?				
2	Are you aware of any comrade who committed suicide due to online sports betting?				
3	How often have you felt unhappy after on online sports betting attempts?				
4	Have you ever suffered from headaches and affected your sleep after a loss or win on online sports betting?				
5	How often have you been anxious or worried of the online sport bet outcome?				

	Perceived Academic effect of online betting	**0**	**1**	**2**	**3**
	Item				
1	Have you ever intended to bounce or absented yourself from lectures due to online sport betting?				
2	Have you ever spent more time than you intended on online sports betting?				
3	Have you ever intended to drop out from campus at any one-time due online sports betting?				
4	Are you aware of any student who scored low grades than he/she intended due to online sports betting?				
5	How often have you ever intended to attend lecturers late due to online sports betting?				

APPENDIX B: INTERVIEW SCHEDULE FOR SPORTS OFFICERS AND DEAN OF STUDENTS

INTRODUCTION

DEMOGRAPHICS

1. **What is your responsibility with the team/s?**

Prompt sports responsibilities; Coach ☐ sports officer ☐ Dean of student ☐ team patron

2. **Which category is your university?**

Prompt category; Public urban area ☐ public rural ☐ private ☐ Faith based ☐

3. **Who mostly sports bets on online?**

Prompt; Students athletes ☐ Non-students athletes ☐

4. **Which gender is mostly affected by online sports betting?**

Male ☐ female ☐

5. **Are you aware of the kind of sporting activities students get involved in on online sports betting**?

YES ☐ NO ☐

6. **If yes, mention at least three most sporting activities students-athletes sports bet on?**

i_____ii_____ iii_____

7. **What might be some of the reasons that effect students' athlete's online sports betting? Prompt;**

Easy Accessibility ☐ interest in sport ☐ money ☐

comradeship ☐ as alternative recreation ☐

Any other reason .Please

indicate_____

8. **Where do student-athletes do their betting from? prompt**

   Campus ☐ the field of play ☐ lecture hall ☐ hostels ☐

   Any other place please

   indicate_____

9. **How often do student-athletes bet on sports online? Prompt;**

   Never [ ] Sometimes [ ] Most of the time [ ] Almost always [ ]

10. **Rate the most effect of online sports betting**? mention the effects for them to rank

	EFFECTS	**Rank**			
		1	2	3	4
1	Economical effect				
2	Social				
3	Mental health				
4	Academic				

Perception on Financial Effects of online sports betting and on students' athletes

1. **Approximately how much money do students-athletes spend on online sports betting per week**? prompt the range

   Not aware [ ] below [ ] 500 to 1000 [ ] 1000 to 20000 [ ] above 2000 [ ]

2. **What are the negative individual student athlete's financial effects of online sports betting? Prompt;**

   Debt [ ] misuse of tuition [ ] over spending [ ] financial challenges [ ]

Mention any

other_____

3. **Does the financial effect of online sports betting affect other member of the society?**

Yes [ ] No [ ]

If YES, How please state_____

Perception of social effects of online sports betting to students-athletes

1 **What are the most perceived social effect to students-athletes? Prompt**

Social irresponsibility [ ] breaking social ties [ ] social conflict & violence [ ] relationship Break up [ ]

2 **Does the perceived social effect of online sports betting to students' athletes affect other Members** of the society?

YES [ ] No [ ]

3. **If yes, who are the most affected members of the society? Prompt**

Fellow students [ ] Team mates [ ] nuclear family [ ] other members of the family [ ]

Perception on mental health effects of online sports betting and to students-athletes

1. **Have any of your students –athlete ever complained of head ach anxiety or lack of sleep due to on line sports betting**?

Yes [ ] No [ ]

2. **If yes, have they ever thought of committing suicide** [ ] **or committed suicide** [ ]

Thought of committing suicide [ ] committed suicide [ ] Not aware [ ]

3. **In your opinion are there any correlation between online sports betting and alcohol and substance abuse**?

