

**ASSOCIATION BETWEEN GAMBLING AND MENTAL HEALTH AMONG MALE
ADULTS IN EMBAKASI EAST NAIROBI COUNTY, KENYA**

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PSYCHOLOGY**

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DECLARATION

I hereby state that the suggested project is my own unique creation and has not previously been submitted for a master’s degree at this University or any other University.

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I have given my approval as the university supervisor for the project submission for evaluation.

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DEDICATION

Mrs Pacifica Kasera, my mother. I appreciate your tremendous sacrifice that has enabled me to reach this level I could never imagined. May the almighty bless you richly.

To my siblings: Prospine Adhiambo, Constantine Onyango, Julita Awinja.

To my wife Linda Adero and my daughter Lilian Awino

You have been my best friend all through. Thank you for your ever present encouragement. Let's keep shining together.

ABSTRACT

In Kenya, the gambling business has led to issues like the widespread prevalence of mental health issues, particularly in adult males, as well as employment, amusement, leisure, and financial gain. The primary objective of the study was to determine whether there was a connection between gambling and mental health among male adults in Embakasi East Nairobi County, Kenya. Male adults were the main target group because they were the most impacted individuals who always visit the gambling site. Abetting shop with 100 people or more regulars during a game was the study target audience and clusters were by the author identified. Data were gathered from multiple sources at various time points using multistage sampling technique together with purposive sampling. In this regard, using Slovin logarithm, a sample size of 133 was drawn from the target population.

To gather information from the field, participants completed closed – ended questionnaires and the instruments reliability produced was Cronbach alpha of 0.798 as the tolerable one. Regarding the score, a minimum score of 4.00 and maximum 31.00, while mental health produced minimum and maximum score of 9.00 and 35.00 respectively. Based on this response rate of 84% was obtained and alternative hypothesis accepted as null hypothesis rejected. The study concludes that gambling disorders has greatly influence mental health among male adults enabling them to develop some symptoms of depression, anxiety and insomnia. The study recommends that male adults to be empowered by the county government of Nairobi in form of employment so that they can sustain themselves instead of utilizing their prime time in betting site chasing for money.

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GLOSARY OF ACRONYMS

1. BCLB - Betting Control and Licensing Board
2. CI – Confidence Interval
3. EEC- Embakasi East Constituency
4. EGT – Expected Gain Theory
5. IC – Informed Consent
6. KNBS – Kenya National Bureau of Statistics
7. MH – Mental Health
8. NGO – Non Governmental Organization
9. SLT – Social Learning Theory
10. SP –Sport Pesa
11. SPSS – Scientific Package for Social Science
12. RR – Response Rate

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CHAPTER ONE

1.1 Introduction

The term “gambling” will be used to refer to placing bets on the results of a game or event that is untimely determined by chance throughout this essay according to Sammut (2010). In an effort to win something else of value, a person stakes something valuable (the stake) on a scenario with a high degree of uncertainty. (King et al., 2020) demonstrated that gaming is becoming more and more accessible, and new online gaming platforms may attract a younger gambling demographic.

The current archaeological evidence from China shows that gambling has been around since the beginning of time and a big population has a motivation and desire to win in order to obtain welfare and status through persistent risk – taking Elsevier (2015). Put differently, gambling is said to have an innate impulse that is still present in the human gene. Even 6000 years ago at this time, humans would play dice games for fun. The Diagnostic and Statistical Manual of Mental Disorders (5thed.; DSM-5; American Psychiatric Association, 2013) demonstrated that a number of researchers have reported that gambling is a common disorder characterized as a behavioral pattern similar to addictive to substance within the brain. Gambling may lead to a variety of undesirable behaviors, such as lying about the magnitude of losses brought on by gambling, family and work problems, stealing, playing at high risk frequently, and making fruitless attempts to recoup losses while playing. Similarly, in response to claims that problem gambling is caused by genetic predisposition (Gyollai et al. 2014; Xuan et. 2017), a growing corpus of empirical research has been conducted.

This research has shown that complex relationships exist between addiction to gambling and substances (Hugger et al 2019). In this respect, the problem of gambling has gotten a lot of critical attention. Neal et al. (2005) described gambling problem as having trouble setting limits on the amount of money or time spent gaming, which causes issues for both the gamblers and other people.

Put differently, gambling tends to manifest signs of increasing amount of money for betting, feeling of restlessness, irritability especially when attempting to stop gambling. The examples of gambling include; poker, lotteries, table games, slot machines, casino games, horse racing, bike racing, kart racing, speed racing, spin to win, champions, international football, English premier league, Spanish league, Kenya League, perfect six, online gambling among others. Gambling disorders are defined by the American Psychological Association (APA, 2013) as problematic and persistent gambling that causes clinically substantial impairment or distress. Gambling dates back to the Paleolithic period like those times of Mesopotamia in 9th century AD in China where there was playing cards. The Kenyan gaming business has a significant number of beneficial effects. Despite the fact that the gambling industry promotes the good effects of gambling on employment, it has also been displacing workers for other leisure sectors, which has a detrimental influence on employment.

In order to ascertain whether there is statistical evidence of a link between a gambling issue and mental health in Embakasi East, this study will provide a detailed examination of the association between it.

According to Shaffer et al. (1999), Slutske et al. (2000), Lobo et al. (2000), Raylu and Oei (2002), Blaszczynski and mower (2000), problem gambling in the subclinical, earlier stage of

pathological gambling and differs only quantitatively and not qualitatively in diagnostic criteria. Both are characterized in the limitation of money or time spent on gambling, which have significant negative consequences for the gamblers. Gambling problem which is an independent variable for this study will be measured in terms of number of hours spent and it will be categorized into ten minutes to two hours, two hours to six hours and last category will be six hours to twenty four hours.

The number of bets placed that will be one to three bets, three to ten bets, ten and more bets placed. Amount of money spent will be gauged in terms of eight thousand and more will be high, one thousand to eight thousand will be medium and twenty shilling to one thousand will be gauged as low. Mental health will be dependent variable for this study and will be measured in terms of depression while paying attention to inability to connect, changes in appetite and mood. Although the term “mental health” has been defined in variety of ways, this paper will use the definition proposed by Beidel and Tunner (1991), who distinguished between anxiety disorders and regular anxiety by taking into account the severity of the symptoms, the impacts of the disability on employment, interpersonal relationships and daily functioning. Anxiety as an attribute of mental health will examine feeling nervous, restlessness and panic. (Brown et al., 1993, p.13) pointed out that anxious apprehension as condition of the mind that makes one nervously worried about or mentally ready for impending bad things to happen.

Lastly insomnia attributes are measured in terms of difficulty falling a sleep at night, waking up during the night and waking up too early. Some have developed advance sleep phase syndrome (SAPS) where by the biological that tends to occasionally to initiate sleep at an earlier time (8p.m) that would ordinarily be recognized (11. 00pm). Some as a result of the morning rise time also becomes 4.00am rather than 7.00am. (Weitzman, Moline, Czeisler & Zimmerman,

1982) some end up sleep in the betting site instead of sleeping at night. Some dispute and refuse to quit the gambling site even though the staff shift has ended, they would much rather stay up late playing games as some homeless. In this case homelessness precede their gambling problems (Sharmans et al 2016), similarly Geopoll Survey (2019) demonstrated that gambling is thought to be casually related to unemployment. Because of this male adults are caught up in compulsive gambling habit trying to make ends meet. For example, some believe that if one can earn more than Kenya shillings one thousand a day in gambling than regular job then he will likely for go job for gambling. Similarly, Smith (2002) demonstrated that, in comparison to their peers, older persons, men, those with less education, and members of minority groups spend more money on gambling. According to the North Alliance of problem gambling (2013), approximately one in five people who engage in compulsive gambling will attempt suicide at some point throughout their behavior.

Raylu and Oei (2010) proposed that family – related variables, individual characteristics, and sociocultural factors can also play a role in the development of a gambling disorder. Since majority of Kenyans possess mobile phones, there has been an upsurge in the number of people who are addicted to sports betting in Kenya. The rise in sports betting is correlated with both the expansion of mobile phones and the uptake of the internet (Geopoll Survey, 2017).

Gainsburg et al. (2016), noted that exposure to gambling impact on people’s attitudes towards betting, gambling behavior, and intentions. According to PWCs gambling forecast study (2017–2021), Kenya sports betting market has high stakes and earned earnings of almost \$ 20 million.

Kenya regionally enacted government legislation in 1966 using the United Kingdom's betting lottery and gaming act. The betting control and licensing board (BCLB) was established by the government to handle regulation.

Adult males are used in the study since they are the predominant in that area. At least one female adult attempts to place a wager each week in betting shop, according to daily records provided by shop supervisor; the remainder are men, therefore the study concentrated on the study able gender. In this sense, the topic of gambling has drawn a lot of critical attention, and the changes it has undergone over the years are still unrecognized.

An incident involving some young males who visited a betting site in the morning and left in the evening without winning anything but instead returned home dissatisfied inspired the researcher to conduct this study.

Another man accessed a betting website with one hundred and fifty shillings, and he planned to report to work in Juja in the hopes that his wager would increase. Unfortunately, instead of multiplying, he lost money, which meant that instead of going to work that day, he spent the entire day gambling before returning home in the evening. Therefore, authors experience with gamblers provided the inspiration for the study.

The research on the self-harm and the incidence of divorce and suicide was motivated by the researchers experience working with gamblers. With regard to suicide, researcher was invited to aid the contribution of a couple who stabbed themselves to death. The woman was saying that the husband had a propensity of taking money from mpesa account, which suggested that the two had previously had disagreement.

The husband, on the other hand, had no work and would just get up in the morning and go out in search of employment. The wife used to clean clothes for others in order to put food on the table.

Conduct disorder is defined as a repetitive and persistent pattern of behavior in which a significant number of age appropriate societal norms or standards are broken (pp 469, 93), according to the DSM -5 (APA, 2000, 2013). In that regard, it appeared that there are signs of deceitfulness or theft whereby the husband withdrew ksh. 10,000 then he did not explained to the wife how he spend the money but only to delude his wife that he has saved it and after sometime it will multiply. Second time after a couple of weeks, his wife just got Sacco contribution money and when the husband saw that he took wife's phone and withdrew the same amount as he did before without her consent. This infuriated wife, who demanded to know where her money had gone.

According to criteria A'' (APA, 2013) describe oppositional Defiant Disorder as characterized by at least four symptoms and a recurrent pattern of anger, irritability, argumentative or defiant behavior lasting at least six months.

It was validated that the wife losses her temper argued with the husband and this time round she reported her husband to police station where husband was arrested but after sometimes was released as the officers mentioned that the matter can be handled differently. Upon arrival to the house they still had some conflict which escalated and this made the wife to leave and stay with her aunt together with her two children the oldest in the age of 8 years. Families, especially their parents, attempted to bring them together and halt disagreement, but the very day she gave her husband the keys to her aunt house, the next morning neighbors

discovered doors closed, children sobbing inside, and both of them had stabbed each other to death.

There was no way to determine who had been stabbed first, but a police forensic inquiry was looking into the matter. During burial of the two the father of the man said in the eulogy that his son used to gambled with the money he withdrew from the wife phone. Regarding that, the author was able to attend the two funerals, which sparked his curiosity in learning more about and conducting study on gambling behavior.

Majority of the youth and some adults have developed pathological problem and they are more vulnerable to the gambling. Male adults in Kenya are found to have overwhelming evidence that they have abuse possibility substance abuse and gambling have a strong connection and mutual beneficial effects. It has also led to an emergence of mental health problems referring to the existence of depression, anxiety, and insomnia. The later demonstrate that gambling (Cameron et al., 2022) is assumed to exactly satisfy cravings.

Put differently, cravings still influence the rate of gambling by causing enabling the gamblers to increase the amount over time. By drawing on the concept of gambling Smith et al (1995) have been able to show that, when a person is above 40 years old, age is an issue.

