FACTORS CONTRIBUTING TO THE BETTING BEHAVIOUR AMONG UNIVERSITY STUDENTS IN KENYA

BY

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DECLARATION

I declare that this document is my original work and has not been previously published or submitted anywhere for award of degree. I also declare that the document has no materials written or published by other scholars except where due reference is made and author duly acknowledged.

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ABSTRACT

Increased societal challenges that face majority of people such as increased unemployment, have seen majority of people especially youths resorted to solving their financial issues through gambling more so sports betting as some sort of luck. This has seen increased betting behaviours among youths, especially university students. Efforts put in place to determine factors that could be fuelling this behaviour have been scanty, while other studies acknowledging that there is need to readdress the issue. To bridge the gap and offer significant information that gambling especially sports-betting should not be viewed by youths as an alternative investment that brings quick money, this descriptive research study aimed to determine factors contributing to the betting behaviour among university students in Kenya. The independent variables were personality factor, technological factor, attitude factor and unemployment factor while dependent variable was betting or gambling behaviour among university students in Kenya. The study therefore sought to establish the influence of these factors on betting behaviour among university students in Kenya. A snowballing non-probabilistic sampling technique with a sample of 200 respondents selected using judgemental sampling technique was used for the study. Quantitative information was collected using questionnaires and analysed using descriptive and inferential statistics with aid of STATA software. Diagnostic tests were examined to ensure that data for the study was appropriate for the study model. The findings established that diagnostic tests performed on the data were effective for used in the study. Based on the descriptive findings, the study established that respondents agreed to some extent that both the personality factor, technological factor, attitudes factor and unemployment factor has been slightly influential in influencing their gambling behaviour. On the inferential statistics, the study established that there was a positive correlation between independent variables of the study (personality factor, technological factor, attitude factor and unemployment factor) and betting behaviour among university students in Kenya. A regression analysis performed to indicate whether the independent variables have influence on betting behaviour among university students revealed that only personality factor and unemployment factor have significant positive influence or relationship with betting behaviour among university students. The study also indicated that technological factor had insignificant positive influence on the betting behaviour among university students. Whereas, the study also indicated that there was a negative relationship between attitude factor and betting behaviour among university students in Kenya. The study recommended that the implications of banned sports betting activities on the university students or Kenyan youths need to be assessed. This followed the increased emergence of uproar from the public when the government attempted to close some of the sports betting sites in Kenya. The study looked at the factors contributing to the betting behaviour among university students in Kenya. The study recommends a similar study on university students but from private and public universities separately so as to look out for possible similarities.

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DEDICATION

I dedicate this project to my family for their immense support all this time during the study.

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ACRONYMS AND ABBREVIATIONS

CBD	Central Business District
KNBS	Kenya National Bureau of Statistics
PBC	Perceived Behavioural Control
SSA	Sub-Saharan Africa
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action

OPERATIONAL DEFINITION OF TERMS

Attitude factor	Attitudes are psychological construct that tends to determine the behaviour of an individual towards a particular product or service in the market (Chiu & Storm, 2010).
Betting	Refers to the practice of playing games of choice for a stake – by risking money or something of monetary value, in order to win money or prize (Maloba, 2018).
Unemployment factor	The existing improper labour functioning markets in which all able-bodied persons who are looking for a job cannot find a job (Reith & Dobbie, 2013).

CHAPTER ONE

INTRODUCTION

1.1 Background

The growing number of unemployed university graduates in Kenya is increasing by the day. While universities are producing above 700,000 graduates, only about 25% get employed but not immediately after their university education. This therefore imply that about 75% of Kenyan graduates remain jobless (Kimando & Njogu, 2012). With betting activities gaining momentum by the day, majority of university graduates have opted for betting/gambling as the fastest way of making quick money. As a result, unemployment has continued to remain a major issue that not only concerns the national government and policy makers, but also every household in the country (Kimuru, 2018).

The popularity of sports betting market in the world is increasingly becoming an area of interest for many scholars and experts. Betting on sports is one of the quickest developing market universally. With transformation of information technology (IT) globally, the market has experienced dynamic changes, growing in already developed markets, for example, in the US and finding its way into new ones like in Sub-Saharan Africa (SSA) (Ahaibiwe *et al*., 2016). Even though various studies have been undertaken, gambling behaviour among university students still remain a phenomenon that need to be addressed (Olason *et al*., 2015).

Gambling or betting is the practice of playing games of choice for a stake (Elliot, 2018). Gambling can also be described as taking part in a game during which you risk money, or something of monetary value, in order to win money or a prize. Betting especially sports betting, has become a very popular form of entertainment globally (Maloba, 2018). Scholars and experts believe that the entire sports betting market is worth hundred billions of dollars with no sign of slowing growth anytime soon. There is increasing concern in understanding

the gambling behaviour puzzle, which to date, still remain fully unresolved (Lee, Chung & Bernhard, 2014). This study therefore sought to bridge the gap by establishing factors contributing to gambling behaviour among university students in Kenya.