   Yes [ ] No [ ]

   If yes, comment on how_____

Perception on academic effects of online sports betting and to students-athletes

1. **What is the most perceived academic effect of online sports betting to students-athletes? Prompt**

   Low grades [ ] lecture lateness [ ] drop out [ ] absenteeism [ ]

   mismanagement of learning time [ ]

2. **Are you aware of any student-athlete/s who have dropped school because online sports' betting effect?**

   YES [ ] NO [ ]

3. **If yes for how long? Please comment_____**

Strategies and intervention of online sports betting effects to students' athletes

23. **Are you aware of any strategies or interventions that can be used to address the effect of online sports betting?**

   YES [ ] NO [ ]

IF YES can you mention of any strategy? _____

APPENDIX C: OBSERVATION INTERVAL SCORING SHEET

Observation Interval Scoring Sheet															
Experiment:			Researcher:							Observer:					
Participant:			Location:							Date:					
Time:			Behavior:							Codes:					
	Intervals 15-4 min each														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Participants 1	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ _	+ -	+ -
Participants 2	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -
Participants 3	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -
Participants 4	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -	+ -

N/B for each 4 minutes the researcher will record whether or not online sports betting occurred to the participants.

APPENDIX D: CONSENT LETTER- RESPONDENT

No ☐

CONSENT

GENERAL INSTRUCTIONS

1. This is a research study .Through sampling procedure/observation and key informant interview you happen to be included in this study.
2. You may choose to or not to participate in this study.
3. You are requested to respond to all questions.
4. Remember this is not an examination of any kind. Therefore, any response you give is correct.
5. Respond to questionnaire items appropriately by filling in or ticking against a given option.
6. You are free to ask the researcher/s for any clarification in case where by you do not understand what questions or item demands
7. All the information given will be treated with ultimate confidentiality.

Consent for Participation,

Sign_____ Dates_____

APPENDIX E: PERMISSION TO CONDUCT RESEARCH

TO:

Dear Sir/Madam,

RE: CONDUCTING A RESEARCH ON ATHLETES AND SPORTS OFFICERS PERCEPTION ON THE EFFECT OF ONLINE SPORTS BETTING IN UNIVERSITIES IN KENYA

I am a student at the University of Nairobi pursuing a Doctor of Philosophy Degree in Physical Education and Sports and I am currently preparing to carry out research based on the assessment of university students' athletes and sports officers' perception of online sports betting.

I hereby request permission and support to be able to carry out this study by administering questionnaires to the students' athletes, sports officers and the deans of students. The findings will enable the government and universities to put in place necessary measures in order to mitigate the negative effects of online sports betting to our youth in general and specifically the students-athletes.

The researcher hereby gives assurance that all data collected will be treated confidentially and will be used for research purposes only.

The researcher hereby gives assurance that all data collected will be treated confidentially and will be used for research purpose only.

Thank you.

Yours faithfully,

Gathoni Ndung'u Benson.

APPENDIX F: UNIVERSITIES IN KENYA

COMMISSION FOR UNIVERSITY EDUCATION
ACCREDITED UNIVERSITIES - NOVEMBER 2017

NO	UNIVERSITY	YEAR OF ESTABLISHMENT	YEAR OF AWARD OF CHARTER
	PUBLIC CHARTERED UNIVERSITIES		
1.	University of Nairobi	1970	2013
2.	Moi University	1984	2013
3.	Kenyatta University	1985	2013
4.	Egerton University	1987	2013
5.	Jomo Kenyatta University of	1994	2013
6.	Maseno University	2001	2013
7.	Chuka University	2007	2013
8.	Dedan Kimathi University of	2007	2012
9.	Kisii University	2007	2013
10.	Masinde Muliro University of Science and Technology	2007	2013
11.	Pwani University	2007	2013
12.	Technical University of Kenya	2007	2013
13.	Technical University of Mombasa	2007	2013
14.	Maasai Mara University	2008	2013
15.	Meru University of Science and	2008	2013
16.	Multimedia University of Kenya	2008	2013
17.	South Eastern Kenya University	2008	2013
18.	Jaramogi Oginga Odinga University of Science and Technology	2009	2013
19.	Laikipia University	2009	2013
20.	University of Kabianga	2009	2013
21.	Karatina University	2010	2013
22.	University of Eldoret	2010	2013
23.	Kibabii University	2011	2015
24.	Kirinyaga University	2011	2016
25.	Machakos University	2011	2016
26.	Murang'a University of Technology	2011	2016
27.	Rongo University	2011	2016
28.	Taita Taveta University	2011	2016
29.	The Co-operative University of Kenya	2011	2016
30.	University of Embu	2011	2016
31.	Garissa University	2011	2017
	TOTAL 31		
	PUBLIC CONSTITUENT COLLEGES		
32.	Alupe University College	2015	
33.	Kaimosi Friends University College	2015	
34.	Tom Mboya University College	2016	
35.	Turkana University College	2017	
36.	Bomet University College	2017	
37.	Tharaka University College	2017	
	TOTAL 6		
	PRIVATE CHARTERED UNIVERSITIES		
38.	University of Eastern Africa, Baraton	1989	1991
39.	Catholic University of Eastern Africa	1989	1992
40.	Daystar University	1989	1994
41.	Scott Christian University	1989	1997
42.	United States International University	1989	1999
43.	Africa Nazarene University	1993	2002
44.	Kenya Methodist University	1997	2006
45.	St. Paul's University	1989	2007
46.	Pan Africa Christian University	1989	2008
47.	Kabarak University	2002	2008
48.	Strathmore University	2002	2008