1.2 Background of the study

Gambling is a new behavioral addiction that was formerly classified under impulse control disorders King (2014, q,i). Gambling is characterized as a behavioral pattern similar to addiction to substances within the brain. Angleton (1990) define health as a state of being to which the majority of us strive; a blessing, a desirable trait, the capacity to engage in a variety of physical activities, and the capacity to manage the pressures of daily life on a psychological level. In line

with this it has been revealed by the large size of Kenya reveals daily nation in Kenya that gamblers gambled more than Ksh.30 billion in a single month. This is a leaked spreadsheet of income declaration submitted by gambling companies to the Betting Control and Licensing Board (BLCB) May 2019 was made available just before the government enacted stricter rules and increased taxes. It is humorous that enormous amount Kenya shillings 30 Billion is greater than the 2019 – 2020 health budget allotted by the federal government. The phenomenon of the study will be number of hours spent, number of bets placed, amount of money spent under independent variable. On the other hand, mental health will be measured in terms of depression, anxiety and insomnia under dependent variable.

A broader perspective has been adopted according to Criterion C of the Diagnostic and Statistical Manual of Mental Disorders (5thed.; DSM-5; American Psychiatric Association, 2013), that insomnia denotes having poor quality and quantity of restorative sleep that lasts for at least three months and occurs three evenings a week. According to reports, a deterioration of overall satisfaction is also linked to insomnia and aberrant sleep cycles (Voinescu, Szentagotai, David 2012).

Depression on the other hand numerous physical and mental illnesses, as well as limitations that may result in suicide (Keller, 1994). In this respect there aren't many clients of diversity who reside abroad. This ranges from one individual to another depending on the environment, genetic and brain chemistry an individual is exposed to. According to Burnam et al. (1987), there is 4.9 percent prevalence rate for Mexicans. The variables in this study seeks to investigate whether mental health gambling addiction are related, and therefore, there is a relationship that exist between gambling behavior and the concern of the people whereby some gamblers have developed behaviors that cannot be stopped and affect the normal functioning. This study was

done by (Botterill et al., 2015) who found that in older persons, loneliness is a significant risk factor for developing a gambling problem. The continuum put forth by MC Neil (2001) may be useful for clarifying the various diagnosis lined to social anxiety that are currently accessible. A study conducted by Obwoye (2021) demonstrated that gambling behavior is a problem among low – income earners particularly youth in Dandora.

His study captured both side (gender) and only low - income earners. Similarly, a study conducted by society for the study of addiction in their research report examining “ the correlation between gambling behavior, social demographic, and gambling expense. According to Sara et al. (2017) the study was a cross – sectional population – based survey in Finland. Njogu (2021), conducted a study to determine the link between juvenile interpersonal conflict and sports betting. Sally Ann (2019) also did a study on effects of casino on unemployment. The study was done in the University of Northern Iowa and the focus was only one game in gambling. In an investigation to gambling, William et al., (2011) conducted research to establish a piece on the effects of gambling on society and the economy was all round but did not pay more focus on male. Lastly, Walker (1999) asses the benefits and costs of gambling on society and the economy. Numerous studies have examined gambling problem from example (Walker, 1999; William, 2011; Ann, 2019; Njogu, 2021; Obwoye, 2021; Botterill, 2015), despite the fact that there has been a lot of gambling study. There isn't a single study that looked at male adults who are at least 18 years old. As regard to this the study will introduce something special by focusing on association studies of gambling problem and mental health paying attention to male adults which has not been covered by the any one hence makes a study a problem driven.

1.3 Problem statement

Gambling is a critical issue in Embakasi East, almost 10 % of that region is covered by betting shops, that is every 10 meters there is a betting shop. And these include; Jambo bet, Forza, In Bet, Mozzartbet, pitch 290, Paymaster, Sahara bet and Ikobet.

These sites also provide online services so that those who cannot go to shops can bet at home on using phones or any gadget that is connected to their respective website, therefore this makes 24 hours' work. As a result, there is a need for empirical research on gambling and its effects on mental health. Similarly, due to the threat of high unemployment, it has been reported that the majority of gamblers in the society are poor and are mostly found in improvised urban areas (Jacobs, 2000).

Put differently, no one is forcing people to bet, customers are willingly removing their own money without someone forcing them, the behavior has perpetuated making it a subject of inquiry because it raises a lot of concern since there is a social and psychological need required to be addressed and this can only be solved using research question. (Tosun, 2002; Chhabra & Guroy, 2007) posited that the disruption caused by gamblers activities, including increased crimes, and mental disease among others, have a significant negative impact on society.

A broader perspective has been adopted by Angira (2016) who argues that if one fails to win, they may succumb to emotional torture and suicide. Gambling opponents claim that it causes a number of social and psychological issues by increasing problems gambling and crimes rates, while supports claim that it generates enormous income, new jobs, and improved economic prospects, Reith (2006).

There was a social need that the study intended to address for example men watching game every day at night seems to affect their circadian rhythm hence enabled them to be less functional in almost all aspect, so it was a problem worth investigating.

The data obtained from the field suggested that so many gamblers do not adhere to normal in fact their biological clock were affected as sometimes they initiate sleep at an earlier time (8.00 pm) than what would ordinarily be recognized (11.00 pm). As a result the morning rise time also become earlier 4.00am rather than 7.00am as shown by the study conducted by Weitzman et al (1982). Among the literature that researcher reviewed there seemed to be no sufficient answer to the problem being investigated.

Similarly, Schmidt (2020) who presented his findings from a survey he performed in western Kenya with a sample size of 111 people revealed that 55% of the men and 20% of the women had either bet in the past or were presently betting between 18 and 35. In this regard, scholars who did same study applied other methodologies which were not chi - square and the rationale why researcher employed the design was because the variables were categorical. The materials that were reviewed were from first world country and the study was carried on third world country (Kenya). Lastly, people who had been focusing on same study had been dealing with all genders but not paying attention to one gender contrary to this study which focused on male only. Put differently these gaps were addressed which made this study unique from the rest of the study under one subject of gambling problem and mental health. Due to limited empirical literature on sport betting and psychological drawback on men in Kenya, this study by contributing to research materials for future researchers to refer.

The researcher endeavor to find out association between gambling and mental health among male adults in terms of depression, insomnia and anxiety.

In conclusion, researcher describe the following domains are the foundation for the study, which is based on factors that make the stated topic a crucial concern. Firstly, he elucidate that there is a social need that the study intends to address which requires research, the prevailing factors and social condition which is anchored on what the community yearn for rationale why men who engage in gambling has some drawbacks in normal functioning and this enable them to develop mental health issues.

The three knowledge gap were: that the methods were used by the previous researchers did not employ simple random sampling and chi-square test of independent which the study employed.

Some studies were carried out in first world country, only two were carried out in Kenya that is Dandora and Ruiru. Therefore, time for conducting the study, year, people, and personalities were different. Another gap was the variables in the study which did not pay attention to specific gender male. This study address the issue by narrowing it down to men aged 18 years and above married or not married who seemed to much affected problem of gambling.

Therefore, the main research question that the study seeks to answer is to associate between gambling and mental health among male adults in Embakasi East Nairobi county using amount of money spend, number of bets placed and number of hours spend with a view to determine whether mental health is significantly different.

1.4 General objective of the study

The objective of the study was to ascertain whether there was a connection between gambling and mental health among male adults in Embakasi East, Nairobi County, Kenya.

1.5 Specific objectives of the study

1. To ascertain the relationship between time spent and mental health in Embakasi East among male individual
2. To evaluate the association between number of bets placed and mental health among male adults in Embakasi East
3. To explore the association between amounts of money spend with mental health among male adults in Embakasi East.

1.6 Research question

The following issues are addressed through research:

1. What is the relationship between amount of time spent and mental health among male adults in Embakasi East.
2. What is the association between number of bets placed and mental health among male adults in Embakasi East.
3. What is the relationship between amount of money spend and mental health among male adults in Embakasi East.

1.7 Hypothesis

The hypothesis that will be tested is that:

1. There is no connection between the number of hours spent and mental health among male adults in Embakasi East
2. There is no connection between number of bets placed and mental health among male adults in Embakasi East
3. There is no significant association between amount of money spent and mental health among male adults in Embakasi East

1.8 Significance of the study

This research makes a unique contribution to a number of significant areas to various stakeholders; firstly the contribution to the field by developing and adding more insights to the growth of knowledge. In this regard finding the research gaps will be of interest to some academics and researchers which will aid the in developing a study to close the gaps. The study will be useful for people who have mental illness brought on by gambling.

Recommendation will guide future scholars or professionals who are interested in the same study, they will be enlightened as they develop it further. Next, working with different NGOs in different sections are policy makers and diverse stakeholders.

This may be important to the Kenyan government's ministries of sport, entertainment, and finance. Makers of the law especially those in the realm of mental health may find

recommendation here in regarding to the treatment of gambling individual in Kenya. Lastly, this research adds something new to the corpus of knowledge in a number of crucial areas.

1.9 Delimitation

The study looked into Embakasi East constituency as the geographical area and has the following regions and these include: Mihango, Embakasi, Tasia, Lower Savana, Upper Savana, it is 1: 60,000 KM from Nairobi city. It is a virgin land for most betting companies that is so many people desire to invest by opening more gambling irrespective of its proximity. Additionally, it is greatly influenced by neighboring regions like Embakasi Central, Embakasi South among others as some customers like visiting the east than their regions for gambling hence made the study richer and worth investigated. However, examining the areas outside of Embakasi is beyond the purview of this study. A target population of 200 male adults and more will be interviewed in the project as the study is set to take four months.

The author is confident that certain conditions and circumstances could make it possible for someone to have mental illness as a result of gambling. This study, however, only focused on anxiety, sleeplessness, and depression. Therefore, it will be outside of authors' purview if anything else contributed to mental illness from gambling than the three.

1.10 Limitation of the study

They are the circumstances, flaws, or factors beyond the researchers control that limit your approach and results Connelly (2013). Practical limitations prevent this work from giving a thorough analysis of what cannot be comprehended. As regards to this there may be a "hear" that the information will be used against them. So, researcher mitigated this by assuring them of their confidentiality. Language to be used as inscribed in the tool, researcher will ensure that the

majority are able to understand what has been written in the instrument. A study assistant who is fluent in local language will be on board to help out if any participants are illiterate or only speak their mother tongue.

1.11 Assumption of the study

The authors view that gamblers with mental illness are negatively impacted by gaming as given by the framework and his personal experience.

1.12 Definition of significance terms

- 1 Anxiety:** Worries, palpitations, shortness of breath, and fight – or – flight response are all symptoms of fear and dread.
- 2. Bet:** something that is laid staked or pledge in sport between two or more in a contest.
- 3. Depression:** is a transient reaction to difficult life circumstances.
- 4. Gambling:** refer to an act of placing a bet using something of value (money) in order to gain more.
- 5. Insomnia:** refers to the inability to fall asleep, stay a sleep, or wake up in the morning.
- 6. Mental health:** refers to what affect normal functioning that includes emotional, psychological, and social functioning.
- 7. Multi-bet:** in this study and according to Taylor (2020), it is a sort of wager in which a bettor combines several single wagers into one wager, with the odds increasing with each additional leg.

8. Placing bet : using money by identifying and predicting the number games that are likely to win the game quarterly, half time, full time, number of shots, number of corners and number end time number of goals.

9. Time: the duration gamblers take during placing of bets using money

1.13 The layout of the study

The study's five chapters which contain make up its overall framework. This study's background, problem statement, objectives, research questions, research hypothesis, significance of the study, scope and limitation of the investigation, and definitions of key terminology are all included in chapter 1.

The second chapter begins by outlining the theoretical aspects of the study and examines how the study is shaped by probability theory, expected gain theory, social learning theory, social exchange theory and social frustration theory. It concludes by examining the conceptual framework summary of the literature that usually identifies the weakness of previous works, the research gaps, and how the study plans to close those gaps. The method employed is covered in chapter 3, which the research focused on the variables, data type which were categorized into ordinal, source, research design among others. The search results are presented in the fourth segment which focuses on data analysis and presentation. The findings of the data generated and the discussions held during data collection are summarized and analyzed in chapter five. The implications of the findings for upcoming study in this field are examined in the final section. This provides a succinct summary and analysis of the results. Finally, areas for additional investigation are noted.