1.1.1 Gambling Behaviour

With growing unemployment challenges in the country, especially in the urban centres like Nairobi, gambling has continued to be an entertaining activity for the youth and in particular, university students. Whilst estimates of pathological gamblers might be small (like less than 3%), the estimates still represent millions of individuals whose life completely revolve around gambling activities (Petry, 2005). In his book, Custer (1985) established that gambling behaviour varies across individuals in the society hence there is need for different approaches aimed at controlling such behaviours (gambling). Previous research such as Koross (2016) established that male individuals still dominate betting activities as compared to female.

Custer (1985) further indicated that there are six types of gambling behavioural activities among individuals. There are professional gamblers, personality gamblers, causal social gamblers, serious social gamblers, escape gamblers and compulsive gamblers. According to Wood, Griffiths and Parke (2007), university students have been identified as the largest group with high risk in relation to gambling activities, especially online gambling. The space that comes with joining university provide students with a lot of freedom that allows them to effectively understand the gambling terminologies and how effective and efficient technology has made it possible.

Professional gamblers perceive gambling activities as their normal job, and would go ahead to master the skills necessary in their area of gambling such as sports betting (Koross, 2016). In Kenya, these group of people offer professional tips for cash through short messages

(SMS). They carefully observe their behaviours and would stop their gambling activities when need be. Anti-social gamblers are said to be like professional gamblers since they are not addicted. However, the only difference is that they might be scammers. For causal gamblers, they do it for fun, just like serious and escape gamblers. However for compulsive gamblers, their gambling activities is addictive and can affect their behaviour, making them lack control of their lifes, since gambling is everything to them (Sammut, 2010).

Studies such as Maloba (2018) provided attitude behavioural factor as a major factor that affects gambling behaviour among youths. According to Geopoll (2017), Kenyan youths spend more than an average of $50 that other sports gamblers spend in SSA. The study findings also established that while in other countries the frequency of gambling was once a month, in Kenya it is almost once a week or more. A sign that young people could become gambling addicts. The betting behaviour therefore addressed how much is spent by an individual, what motivates them to bet, whether they borrowed money to gamble, missed a class due to gambling, kept or concealed gambling material, sold personal stuff to get cash for gambling. These will also act as indicators of the gambling behaviour of an individual.

1.1.2 Gambling among University Students

Universities across the world have the highest number of those perceived to be at risk when it comes to gambling activities (Griffiths & Barnes, 2008). And with growth of technology and globalization, online gambling has become easy, accessible and efficient for individuals whose age group is below 24 years. This is the age where gambling becomes a real challenge when there is unemployment challenges in the country. Woods and Williams (2009) in the Canadian study established that education level and student status were significant predictors of online gambling activities. A growing number of university students have resulted into gambling at the expense of education.

The absence of immediate job after university studies for many graduates has continued to be a puzzle for many policy makers. Over the years, there has been cases of crimes committed by university students as a result of gambling activities. Many students gamble so as to make financial gains. However in gambling, losing presents high possibilities than winning. With sports betting activities increasing by the day due to increase in the level of competitiveness across the world, a high number of university students, approximately 63% are believed to be online bettors (Weinstock *et al*., 2007). The need to make quick money, which is considered as the biggest risk element of gambling behaviour, is believed to be what makes gambling attractive for many college students.

Koross (2016) in his study established that the prevalence of betting is high in that majority of the students recorded that they do gamble, with the motivation of gambling being money and enjoyment. The findings also revealed that betting has an influence on student's behaviour. The study was carried out on Kenyan university students with a sample size of 100 students aged between 18-24 years. While this study and other studies could provide more insights in understanding the gambling behaviour among university students, the growing large number of universities students participating in gambling activities still possess a big challenge on the need to understand this phenomenon. As a result, the study sought to bridge the gap.

1.1.3 Factors Influencing Gambling Behaviours

Gambling activities have remained an area that still need more research. A number of studies have been done, but mostly in the developed countries such as in Australia and Malaysia. Various factors given vary from one continent to another, there is little unison on which factor is superior to the other and what are the most effective factors which drive individual youths especially university students into betting activities. It has to be taken into consideration that unlike developed nations that have low unemployment rate, developing

nations such as Kenya have high unemployment rate which may be perceived to be the biggest factor in increasing the prevalence of betting behaviours among university students.

Internationally, Miller, Mackillop, Fortune, Mapples, Lance, Keith-Campbell and Goodie (2013) and Buckle, Dwyer, Duffy, Brown and Pickett (2013) researched on association between personality factor and gambling behaviour. The studies adopted the five personality traits (agreeableness, extraversion, neuroticism, openness to experience and conscientiousness) with operationalization such as being anxious, feeling excitement, self-discipline, comfortability among others. These aspects explain the personality traits of individual gamblers. Additionally, Lopez-Gonzalez and Tulloch (2015); and Shaffer, Peller, LaPlante, Nelson and LaBrie (2010) assessed technological factor through online/web gambling and gambling behaviours. The studies used accessibility, affordability and convenience as the most form that make technology used in increasing online gambling behaviour.