POPULATION DISTRIBUTION

University	Student Players	Game Officials	Total Population
1	143	9	152
2	377	7	384
3	142	6	148
4	377	13	390
5	353	11	364
6	250	9	259
7	482	10	492
8	141	6	147
9	502	10	512
10	518	13	531
11	238	9	247
12	306	8	314
13	209	11	220
14	294	5	299
15	191	12	203
16	436	7	443
17	374	3	377
18	228	13	241
19	378	13	391
20	381	5	386
21	443	10	453
22	340	6	346
23	191	5	196
24	191	4	195
25	123	5	128
26	273	11	284
27	379	5	384
28	499	6	505
29	481	11	492
30	213	7	220
31	478	8	486
32	167	8	175
33	418	13	431
34	312	7	319
35	454	12	466
36	272	11	283
37	219	12	231
38	138	10	148
39	441	9	450
40	214	5	219
41	134	7	141
42	280	4	284

43	365	10	375
44	360	13	373
45	275	8	283
46	339	8	347
47	280	8	288
48	495	5	500
49	134	5	139
50	276	8	284
51	524	11	535
52	245	11	256
53	246	3	249
54	471	13	484
55	286	9	295
56	132	7	139
57	472	12	484
58	496	6	502
59	178	9	187
60	514	6	520
61	505	5	510
62	278	9	287
63	306	5	311
64	471	8	479
65	435	11	446
66	283	4	287
67	123	7	130
68	410	11	421
69	287	9	296
70	509	6	515
71	300	8	308
72	282	11	293
73	306	12	318
74	452	10	462
Totals	24,015	624	24,639

APPENDIX G. LETTER OF INTRODUCTION

UNIVERSITY OF NAIROBI
COLLEGE OF EDUCATION & EXTERNAL STUDIES
SCHOOL OF EDUCATION
DEPARTMENT OF PHYSICAL EDUCATION AND SPORT

Telegram: "CEES"
Telephone: 020-27019202
FAX: 33136

P.O. Box 30197
NAIROBI
OR P.O. BOX 92
KIKUYU KENYA

3rd August 2021

To: Who it may concern

Sir/ Madam

Subject: GATHONI NDUNGU BENSON E88/55440/2019

The above mentioned student is pursuing his Doctor of Philosophy (Physical Education and Sports) degree. He has opted to conduct research on the topic "**STUDENT-ATHLETES AND SPORTS OFFICERS PERCEPTION ON THE EFFECT OF ONLINE SPORTS BETTING IN UNIVERSITIES IN KENYA".** In this respect he will be collecting data from various stakeholders within university sports.

The purpose of my letter is to introduce Benson Ndungu to you. Kindly give him all the assistance he may require in the search for knowledge on the effect of online sports betting. Meanwhile I have encouraged him to adhere to all Ministry of Health protocols on COVID-19.

Thank You

Dr. Simon Munayi(PhD)

Chairman, Department of Physical Education and Sport

APPENDIX H: RESEARCH PERMIT

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **261946**

Date of Issue: **07/March/2022**

RESEARCH LICENSE

This is to Certify that Mr.. Benson Ndungu Gathoni of University of Nairobi, has been licensed to conduct research in Laikipia, Meru, Nairobi, Nyeri on the topic: students Athletes and sports officers perception on effect of online sports betting for the period ending : 07/March/2023.

License No: **NACOSTI/P/22/12275**

261946

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

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