CHAPTER TWO

REVIEW OF THE LITERATURE

2.1 Introduction

Reviewing recent studies on male adult's mental health and gambling is the objective of this paper and according to the study's objective and theoretical framework, it will provide a summary of the empirical literature. In the epidemiological medical and sociological literature (Harvey et al., 2017, Leijiten et al. 2015, Huisman et al. 2008, Bentley et al., 2015, Plaiser et al., 2007), the relationship between gambling and mental health has been hypothesized, explored, and documented. Traditionally, it has been argued that the study of economics is the discipline that examines human behavior as a connection between objectives and limited resources that can be put to other uses (Robins, 1945). Numerous studies have examined the idea that gambling risk variables can also be found in the social, economic, and cultural environments in which gambling occurs (Per, 2009). Quite a bit of literature has been written about gambling problem and it has been understood to have been human activity since the oldest time, people developed that it is ingrained in the human genome to constantly seek to advance ones status and welfare by taking risks. Archaeological evidence demonstrates that dice games were popular even 6000 years ago in places like china. Gambling has become a problem in the society for example children who have been socialized in and cultured with parents who gamble especially in area where there are heavy gamblers. Put differently, some scholars found out that parents with problem in betting and gambling activities sometimes or always had issues in giving direction and warning their children against betting, this may likely lead to the effect of financial security of the gamblers or players.

Secondly, gambling activities has also led to several issues to those who are participating in it. These effects happen to vary from individual to another and these issues include; depression, mental health, anger, anxiety, unhappiness, broken families among other vices in the community (Maccalum & Blaszczynski, 2003).

In most countries that taxation rates tend to be much higher than to existing industries (Cloffelter, 2005) players are unlikely to be given good amount of money in case they win. For example the Mozartbet jackpot has a daily jackpot bonus for sixteen games which run from thirteen to fifteen that will be given if player gets and a possible of Ksh.20M if player gets all games but due to taxation if players gets all game he will only be eligible to get ksh.16m. A study conducted by (Njogu, 2021) demonstrated that more males gamble more than female. In his study, he found that in a population of 239 male respondents made up 84.5 % of samples and there were 44 making 15.5 percent women. In the realm of DSM 5 TR, gambling addiction is comorbid as it falls under stimulant use disorder.

Edgerton (2014) conducted a longitudinal study in Manitoba and found that participant age, sex, gambling history alcohol consumption, drug use, anxiety, perception of support , impulsivity , and illusion control significantly influenced how quickly it changed. Barnes et al (1999) intended to how alcohol use affects male gambler behavior in the United States. In this article the acronym PT, EGT, SET, SLT, SFT will be used when referring to the theories of the study.

2.2 Probability theory (PT)

Probability implies to the potential or likelihood that something will occur. According to Turner et al., (2000) it is described in terms of the likelihood of winning a wager or lottery. Out of 100 efforts, a gambler is likely to win at least one or more according to probability theory which leaves nothing to chance. The researcher anchored the study on probability theory which developed by Blaise Pascal in the year 1654. Gerolamo Cardano, and Pierre de Fermat, and Blaise Pascal all attempts to investigate games of chance in the 16 Century, respectively, which laid the foundation for modern mathematical probability theory. Changing the chance of winning from the odds, one will be required to use chances as a denominator and the total likelihood as numerator. (Turner et al., 2000) demonstrated that chance of winning is an odd ratio compared to chance of losing and vice versa. The more tickets purchased, the greater the chance of winning. In view of gamblers believe, they have a perception that there is a pattern of chance that can be identified by misinterpreting two statistical laws. (Turner and Horbay 2003) gives the law of large numbers is found on the idea that results will usually roughly resemble the probabilities estimated mathematically. In this sense, respect peoples expectation may be met as random events automatically correct themselves therefore they employ the doubling as a financial tactics. Main strength of probability theory that it provides information about the likelihood that something will happen. This theory helps to understand the relationship between economic status and gambling behavior. Secondly, for experimentally based empirical probability to be taken seriously there must be a substantial body of supporting data.

Contrary to the strength, it has the following weaknesses that it cannot handle with an infinite number of possible outcomes. Secondly it cannot handle events where each is not equally – likely.

2.3 Expected gain theory (EGT)

This theory was put forth by John Von Neumann and Oskar Morgenstern (1944) it implies that examination of the optimal betting scenario in a variety of situations. In difficult situations this theory suggests which course of action logical people should do depending on their preferences and risk tolerance. To calculate this, player pays more attention to the wager put than to the original capital, capital after the bet and lastly the amount of side information processed by the player. Regarding this, the theory has underlying assumption been unreasonable, some were based on experimental or empirical evidence that behavior did not conform to its prediction and some combined the two lines of criticisms. Despite this limitation the researcher used the theory because it gives a method of grading the acts in terms of how commendable they are.

2.4 Social learning theory (SLT)

Crossman (2017) define as a theory social learning theory aims to explain how socialization affects the formation of the self. This theory majorly explains about the environment and the view is supported by Bandura (1977) who demonstrated that popularized personality depicted behavior as controlled by inner forces and impulses often operating bellow the extent of consciousness.

Another possible explanation for this is that the theory examines the psychological functioning which is well understood about nonstop reciprocal interaction between behavior and its controlling condition. So, some place bet by aping the behavior of others or what they hear or experience in sport betting. Bandura (1977) concludes that almost all the behavior that individuals display is learned intentionally or unintentionally through influence. Put differently, learning theory explains that behavior come with influence from environment.

For this study it means that individual consistently develop and maintain noticed, alluring and reinforcing behaviors.

2.5 Theory of Social Frustration (SFT)

This hypothesis was made by psychologist Dollard and others in 1939. Their findings suggested that frustration denotes a feeling that can lead to aggressive tendencies. In this view the closer a person is to a goal that is suddenly blocked, the more frustration he or she become. In this sense gamblers do become irritated when the balance in their account decreases and the odds change.

They grow angry and agitated to the point that they tend to deposit a substantial sum of money into their registered account. The idea of hostility states that when someone tries to accomplish a goal but is hindered, he becomes confrontational. This theory has a strength that when frustration - aggression escalate gamblers tend to shop more items in sport. The theory has some drawback which include; increasing evidence indicates that both parts are too broad in scope to be accurately.

This has an impact on how the results are understood since it makes people more likely to gamble more money when they are frustrated because they have lost a lot of money in the past. In this regard, time spent in the betting site would be more and number of hours spent also increased due to chasing the money lost. This makes the theory relate to the study as it show some association between gambling and mental health due to frustration, more money, more time and more bets placed and these has significant association with depression, anxiety and insomnia.

2.6 Social Exchange Theory (SET)

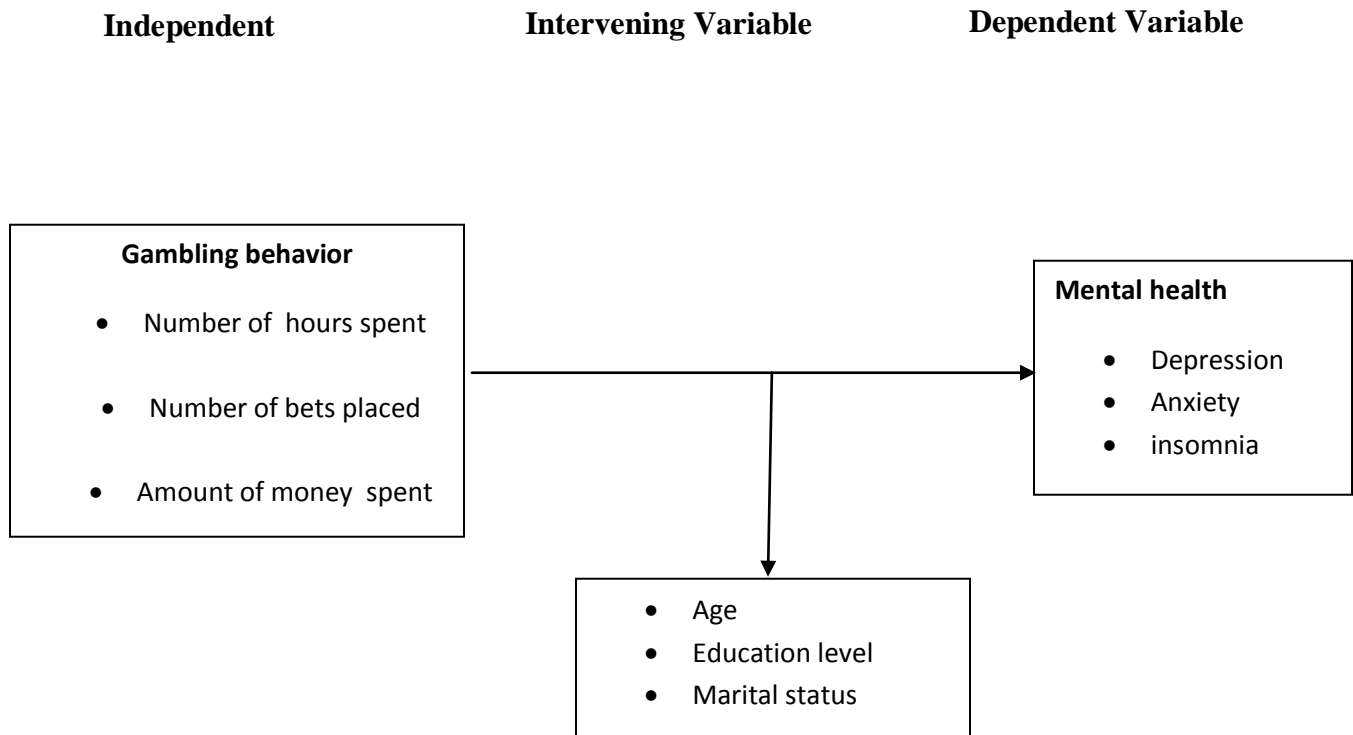
This theory was developed by Gorge Homan's in 1958 which has its roots in the disciplines of psychology, sociology, and economics. Dating back, the principles of reinforcement, functionalism, and utilitarianism were central to early psychology. This theory sees interpersonal exchanges as a type of social behavior focused on achieving goals. Cost and reward, which refers to the idea that cost and reward comparisons influence human decision – making and behaviors are basic ideas of this theory.

Gambling occurs throughout a winning or losing phase, demonstrating that gambler may continue to play owing to the impression of a winning streak as a reward. To put in another way, it allows the researcher to explain findings in a way that show how winning results in, more time, more money, and more bets being placed due to the desire to win more and get rewards. The chances of despair, sleeplessness, and anxiety increases when winning occurs.

2.7 Conceptual Framework

Mugenda and Mugenda (2003), claim that a conceptual framework aids the reader in understanding the suggested relationship in the study. This paper's objective is to present a conceptual theoretical framework based on the association between male adult gamblers mental health and other location in Embakasi East. The hypothesis that was investigated in the study is derived in large part from the conceptual framework. As the name implies, a variable is a quality or characteristics that varies according to Bryman et al (2007) variables which serve as a theory foundation.

Figure 2.1: Conceptual framework



The study thus set out to establish whether gambling had any association with mental health and if so what were its contribution to insomnia, depression and anxiety. This was done by obtaining data from the field which was analyzed as presented in the following chapters.

CHAPTER THREE

RESEARCH TECHNIQUES

3.1 Introduction

The steps and methodology used to carry out the study are described in this section. It covers research paradigm, research design, target population, sample size and sampling technique, data collection instruments, data collection procedures, quality data, and ethical issues before concluding with a summary of the chapter.

3.2 Research paradigm

According to Saunders et al. (2012), pragmatism acknowledges that there are many diverse way to do research and interpret the world, that no single point of view can provide a complete picture and that there may be numerous realities. The source of knowledge was modified to fit into philosophical assumption of pragmatism as it combined the positivism and interpretivist. So, the study integrates the qualitative and quantitative as the latter carries more weight. This philosophical assumption give strength to social science study and this makes the result obtained transferable. If not entirely, the acquired through a hybrid method can be applied to other situations.

Feilzer (2010) advocates for a deconstructive paradigm avoid the diverse topics of reality and truth by assisting in the utilization of mixed methods research. This understand gambling as an important element that improve mental health, and due to this they may engage the services of researcher to advise them on how best they can improve gambling behavior.

Secondly, a community that view gambling as an addiction aspect and does not improve mental health and deteriorate mental health of a community may engage the services of researcher because to them gambling does not influence mental health. Arthur et al (2014) maintains that a distorted belief that a false conviction that further gaming will undoubtedly bring about a financial fortune. Understanding pragmatism also aids the study by directing the researcher to specifying the choice of what the researcher wants to study paying attention to the method employed. Aron et al., (2014) demonstrated that it is important to emphasize two points about the conclusion you can make from the hypothesis – testing process. This aids the study by helping the researcher to formulate hypothesis to explain a phenomenon observed and how to identify the most suitable empirical technique.

The philosophical ontological standpoint adopted for this study was that social realities exist and the world around the researcher is both objective and subjective. The former was scientific as conditions were carefully controlled to prevent influences on the outcome measures. The strategy becomes subjective as reality is socially and experientially constructed in multiple realities of phenomenon. To associate objectively, a scholar (Lusardi et al., 2020) found that the ability to respond to a financial emergency which could result for gambling is referred to as financial resilience.

3.3 Research Design

According to Mugenda and Mugenda (2012), a research design is a framework for organizing an investigation in order to find the answers to certain research questions. The methodology used in this study considered method – based and subject – based characteristics.

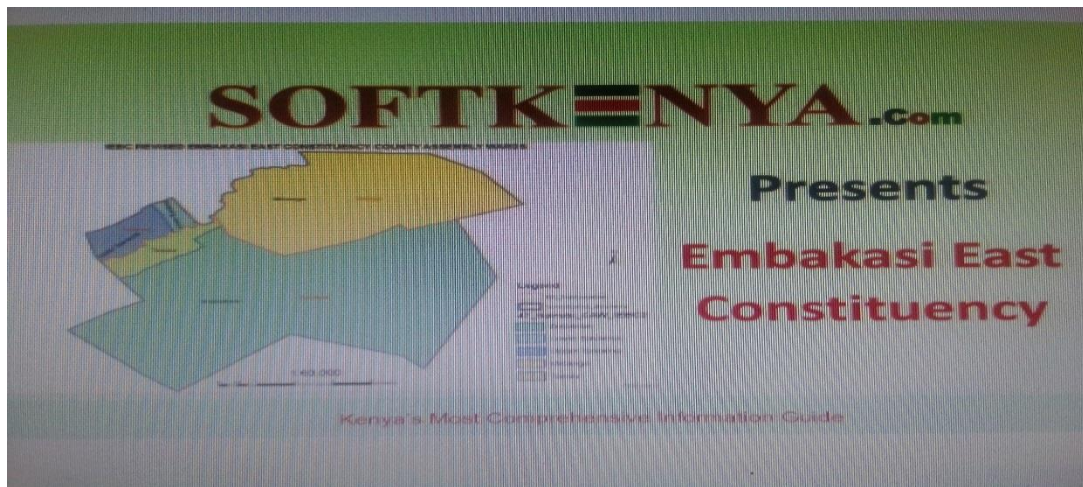
With respect to that, researcher employed association research design which refers to the relationship between multiple object. It stipulates how objects are related to each other and how they are using each other functionality. For this reason, mental health problems are determined continuous gambling problems. For this study it only looked at the aggregation component of association but not composition as composition stipulate that one object cannot exist without the other but for aggregation there is weak association where both objects can exists independently. Association studies attempt to consider the application of Chi – square which sought to ascertain whether simple random sampling was used and whether both variables are categorical. Check to see if all anticipated frequencies are higher than one, the design is strong in this regard. The designs strength is that it may be used to gauge the strength of relationship without necessarily implying causation.

3.4 Target Population

Research site is defined as the geographical location responsible for conducting the research (Orodho & Kombo, 2002). Primary data from Embakasi East sampled citizens were used in the study. Embakasi East was estimated to have a population of 164, 227 according to (IEBC 2022). It occupies an area of 70 kilometer square (25.0 sq mi). The researcher during data collection visited Jambo bet which had three shops at the D.O place, 17 and Masimba. Sahara Bet is situated at 17 which had three shops, at D.O and Tasia. Thirdly in Bet was visited at Masimba, Tasia and Soweto. The last site for data search was play master betting site which are situated at Soweto and Tasia.

Figure 3. 1 : A map showing Embakasi East constituency

The diagram represents the geographical location of the authors place of data collection. This location is virgin in the sense that many investors favor certain places for commercial ventures and the most appealing feature demonstrate that there is gambling establishment after every at least 10 meters allowing customers to select which shop to visit.



The study targeted 200 gamblers who reside in Embakasi East regions and the eligibility criteria required individuals to have attained 18 years and above male adults who are considered an adult according to the African Union (2006). Mugenda and Mugenda (2014) states that the target population drawn in the study can be real or hypothetical in that they can be people or events to which the researcher generates results.

Population is defined by Mugenda and Mugenda (2003) as the entire set of people or things that are being considered in any subject or research and have some characteristics. Embakasi East has a total of 164, 227 adults according to Independent Electoral and Boundary Commission (IEBC) according to statistics of voters in 2022. Results came from a total of 200 people who possessed the traits the researcher was seeking. The 200 target population was given the

instrument and gave answers to the questions being investigated as gamblers were the study population.

3.5 Sample size and Sampling technique

- **Sampling size**

The study used the formula from Fisher et al (1983) formula as Mugenda & Mugenda (1999) to determine the sample size. The sample size was chosen with the confidence level in mind by the researcher as 95% with an alpha of 0.05 was obtained should the research be repeated over and over again 95% of a time the result would match the result gotten from population. The level of confidence had a positive correlation relation with the sample size that was if all other factors were holding constant. Slovin's formula was used when calculating the sample size. Using online survey monkey, a margin of error of 5% was found. Consequently, because the margin of error is small, researcher is confident in the veracity of the data that was gathered. The precise likelihood is probably within 5% of the sample result, either above or below. Therefore, this error margin is considered to be acceptable.

The formula for sample size is provided bellow:

$$n = N / (1 + Ne^2)$$

where;

- n = is the number of samples size needed
- N = is the entire target Population size
- e = tolerable margin of error

The researcher decided to use 95 % of the time (resulting in an alpha 0.05)

Therefore,

$$n = N / (1 + Ne^2)$$

$$200 / (1 + 200 * 0.05^2)$$

$$200 / (1 + 0.5)$$

$$200 / (1.5)$$

$$200 / 1.5$$

$$= 133$$

The researcher therefore used a sample size of 133

- **Sampling techniques**

Kombo and Tromp (2006) demonstrated that sampling procedures is the systems or the methodology the specialist receives in choosing some deductions about the population is drawn. This study started with multistage then moved to purposive then ended with critical case sampling.

In order to determine the population in Embakasi East where the researcher wants to understand gambling and mental health among male adults, multistage cluster sampling was used. From the general population, he plans to select 133 subjects. The territory is large and the population where the data was collected was diverse. In this regard, the researcher did not concentrate on all gamblers because some do place bets online using their phones, laptops, or any other device to play games, but just those who physically visit the betting shops.

Regions such as Mihang'o, lower Savana, upper Savana, Masimba and Tasia were where the clusters were gathered. These areas serve as the foundation for the sample collection. The researcher then randomly chose sample units from the chosen clusters, including Mozzartbet, Inbet, Ikobet, Jambo bet, and Play-master. The participants were approached when there was a game and when the betting halls typically had at least 100 bettors present.

Purposive sampling was employed since the individuals had the traits the researcher was looking for, while taking into account the population from which the sample was drawn. In scenarios where a single or very limited number of cases could be used to explain other cases with similar set of circumstances, critical case sampling was also used.

3.6 Data collection instruments

A recognized institutions ethical approval was secured before the study got started. Researcher made an application for research permit or license that allowed him to collect data from the site of choice that would allow him to answer research question. Permission was granted to researcher by National Commission for Science, Technology and Innovation. Once the permit was obtained, the researcher and the research assistant headed to the field to pilot the device.

Structured questionnaire was used where objectivity would be grounded upon as collection of data took place in the physical field in regions of Eastland of Nairobi county and a document was attached to researcher questionnaire explaining goals and guaranteed anonymity of the respondents since there would be high regard to maximum data privacy was maintained and respondents were urged to be open and honest in their response. Even though certain sites needed extensive building with authorization before researcher access, the researcher always accompanied himself with the license to betting sites.

- **Piloting**

Cooper and Schindler (2014) research showed how crucial it is to do pilot studies which are small – scale studies conducted only in Embakasi East to gather similar information that will be gathered during the future survey in order to determine whether the process will function as expected. Data for this study were collected using questionnaire and by piloting it, it helps to facilitate in scrutinizing and find procedural errors. Connelly (2008) asserts that a pilot study should have 38 participants or 10% of the projected sample. However, the number of individuals for this study was more than 38 people in total. Before the real data collection for this study a pilot test was conducted. The tool also determined whether the questions of research were clear to respondents and that they would be able to respond appropriately. Secondly, piloting of the tool established whether the sampling frame and the technique were suitable.

- **Validity**

According to Mac Millan and Schumacher (2001), validity represents the level through which the instrument can produce information that can be understood by the parties involved to produce reliable data. In other words it refers to how well a data collection tool measures what it should. Errors frequently occurs during data collection due to variables like; ambiguous instructions to the respondents, inaccurate coding of data, researchers prejudices and drowsiness. The questionnaire employed short straight forward language that was simple to understand in order to research this issue. Additionally data was cleaned up when the questionnaire was being coded. Especially the questions which were not returned and those which were not filled were also recoded. The number of hours spent, number of bets placed, amount of money spent for gambling behavior. For mental health depression, anxiety and insomnia were also coded. The

researcher carried out test of study and determined the construct validity of the instrument and this was arrived at by executing a comprehensive analysis of how scores on the scores relate to other scores and measure.

Data was coded into software SPSS and it generated the results as follows; the correlation is significant at the 0.01 level (2 tailed) and the 0.05 level (2 –tailed) N- 2 . So calculated value > table value. The result is significant and therefore it is a valid question.

- **Reliability**

Consistency is the fundamental metric for determining reliability Pierce, (2007). Reliability in this study refers to the degree to which collected data and sources can be trusted. Reliability of instrument means concept measure tools dependability (Bryman, 2012).

Data quality denotes whether the information gathered is appropriate for research purposes and whether it is used correctly measures the research variables. In this regard data quality was evaluated on an individual basis. This was investigated by determining whether the information was reliable, complete, authentic and true (Moss & Litman, 2021). According to George and Mallery, (2010) only items with a Cronbach Alpha score greater than 0.7 are appropriate as a rule of thumb measure. Cronbach alpha was employed in the study to assess the validity of the data.

3.7 Data collection procedures

- **Administration of the instruments**

Before undertaking this study, a research proposal was presented to the University of Nairobi psychology department panel for review for ethical issues and approval to go for data collection. According to the permit, the researcher has a one-year permit to conduct a study in Embakasi East. Upon the permission being granted, the research with the aid of research assistants had a sit in for a deep elaboration so that the assistant would be vast with the requirements from the respondents before approaching participants. The questionnaire was delivered to the research assistant and during the actual administration; each respondent was given about 15 minutes to fill in the questionnaire. The researcher also supplied all the tools and supplies, including pens, needed to complete the questionnaire. Each participant was given a leaf of questionnaire which had two pages and each page had 9 questions making a total of 18 questions. In light of everything that has been said thus far, the questionnaires were filled they were then collected by the researcher or research assistant as some questionnaires were brought later after two days some after a week.

- **Closed – Ended Questionnaire**

Closed ended questions were used because the data being collected was used in statistical analysis. This tool collected a quantitative data that was structured to offer clear direction of the trends. It was structured in form of multiple – choice questions and this gave the respondents a room of selection of answers to choose. The rationale for the closed ended method was because it took less time to answer the questions hence increased response rate. Closed ended type of questionnaire was given because the answers generated were tallied into scores, percentages and

statistics. Secondly, it was administered because the researcher wanted a specific set of response which helped in narrow a set of data hence take action.

Participants were asked closed - ended questions gambling problem in relation to mental health on which quantitative analysis were conducted . It had two sections A and B whereby the two sections each had 9 questions a total of 18. Participants were eager to respond to queries pertaining to depression, anxiety and insomnia.

3.8 Qualitative data

By employing qualitative mode of inquiry, the researcher attempted to illuminate reaction verbally as two participants mentioned that betting always made him not to sleep this is due to some games were being played overnight and during this time he would wait until the end of the game hence led to interruption circadian rhythm. Threats to one's safety, survival, and self – esteem are common in nightmares. There aren't many research on effectiveness, however, extinction, systematic imagery, rehearsal, and relaxation techniques are some suggestions for treatment (Krawkow et al., 2001).

3.9 Ethical consideration

Kothari (2011) demonstrated that all professions usually have strict guidelines that govern their professional work. The baseline of this project ethical issue include: confidentiality, honesty and informed consent. Regarding privacy and confidentiality, the individuals were urged to read and understand the informed consent before feeling in the questionnaire. Some were not given the informed consent to read but the information was given to them verbally. Simple random sampling was employed since no one was forced to complete the questionnaire or sign the informed permission form.

Within the sphere of informed consent there was a freedom to withdraw from participating without any conditions attached and there was willingness to participate without being interfered or deluded by any member of those who were participating. The informed consent was attached to the questionnaire; some were given prior to administration of the tool while some were communicated verbally.

Regarding the instrument, the informed consent was established prior before the onset of data collection and it was respected by respondents holding the view that the information given will not use against them and privacy and dignity was highly respected.

Honesty was gained by adhering to any information given by participant to favor him nothing was changed, fabricated, falsified, or misinterpreted. Before visiting geographical location of data collection, the research proposal was presented to various bodies. One it was sent to the department of Psychology University of Nairobi for ethical adherence consideration.

The research proposal document was presented to the Kenya government agency requesting permission from the national commission for Science, Technology and Innovation (NACOSTI) to do research within Kenya specifically Embakasi East.

Upon receiving of research permit, research instrument, letters and a copy of government permit were presented to various individuals and organization to be allowed to undertake the study and they were also assured that no money will be given to the participants.

Within the realm harm, the respondent was assured that there will be no harm that is psychological, economic, or physical. In this regard no one would lose job because of participating in the study, similarly no organization will lose customers because of participating in the research.

3.10 Chapter Synopsis

The research design is discussed in this chapter's part, methods and tools of collecting data, the population, sampling techniques, data procedures, and ethical consideration. Moreover, an outline of the sample process study design and considerations is provided.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

In this chapter, the results of a study on the relationship between gambling and mental health in Embakasi East were collected, interpreted and analyzed using Scientific Package for Social Science version 20. It is divided into four sections namely; response rate, analysis, presentation and logistical challenge.

4.2 Response rate

According to Mugenda and Mugenda (2009) a response rate of 50% is considered appropriate for analysis and reporting. A rate of 60% is also considered good and a rate of 70% and higher is considered exceptional. Out of 200 of questionnaires photocopied, 170 sheets were administered out of the number and 158 were returned filled. 25 out of 158 returned surveys were deemed invalid during the coding process, and 133 completed questionnaires were entered into SPSS. The author sampled a total of 158 respondents out of these 133 respondents successfully filled and brought back their questionnaire. However, 25 questionnaires were not returned by the respondents. Hence, enabled the author to a response rate of 84 % of those who were interviewed which implied that that it was excellent and therefore it could be inferred to the wider population.

4.3 Analysis

According to George and Mallery, (2010) only items with a Cronbach Alpha score greater than 0.7 are appropriate as a rule of thumb measure. Eighteen items on the questionnaire measured the extent to which the tool is reliable.

Table 4. 1 Reliability statistics

Reliability Statistics	
Cronbach's Alpha	N of Items
.798	18

Cronbach's Alpha is .798 which is superior to 0.7 as a result of the Cronbach alpha therefore, it is tolerable. Regarding item - total statistics the column of Cronbach Alpha if any item is deleted then it will reduce the reliability of the instrument.

- By checking that the primary question was addressed both at the time of data collection and coding, the completeness of the responded was determined.
- At the point of coding the questionnaire, the researcher verified that consist responses were given to related items in order check to correction at the individual level.
- Following the correction that respondents responded in good faith, respondents should be credible and honest.
- Results were contrasted with those of similar earlier investigations, including those listed in the literature review section.

Secondly, confidence level represents that dependent variable (mental health) of 95% confidence level of the population mean lies between 19.9083 and 21.7157. However, if confidence interval level is increased to 99% then what lies between lower bound and upper becomes wider.

Table 4.2

Descriptives				
		Statistic	Std. Error	
Mental_health	Mean	20.8120	.45686	
	95% Confidence Interval for Mean	Lower Bound	19.9083	
		Upper Bound	21.7157	
	5% Trimmed Mean	20.8910		
	Median	21.0000		
	Variance	27.760		
	Std. Deviation	5.26876		
	Minimum	9.00		
	Maximum	35.00		
	Range	26.00		
	Interquartile Range	6.00		
	Skewness	-.218	.210	
	Kurtosis	.256	.417	

Table 4.3

The table below details the analysis carried out by the Scientific Package for Social Sciences after the questionnaire items were coded. This shows that gambling may not have had a significant negative impact on all gamblers mental health. However, there are some players who have actually experienced mild, moderate, and severe suffering as a result of showing signs of insomnia, anxiety and depression which emanate from gambling.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Gambling_behavior	133	4.00	31.00	21.2932	4.85046
Mental_health	133	9.00	35.00	20.8120	5.26876
Valid N (listwise)	133				

In the independent variable, the number of items was 133 as an individual got a score minimum of 4.00 and the maximum was 31.00. The arithmetic mean for all the items of the scores of gambling was 21.2932 while the standard deviation was 4.85046

On the other hand, the number of items for dependent variable was $N= 133$ as one participant scored a minimum of 9.00 while another scored a maximum of 35.00. The arithmetic mean was 20.8120 and the standard deviation was 5.26876

Thirdly, regarding the tool Questions 1,4,7, and 8 on the questionnaire dealt with depression. Although not all symptoms of depression were recorded. The device focused on the things like stress, worry about health, loss of interest on pleasurable things, and feelings about oneself.

Questions 6,9, and 3 in the questionnaire dealt with anxiety and these focused on symptoms including restlessness, difficulty relaxing, and a sense of feeling being at the edge. It only partially captured the Generalized Anxiety Disorder 7-items (GAD) anxiety dimensions.

The questions in the survey dealt with sleep related topics in questions 2 and 5. In these questions issues like difficulty in falling asleep and poor quality of life, were looked at. In this regard, the Insomnia Severity Index values for these components are the same.

Lastly, the difference between the observed frequencies in contingency table and the frequency by chance is represented by the Chi – square (Cramer et al., 2003). The author focused on chi square test of independent specifically the test of association. The study endeavors to determine the association between gambling and mental health. So, a high square test would indicate that these two variables are not independent of each other rather they are associated with each other. The table 4.11 below gives an overview of the tabulated data. This illustrate that the Pearson degree of freedom is 484, the P value is .000 and the Chi – Square value is 609.328a. Each subscript letter designate a collection of categories related mental health whose column proportions do not substantially differ from one another at the 0.05 level.

Table 4. 4

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	609.328 ^a	484	.000
Likelihood Ratio	326.912	484	1.000
Linear-by-Linear Association	23.433	1	.000
N of Valid Cases	133		

a. 529 cells (100.0%) have expected count less than 5. The minimum expected count is .01.

Association between gambling and mental health results suggest that, if the tabulated chi square values is less than the calculated chi square consequently the null hypothesis is disapproved. Hypothesis where two categorical variables are tested (gambling and mental health) chi square test usage. In this regard, relationship between gambling behavior and mental health is not particularly strong among male adults in Embakasi East. However, there is some association between the two variables. The significant level is at 0.01 to 0.05 of the cut – off value, according to the author’s statistical study. As a result, the alternative hypothesis is accepted and the null hypothesis is rejected.

4.4 Presentation

(Bryman & Bell, 2014) define data analysis as data evaluation denotes a procedure that makes use of analytical and statistical methods. Data is examined ,cleaned, converted , and modeled in order to find pertinent information needed for hypothesis testing and drawing conclusions. Data analysis used for this study was aided by software program IBM SPSS (Version 20.0). The study utilized multi – dimensional methods towards which the following were put fourth; descriptive statistics and Chi – square statistics. In comparing the association involving the

dependent and independent variables, Chi – square and cross tabulation were used to demonstrate the association between different objectives.

- **Sleep patterns and time spent**

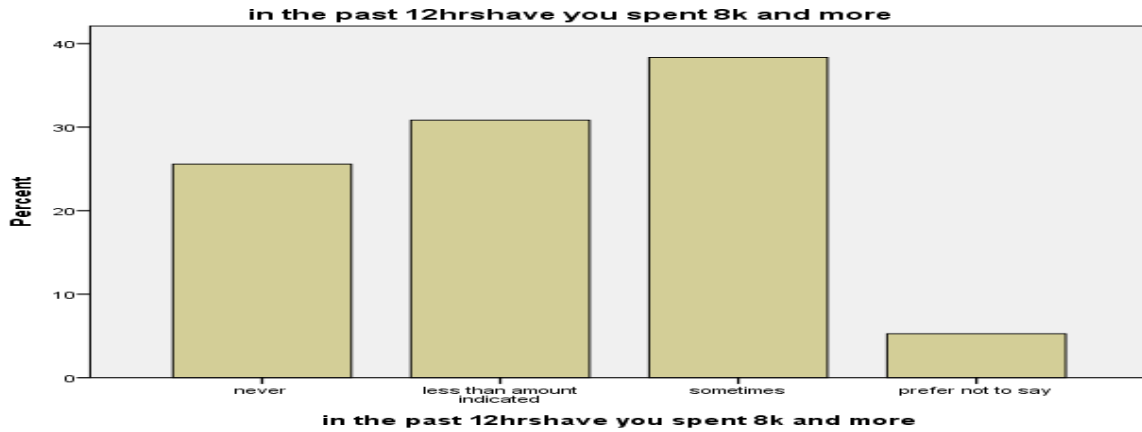
Table 4.5 shows an overview the amount of money spent by gamblers in the past 12 hours if it ranges from 8000 shillings and more. It indicates that the studys partisipants whose highest level were those who sometimes bet with 51 (38.3 %) which majority of respondents 41 (30.8 %) showed less than amount indicated , 34 (25.6 %) attained with never spent 8k in the past 12 hours while 7 (5.3%) were not in the position to say.The study wanted to understand what respondents spent in the last 12 hours and the is shown in pie chart below.

Table 4.5

in the past 12hrshave you spent 8k and more					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	never	34	21.9	25.6	25.6
	less than amount indicated	41	26.5	30.8	56.4
	sometimes	51	32.9	38.3	94.7
	prefer not to say	7	4.5	5.3	100.0
	Total	133	85.8	100.0	
Missing	System	22	14.2		
Total		155	100.0		

The bar graph below show an overview of the comparison of who spent most and least in a range of 12 hours. The results in the graph demonstrated that majority indicated that sometimes they spend 8000 shillings or more in the time stipulated and this could sometimes lead one to develop mental illness.

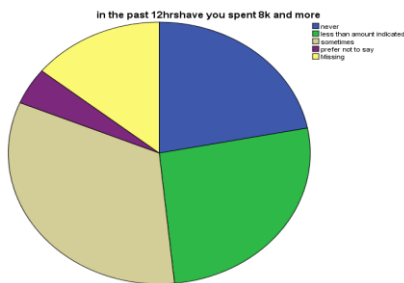
Bar graph 4.1



The figure 4.2 below presents the breakdown of gamblers spending Kenya shillings 8000 and more in a range of 12 hours according to how they spend. The result according to the section indicate that the majority of respondents said had never spent ksh.8000 or more for the period, and the last respondents said they would rather not reveal.

This suggest that those who chose the option are sometimes likey to develop sleeplessness symptoms in response to the time spent playing the game, which also determines how much money spent. In this regard, a gambler who planned to wager at least 1000 shillings and spend Kenya shillings 100 per hour doing so is expected to spend atleast 10 hours betting and, assuming daily trips to the shop which results to an experience of insomnia.

Figure 4. 2 : Pie chart



- **Amount of money spent and depression**

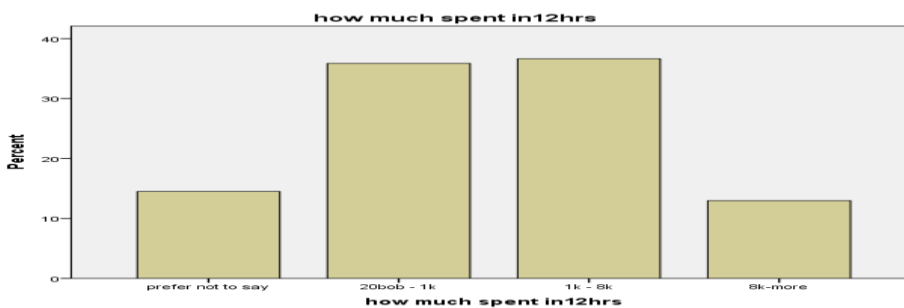
Table 4.6 provides a summary of the amount of money player’s use within 12 hours and its relationship with feeling tired. The results indicate that that from 1000 – 8000 shillings majority of the group responded significantly more than the other participants who spent less than the amount. A total of 35% of gamblers reported using 20 to 1000 shillings, 13 % of gamblers claimed to use 8000 shillings or more, while 14% stated they preferred not disclose.

Table 4.6

		how much spent in12hrs			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	prefer not to say	19	12.3	14.5	14.5
	20bob - 1k	47	30.3	35.9	50.4
	1k - 8k	48	31.0	36.6	87.0
	8k-more	17	11.0	13.0	100.0
	Total	131	84.5	100.0	
Missing	System	24	15.5		
Total		155	100.0		

Figure 4.3 below presents compares how each person uses the 12 hours in a day. A category of gamblers who did not wish to provide feedback on the instrument is shown in the bar graph bellow, which shows that few people spend 8000 shillings, or more. More people spend between 20 and 1000 shillings, while the majority spends between 1000 and 8000 shillings each day.

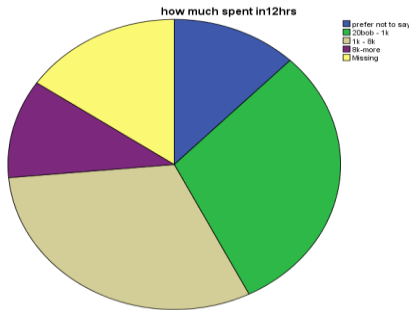
Figure 4. 3 : **Bar graph**



The figure 4.4 below shows pie chart divisions on how gamblers spend money during a 12 hour period. It shows the number of gamblers and the relative size of their expenditure; the majority spends between 1000 and 8000 shillings compared to the rest, while the least spend between 8000 shillings and more.

As can be seen from the figure, more participants indicating at least shilling 8000 group reported significantly more than the other three groups.

Figure 4. 4 : **Pie chart**



- **Number of hours spent and anxiety**

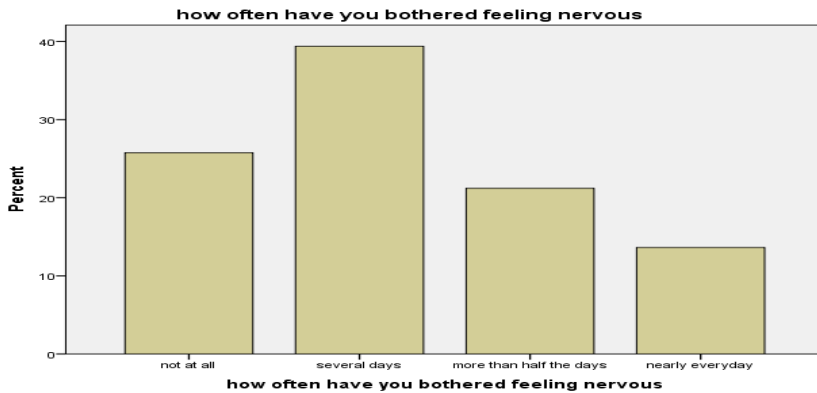
The respondents were questioned about how frequently their nervousness disturbed them. 39 % responded that they are being disturbed several days which took the bigger picture. The least with 13 % indicated that they are nearly they being disturbed every day.

Table 4. 7

		how often have you bothered feeling nervous			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not at all	34	21.9	25.8	25.8
	several days	52	33.5	39.4	65.2
	more than half the days	28	18.1	21.2	86.4
	nearly everyday	18	11.6	13.6	100.0
	Total	132	85.2	100.0	
Missing	System	23	14.8		
Total		155	100.0		

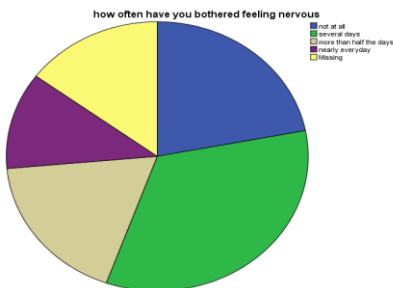
The graph 4.5 below compares the summary statistics of the categories of gamblers who feel nervousness. Majority in the graph sections reported feeling anxious more frequently than those in other categories, while the fewest people said they were anxious almost every day.

figure 4. 5 **Bar graph**



The figure 4.6 below shows players who feel some symptoms of anxiety when placing bet. Players who said they are troubled by anxiety on multiple days took up a larger portion of pie chart below. The least expressed that they are bothered by feeling anxious almost every day as a result.

figure 4. 6 **Pie chart**



- **Amount of money spent and insomnia**

Table 4.8 below illustrates how much a gambler spends in a week. The result on the table below is quite revealing in several ways, those who responded to the item of 1000 – 8000 shillings, 20 shillings to 1000 shillings prefer not to say, 8000 shillings and more. The majority scored 37% implying that they could spend 1000 – 8000 shillings in a week as the least category scored 13% indicating that they spend shilling 8000 or more.

Table 4. 8

		how much spent in a week			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	prefer not to say	19	12.3	14.5	14.5
	20bob -1 k	45	29.0	34.4	48.9
	1k -8k	49	31.6	37.4	86.3
	8k -more	17	11.0	13.0	99.2
	5	1	.6	.8	100.0
	Total	131	84.5	100.0	
Missing	System	24	15.5		
Total		155	100.0		

Figure 4.7 compares the amount of money spent in a week, consider whether it causes insomnia. The majority claimed that their weekly spending ranged from 1000 to 8000 shillings, which contributed to their developing sleeping issues. The lowest bracket of gamblers spent 8000 shillings and more.

figure 4. 7 **Bar graph**

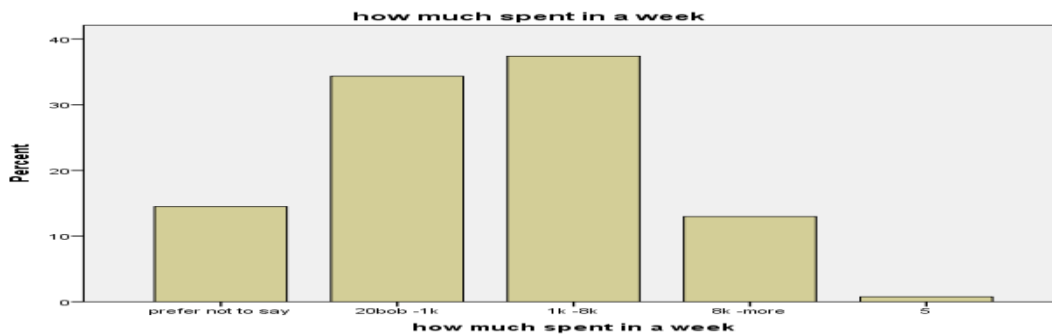
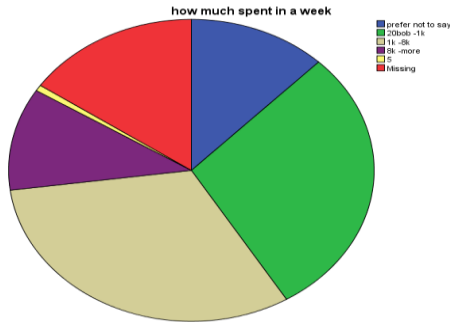


Figure 4. 8 below illustrates how different categories are divided, showing who spent how much and its connection to sleeplessness. The bulk of gamblers were observed using amount between 1000 and 8000 shillings, which has caused them to have trouble sleeping.

Figure 4. 8



- **Amount of money spent and anxiety**

Table 4.9 compares the amount of money spent by players and its relationship to anxiety. The results indicate that the majority spend 1000 – 8000 shilling compared to the rest of the categories. This suggest that certain anxiety symptoms have been seen in individuals who spend at least Kenya shillings 8000 each week.

Table 4. 9

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
prefer not to say	19	12.3	14.5	14.5
20bob -1k	45	29.0	34.4	48.9
1k -8k	49	31.6	37.4	86.3
8k -more	17	11.0	13.0	99.2
5	1	.6	.8	100.0
Total	131	84.5	100.0	
Missing				
System	24	15.5		
Total	155	100.0		

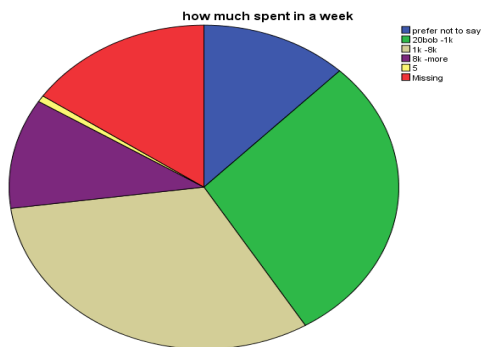
Figure 4.9 presents an overview of an evaluation of weekly gambling spending. The findings indicate that most people utilize between 1000 and 8000 shillings in a week, which causes them to feel more worried and create a habit of wanting to place more bets.

figure 4. 9 **Bar graph**



Figure 4.10 shows the categories of money that gamblers spend each week as depicted in the pie chart. The majority of the pie show that they spent between 1000 and 8000 shillings each week, which caused them to get symptoms of anxiety hence wanting to bet more.

figure 4. 10 **Pie chart**



- **Number of bets placed and insomnia**

Table 4.10 below displays the frequency and the percentage of the number of bets placed within 24 hours. The result shows that the majority of group responded that sometimes the number of bets range more than 10 within 24 hours, 45 (34.0 %) 38 (28 %), 30 (22 %) and the least 19 (14 %) which implies that majority sometimes their bets range more than ten.

Table 4. 10

within 24hrs bets range more than 10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	never	30	19.4	22.7	22.7
	sometimes	45	29.0	34.1	56.8
	don't know	38	24.5	28.8	85.6
	prefer not to say	19	12.3	14.4	100.0
	Total	132	85.2	100.0	
Missing	System	23	14.8		
Total		155	100.0		

- **Number of bets placed and depression**

Table 4.9 shows that the respondent majority responded sometimes ; 45 (29.0 %) which made up the majority of respondents, 38 (24.5 %) was attained by the participants who responded don't know, 30 (19.4 %) responded never while smaller extent responded at 19 (12.3%) . The study wanted to understand if the number of bets placed within a span of 24 hours range from 10 bets and more and how it relate to the attribute of depression. According to these data the consumers of betting were of the opinion that to a large extent they were bothered feeling tired by reponding several days.

Table 4. 11

within 24hrs bets range more than 10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	never	30	19.4	22.7	22.7
	sometimes	45	29.0	34.1	56.8
	don't know	38	24.5	28.8	85.6
	prefer not to say	19	12.3	14.4	100.0
	Total	132	85.2	100.0	
Missing	System	23	14.8		
Total		155	100.0		

Figure 4.11 provides an overview of what gamblers feel when their bets range from ten and above. The result implied that when gamblers make more than 10 bets, within 24 hours. The outcome was used to explain why a particular category of people choose to respond that their bets occasionally ranged beyond ten. The least comfortable in the category did not feel confident in revealing the range bets.

figure 4. 11 **Bar graph**

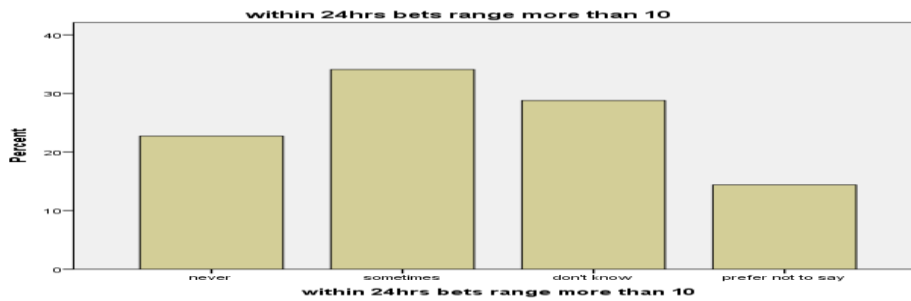
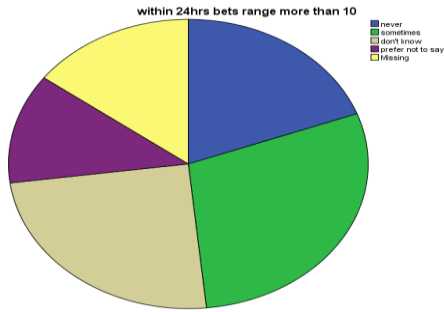


Figure 4.12 pie chart shows how gamblers responded to the query regarding the number of wagers in the range of 10 and above throughout a 24 – hour period. The results from the various categories show that a significant portion of bettors stated that their range is occasionally between 10 and above, followed by another category who indicated never, and the least category response preferred not to say.

figure 4. 12 **Pie chart**



- **Number of bets placed and anxiety**

Table 4.12 below show how the number of bets placed results into irritability. The results indicate that the majority respondent don't know of 32 %, the 31 % of gamblers responded sometimes, 13 % responded never while smaller extent responded 6%. The study seek to examine if the number of bets placed from 3 -10 bets relate with anxiety.

Table 4. 12

less than 6hrs no. of bets range from 3-10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	never	21	13.5	16.2	16.2
	sometimes	48	31.0	36.9	53.1
	don't know	51	32.9	39.2	92.3
	prefer not to say	10	6.5	7.7	100.0
	Total	130	83.9	100.0	
Missing	System	25	16.1		
Total		155	100.0		

Figure 4.13 shows the number of bet range from 3 to 10 bettors who were measured in less than 6 hours, and the graph showed that the majority of bettors mentioned they were unsure of their bet range, while the least opted not to say their bet range. The remaining group took the part responding to sometimes their bet while others responded never.

figure 4. 13 **Bar graph**

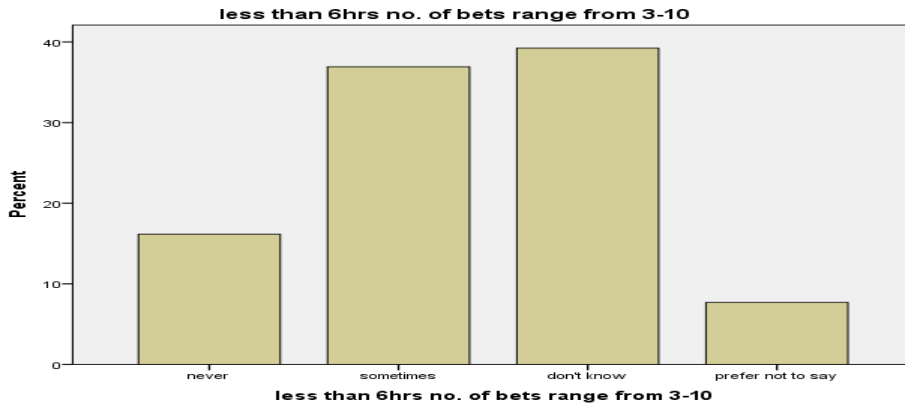
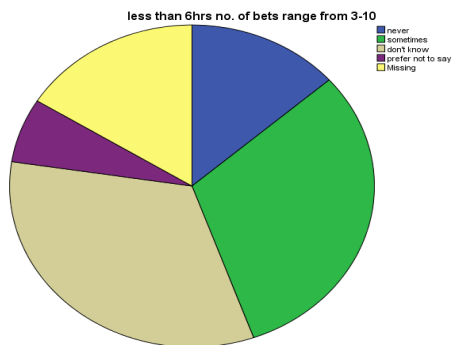


Figure 4.14 the figure below illustrates how wagers made by gamblers, which vary from 3 to 10, relating to the onset of anxiety symptoms. The majority of respondents to the questionnaire stated that they were unsure of how the bet range may effect their mental health in terms of anxiety, and the least amount of gamblers indicated that they prefer not to express this based on the options provided.

figure 4. 14 **Pie chart**



4.5 Logistical challenges researcher encountered during the study

- **Rally at Jakaranda ground on 29th January 2023**

Jakaranda ground is situated in Embakasi East near Kayole and just opposite Carmel vale Catholic Primary school. The moment author set pace and armed to visit the first project site Mozart bet shop, the number of participants happened to reduce to normal. In this regard on average during weekend bettors usually appeared to be 100 participants, but during this time they were only two as the situation was impacted by the rally that was scheduled by the opposition leader. To mitigate this challenge, author organized for a different day to collect data on the same site and the author was able to obtain better results than he had the day before on the same place during his second visit, despite the difficulties he encountered before.

- **Administrative structures**

One of the site he visited did not easily accept him to collect data even though he explained to supervisor the nature of the study. The author gave out license as evidence that he had been authorized by the government to carry out a study within the geographical area. The shop manager directed him to field operator manager who also told transferred him to country manager.

Their perception regarding data collection in their shop was not positively received in view that maybe after conducting the study customers may stop visiting the shop and this would eventually lead to loses. Researcher mitigated this challenge by approaching customers at door step who willingly gave the information they had. The long awaiting go ahead by the country manager took long time and it was like researcher was denied a chance to conduct a study there.

- **Time**

Most of the gambling site researcher visited did not have clients, majority of the client habitually attend to the shop in the evening after work or in the afternoon and this was regular to a shop of Mozzartbet company. Other sites like Dafabet did not even have a single person to fill the questionnaire. Secondly, during the times for games like the ongoing English premier League the participants were not comfortable and not ready to occupy their mind with other issues apart from concentrating on the current or ongoing game. He had to wait until the end of the game which unfortunately did not yield much fruit as some used to postponed till the following day to fill the questionnaires although others decided to take home. Researcher mitigated this challenge by visiting the sites when there was no game schedule.

- **Reward**

Even after explaining and be honest to them that nothing will be offered after filling the questionnaires sheets, some participants were giving conditions that without reward no filling of the questionnaire. The author mitigated this developing positive attitude and adhered to those who accepted to do the study and participants were not offered any kind of incentive or favor in order to fill the questionnaire; as a result, the findings were obtained from those who were willing.

- **Small sample size relative to target populations projected size**

Due to practical constraints, the author found that the number of subject he could give the questionnaire were 170 that was after staying in the geographical area for four months. He targeted 200 subjects who he did not meet as it was proposed. There were typically 100

participants present throughout the game, and the author discovered that not all of them were gamblers, some were only bystanders therefore they did not accept to answer the questionnaire. In light of this, they made the decision to watch a game at the betting shop before returning home without placing a wager. Some people left their homes to go to the site because they prefer to watch where there are many of the participants and a lot of people were cheering than at home where there were few people.

CHAPTER FIVE

DISCUSSION, SUMMARY, CONCLUSIONS, AND RECOMMENDATION

5.1 Introduction

This chapter examines the researchers summary of findings wraps it up and offers suggestions based on the analysis of the data gathered. In this regard the study discovered a link between gaming and mental health in Embakasi East, Nairobi County. Gambling behavior generated the independent variable that was measured in terms of number of hours spent, number of bets placed, amount of money spent. Similarly, mental health generated measurements of depression anxiety and insomnia were used to determine the dependent variable. The study looked at what makes male adults overindulge in gambling and how it has contributed to mental health.

5.2 Discussion

The general study's goal was to ascertain whether gaming and mental health are related in adult males in Embakasi East, Nairobi county Kenya. The specific study's goal was to use primary data to identify a relationship between the amount hours spent and mental health among males adults, to evaluate the association between the number of bets placed and mental health among male adults, to explore the association between amount of money spend and mental health among male adults. The results of this study indicate that engaging in gambling led them to develop mental health problems. They testified that they could strike a balance between having healthy stable mental status while on the other hand they moderate gambling.

Others explained that they spend much time in betting sites due to insufficient entertaining healthy environment that could accommodate them. Respondents were seen to have a diverse

views regarding mental health that they go through the few mentioned that is depression, anxiety, and insomnia.

5.3 Summary

The first objective of this study was to determine the association between the number of hours spent and mental health among male adults in Embakasi East using primary data collected using questionnaire. Using chi square test of association the study established that factors such as time spent placing bet or just being in a betting environment, amount of money spent and the number of bets placed increased the probability of developing mental health problems. Other factors like age, educational level and marital status decreased likelihood of male adults engaging in gambling behavior. The factors that had significant effects were education level, followed by marital status then age.

Secondly, the study aimed to assess the relationship between wagering frequency and mental health among male adults in Embakasi East. The response rate of was 133 respondents out of expected 158 making it 84%. Inconsideration of the opinion of male adults on spending of more than 8000 shillings in a span of 12 hours, the results showed that some of the respondents they sometimes use more than 8000 shillings this made up of 32.9% of participants followed closely by 26.5 % of the participants who responded less than amount indicated and 21.9% responded never while the fewest participants responded sometimes that made up to 4.5 %.

On the issue of anxiety, they were asked how often they have been bothered feeling nervous , 52 (33.5 %) were the most who responded several days they were bothered, followed by 34 (21.9 %) who responded not at all they were bothered feeling nervous, the third was 28 (18.1%) while the least bothered responded nearly every day with 18 (11.6 %). When asked to indicate if

within a span or less than 6 hours the number of bets range from 3 – 10 bets, respondents took the decision of indicating don't know which had 32.9 %, followed by those who responded sometimes 31.0 %, the third was never 13.5 % while the least indicated preferred not to say 6.5 %. Few indicated that they could spent amount of time specified even without placing a single bet while majority of participants were captured within the time frame.

In line with the of quantity time spent (12 hours) also the sum of money spent, 40 (31.0 %) respondents indicated that they spend 1000 to 8000 shillings, followed closely by 47 (30.3) who responded 20shillings to 1000 shillings, the third was 19 (12.3 %) preferred not to say while the least spent 8000 shillings and more with 12 hours adding up to 17 (11.0 %), which indicated that the majority of the respondents fall in the category of 1000 – 8000 shillings within 12hours.

On the number of bets placed that contribute to anxiety slightly almost to the half of the respondents 51 (32.9 %) indicated that they sometimes bets range from 3 – 10 in less than 6 hours. Those who responded sometimes made a frequency of 48 (31.0 %) were closely followed of participants and 21 (13.5 %) followed by indicating never as the least gave a choice of indicating prefer not say 10 (6.5 %). On the bets placed range within 24 hours if they are more than 10 bets in respect to depression. 45 (29.0 %) of respondents were placing bets sometimes, 38 (24.5 %) of respondents indicated don't know, about 30 (19.4 %) indicated that never have their number of bets range more than 10 with 24 hours while the least was 19 (12.3%) of participants who responded prefer not to say. For the third objective on the association between amount of money spent and mental health, when respondents were questioned about their weekly spending. 49 (31.6 %) responded that they spend 1000 – 8000 Kenya shillings, which was the larger followed by 45 (29.0 %) who responded that they spend 20 shillings to 1000 shillings. it

then declines to 19 (12.3 %) of respondents indicated that they were not prefer to say and the least respondents indicated 8000 shillings and more in a frequency of 17 (11.0 %).

5.4 Conclusion

The concept of gambling behavior is a vast subject that is well acquainted by the participants of Embakasi East, especially those who have being negatively affected. This has made it harder to sleep, leads to depression and severe anxiety. Binde, (2014) found that psychological issues are the major factors betting affect vulnerable users. According to a study by conducted Warde, (2010), many young people tend to bet so as to escape depression but these later resorts to crime in order to fund their betting habit and cravings. It has also evident based on the rate at which people spend time in betting site cannot be computed despite the fact that some claim that they just found themselves inside the shop and getting out becomes a problem. The amounts of money spent by participants also appear to be huge.

Betting Control and Licensing Board urges adult's individual on their banner over 18 years to bet responsibly. In this regard some take this information for granted, the urge and the cravings because uncontrollable leading to severe anxiety, and that enabled participants to use almost all the money that individual has even if one planned to use less he finds himself using more.

The research findings have resulted to an elaborative way of the descriptive of the phenomena under study. This can be understood that gambling behavior had significantly results into mental health among male adults an identified in the data analysis. Gambling have greatly influence mental health among male adults such as depression which is being the biggest challenge that players face, followed by anxiety to play again and again or craving to chase the lost money in view that it may return , then lastly insomnia which though affect but not to a greater extent.

Amount of money spent from 1000 to 8000 Kenya shillings within a specified time frame revealed that male adults of Embakasi East do engage in a week or less which is a concern on depression as far mental health is concerned and as per the results shown in the data analysis.

Upon the number of hours spent was found to have a greater contributor leading to mental health as they ended up getting no profit or gain less as compared to the cost of being in betting site whether placing bet or not.

5.5 Recommendation

The study recommends that participants should seek for better healthy way of handling gambling behavior. Further, the study recommends that the male adults to be empowered first by the county government of Nairobi in form of employment so that they can sustain themselves. Therefore it is suggested that more research be done in the future on the current subjects and further work is required to establish this.

Secondly, data collection tool only paid attention to few aspects of anxiety, insomnia and depression. In this regard, researcher advises that comprehensive examination of mental health illness be the focus of future research.

Lastly, the author recommends that future research should focus on all depressive, insomniac, and anxious symptoms as well as the scales of these symptoms being measured in terms of the mild, moderate and severe scales.

figure 5. 1 Gamblers photo in a betting shop

The figure below shows some gamblers who were playing virtual games and were eagerly waiting for the result of the games that they placed. They were watching from the displays

television where each player paid close attention to the event and was excited to know the outcomes, whether they had won the game, lost or received a virtual jackpot.

Figure 5.1



figure 5. 2 : **betting shop with two gamblers**

The figure below shows the vacant shop who only had shop attendants and two gamblers as majority of gamblers attended political gathering scheduled at Jakaranda. The rally had an impact on the environment at the data gathering site. In this realm, the author could typically attract 100 players or more on any given day, especially when there was a game, but during that time players left the shop to go to the rally at Jakaranda leaving just the shop keepers.

Figure 5.2

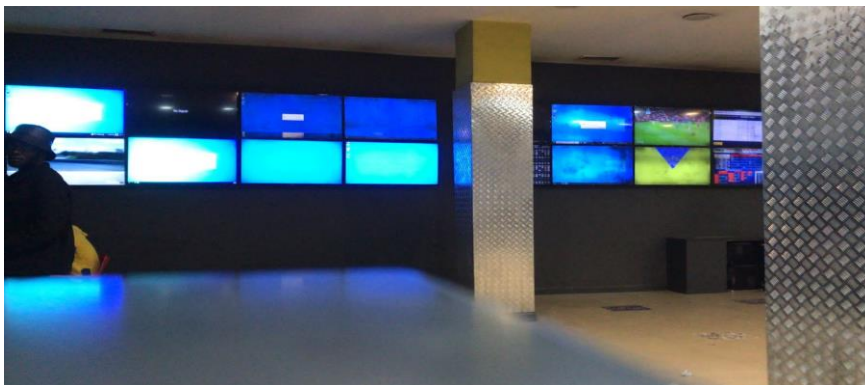


figure 5. 3 : Betting site with gamblers waiting for the result of games played

The figure bellow displays some bettors who appeared to be worried about something inside the betting site. They are keen watching the television on the game that they placed and some players worry about the results of the games since they are disappointed if they lose and treble their bet if they win. The preferences were spin – to – win, races, and virtual leagues, all of which had a maximum 5 – minutes playing time and these games were placed at various intervals.



5.6 Policy implication

The evidence from this study suggests that more men spend 1000 to 8000 shillings in a day compared to those who spend shillings 8000 and more. This is an indication that there appeared to lack of employment or any other activity that can benefit them financially, socially, and psychologically. The study proposes some measures by stake holders to enable consumers have healthy mind and stable mental status. This finding has important implication curtailing their gambling cravings. These results suggest that education sees to lessen the likelihood that someone would gamble locally.

Given that this relates to the suggestions that the author makes reference, the recommendation that the author propose was that the community can be educated regarding gambling using once

level of income so that the occurrence of social and psychological problems will be minimized, and these findings add to the evidence supporting the idea. Lastly, in reducing addiction gambling behavior, the participants who are married should be encouraged to focus on the sole issues like families rather than staying in betting site every day since some of the issues emerging from this finding relate specifically to families. Similarly, those not married yet can be encouraged to get married and by doing so the likelihood of taking up responsibility will be high.

5.7 Suggestions or area of further Research

This study examined gambling behavior and mental health among male adults in Embakasi East with main focus on the association between the two variable gambling and mental health. The study adopted association research design which explains the phenomenon under study; future studies should consider using other research design such as experimental or correlation, to determine the outcome of this investigation for those who took part in the study were sampled via simple random sampling technique which could have influenced the study's findings; moreover, these was a limited sample size of 133 subjects. Further studies should consider using probability sampling which could provide equal chances for participants for the targeted population. Further, research should be carried out on treatment of pathological severe gamblers, and this extends our knowledge. Therefore, researcher suggest on treatment of compulsive pathological severe gamblers and how they can restore their healthy mental status. The work has contributed in some small manner to improving our comprehension of gambling problem.

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APPENDICES

APPENDIX 1; QUESTIONNAIRE TO THE GAMBLERS

I am Bonaventure Adede Kasera , a graduate student at the University of Nairobi master's degree in Counselling Psychology. I need to start a research study as needed by the program. Therefore, I am conducting research on “ **Relationship between gambling and mental health among male adults in Embakasi East Nairobi county, Kenya.** Your voluntary supplying the information the study is searching for is vital for me to do this. The information gathered is primarily used for academic purposes, and it will be handled in a most secret manner. This questionnaire has two sections, section A focuses on gambling while the next section (B) concerned with mental health.

Instructions

Please provide the most accurate response you can to each of the following questions.

Tick or shade the circle.

SECTION A

Gambling: number of bets placed per hour, per day, per week; amount of money used per hour, per day, per week.

1. Have you had the last 12 hours spent 8000 shillings and more?
 - Never at all
 - Less than amount indicated
 - Sometimes
 - prefer not to say

2. In the past 12 hours have you spent Sh. 1000 – 8000?
- Never at all
 - Less than amount indicated
 - Sometimes
 - Prefer not to say
3. In the past 12 hours have you spent ksh. 20 - 1000?
- Never at all
 - Less than amount indicated
 - Sometimes
 - Prefer not to say
4. Within a span of 10 min – 2 hours, does your number of bets placed range from one to three?
- Never at all
 - Sometimes
 - Don't know
 - Prefer not to say
5. Within a span of 2 hours to 6 hours does your number of bets placed range from 3 – 10 bets?
- Never at all
 - Sometimes
 - Don't know
 - Prefer not to say

6. Within a span of 6 hours to 24 hours does your number of bets placed range from ten and more?
- Never at all
 - Sometimes
 - Don't know
 - Prefer not to say
7. How much did you get in the past 7 days that you could choose how to spend?
- Prefer not to say
 - Ksh. 20 – 1000
 - Ksh 1000 – 8000
 - Sh. 8000 – more
8. How much did you spend in the past 12 hours that you could choose how to spend?
- Prefer not to say
 - Ksh. 20 – 1000
 - Sh. 1000 – 8000
 - Sh. 8000 – more
9. How much did you spend in the past one month that you could choose to spend?
- Prefer not to say
 - Ksh. 20 – 1000
 - Sh. 1000 – 8000
 - Sh. 8000 – more

SECTION B

Mental health: Depression, insomnia and anxiety assessment

1. How frequently do you find yourself lacking interest or enjoyment in activities?
 - Never at all
 - Number of days
 - Greater than the days
 - Almost every day

2. How frequently has having difficulties falling asleep or sleeping too much disturbed you?
 - Never at all
 - Number of days
 - Greater than the days
 - Almost every day

3. How frequently has feeling exhausted or low energy disturbed you?
 - Never at all
 - Number of days
 - Greater than the days
 - Almost every day

4. How often have you been bothered by feeling bad about yourself or let yourself or your family down?
 - Never at all
 - Number of days

- Greater than the days
 - Almost everyday
5. How frequently has it disturbed you to have problems focusing on activities like reading the newspaper or watching news?
- Never at all
 - Number of days
 - Greater than the days
 - Almost every day
6. How frequently does feeling tense fearful or on the edge bother you?
- Never at all
 - Number of days
 - Greater than the days
 - Almost every day
7. How often has your inability to stop or quit worrying bothered you?
- Never at all
 - Number of days
 - Greater than the days
 - Almost every day
8. How often does excessive stress about various issues disturb you?
- Never at all
 - Number of days
 - Greater than the days

- Almost every day

9. How frequently has it bothered you to have problem unwinding?

- Never at all
- Number of days
- Greater than the days
- Almost every day

Scoring

Never at all = 1, less than amount indicated = 2, Sometimes =3, Prefer not to say = 4, Don't

know = 3 , ksh. 20 – 1000 =2, ksh.1000 – 8000 = 3, ksh. 8000 – more = 4

Never at all = 1, number days = 2, greater than the days = 3, almost every day = 4

APPENDIX 2: INFORMED CONSENT FOR MALE ADULTS RESPONDENTS

Informed consent for male adults respondents

Administering questionnaire

My name is Bonaventure Adede Kasera a graduate student at the University of Nairobi. Data on the relationship between gambling and mental health among male adults will be gathered using this this questionnaire in Embakasi East. Please fill out the questionnaire with the required information. Your information was intended to be kept private and was requested just for the completion of the master's degree in Counselling Psychology.

Your input was to go a long way in enhancing and examining if gambling problem leads you to have mental health issues like lack of sleep (insomnia), anxiety and depression. Please write your request for a copy of this report in the space provided, please indicate so by writing your name or a code and append your signature.

Kindly note that you are free to skip questions or not respond to any of them.

Name of the participant

Sign Date

Kind regards,

APPENDIX 3; INTRODUCTORY LETTER



UNIVERSITY OF NAIROBI
FACULTY OF ARTS
DEPARTMENT OF PSYCHOLOGY

Telegrams: Varsity Nairobi
Telephone: 318262 ext.28439/28194
Telex: 22095

P.O. BOX 30197
NAIROBI
KENYA
EAST AFRICA

January 6th 2023

The Chief Executive Officer
National Commission for Science Technology and Innovation
P. O. Box 30623-00100
Nairobi

Dear Sir/Madam:

RE: INTRODUCTION- BONAVENTURE ADEDE KASERA (C50/37346/2020)

The above mentioned is a student in the Department of Psychology pursuing a Master of Counseling Psychology. He has completed the coursework and defended his research proposal.

This letter therefore is to introduce him to you to enable him to collect data on "ASSOCIATION STUDIES OF GAMBLING PROBLEM AND MENTAL HEALTH AMONG MALE ADULTS IN EMBAKASI EAST NAIROBI COUNTY, KENYA"

Your support is highly appreciated.

Yours sincerely,

Dr. Charles Kimamo
Chairman,
Department of Psychology




APPENDIX 4; RESERCH LICENSE FROM NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION



REPUBLIC OF KENYA

RefNo: 848648



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION.

Date of Issue: 28/January/2023

RESEARCH LICENSE



This is to Certify that Mr. Bonaventure Adede Kasera of University of Nairobi, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: Association studies of gambling problem and mental health among male adults in Embakasi East Nairobi County, Kenya, for the period ending : 28/January/2024.

Applicant Identification Number
848648

License No: NACOSTI/P/23/23327

Director General
W. Wambui

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Verification QR Code



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See overleaf for conditions

APPENDIX 5: DEBRIEFING DOCUMENT

Thank you for taking part in our research project. This investigation's objective is to associate gambling problem and mental health among male adults in Embakasi East. Your participation will help researchers gain more insight into the association of gambling problem and mental health. In the event that you experience any emotional distress due to the questions presented to you in this study, you may want to seek further support. A list of referrals has been included below for your information. Thank you once again for your participation.

Sincerely,

Pauline Agingu

Phone Number 0722846317

APPENDIX 6: REFERRAL CONTACTS

Referral contacts

Oasis Africa Counselling Center and Training Institute

Regent court, Suit B7

Argwings Kodhek Rd,

Opp. Nairobi Women Hospital

Hurlingham, Nairobi, Kenya

Phone: 257- 725466614 / 733366614

Website: www.oasisafrica.co.ke