Other studies also researched on attitude factor such as Chiu and Storm (2010), McComb and Sabiston (2010) and Yi and Kanetkar (2010). The studies argued that individual's attitude may have to a greater extent, influence on their behaviour especially gambling. This can be based on the monetary gain, excitement and socialization experience that defines the attitudes of students especially in the university. Regionally, Ahaibiwe. Lakuma, Katunze and Mawejje (2016) did a study on unemployment and gambling behaviour in Nigeria. Locally, Wanjohi (2012) also researched on unemployment and gambling behaviour in Nairobi. They studied wages/salaries of individual gamblers, financial challenges and lifestyle among others to operationalize the variables. Therefore, this study will adopt this factors in explaining how they influence gambling behaviours among university students in Kenya.

1.2 Statement of Problem

Despite the global concerns that have been raised on the negative effects of gambling behaviours among youths (Ahaibiwe *et al*., 2016), more so university students such as crimes, bankruptcies and financial debts, the sports betting/gambling has continued to make billions of dollars globally approximately $250 billion, as well as an increase in number of individual participants/bettors/gamblers in the market (Gainsbury *et al*., 2014). The driving forces behind the continued gambling behaviours among university students especially in the developing countries such as Kenya, still remains scanty (Koross, 2016).

The university population is increasing each year, and so does the livelihood becoming unbearable for many students in their various campuses (Kimuru, 2018). To many students, gambling presents best opportunity to make quick money and support their lifestyles. Increased online technology consumption among Kenyan youths have resulted to faster growth in online gambling behaviour (Wanjohi, 2012). This has caused a debate among professionals on what could be the driving factors that contribute to increased gambling activities.

The inability of the government to create enough jobs, provide effective gambling policies through regulation and legislature, the attitude among the Kenyan youths that gambling may be perceived as an easy way to make money (KNBS, 2018) proves the biggest challenge that must be addressed, and if not well addressed, may see increased gambling behaviours not only among university students but even for the teenagers in lower school. A study by Lopez-Gonzalez, Estevez and Griffiths (2017) identified advertising by betting firms through technology as a major factor. However, the limitation of the study was that it mostly concentrated on the sociological perspectives.

Locally, Korosss (2016) and Maloba (2018) assessed betting behaviours. The studies acknowledged that gambling behaviours still need to be effectively addressed. With growing economic hard times in the country, and increased unemployment rate (17.3%) (KNBS, 2018), Kenya has continued to see increased gambling behaviours among the youths, especially university students. The factors driving such behaviours are still scanty hence the need to develop a study model to explain the study phenomenon.

1.3 Research Objectives

The study was guided by general and specific objectives

1.3.1 General Objective

The main objective of the study was to determine factors contributing to the betting behaviour among University students in Kenya.

1.3.2 Specific Objectives

i) To find out the influence of personality factor on the betting behaviour among university students in Kenya.
ii) To determine the influence of technological factor on the betting behaviour among university students in Kenya.
iii) To assess the influence of attitude factor on the betting behaviour among university students in Kenya.
iv) To find out the influence of unemployment factor on the betting behaviour among university students in Kenya.

1.4 Research Questions

i) What is the influence of personality factor on the betting behaviour among university students in Kenya?

ii) Does technological factor influence the betting behaviour among university students in Kenya?

iii) To what extent does attitude factor influence the betting behaviour among university students in Kenya?

iv) What is the influence of unemployment factor on the betting behaviour among university students in Kenya?

1.5 Significance of the Study

1.5.1 The Government

This study may be essential in assisting the government to understand why past legislative laws on gambling have failed and establish effective mechanisms that can be taken to introduce new laws that govern the fast-growing sports betting market in the country.

1.5.2 Betting companies

This study may also highlight key factors that have led to tremendous increase of betting behaviours among youths in the country, even with poor economic conditions, betting industries still make billions of profits without accurate data worldwide.

1.5.3 Scholars and Academicians

This study may also serve as a future reference for future academicians and scholars to further explore factors leading to the betting behaviour among university students in the country and also in other countries.

1.6 Scope of the Study

This study was on factors contributing to the betting behaviours among university students in the country, Kenya. The independent variables which formed the factors of the study were personal factor, technological factor, unemployment factor and attitude factors while dependent variable of the study was gambling/betting behaviours among university students.

The theories that aided in contributing to study development were social learning theory, theory of planned behaviour and the big five factor model. This study was descriptive research and information was gathered from a sample population of 200 university students who were selected using snowballing non-probability sampling technique (judgemental). Quantitative data was examined using descriptive and inferential statistics. The study took 10 months (January – October 2019).

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section presents the empirical evidence related to the topic of the study. It looked at the previous studies that have been done and linking them to this study. This chapter also presents the theories that contribute to the study. The study attempts to connect the theories to the study by establishing their relevance. The chapter further provides the conceptual framework of the study which indicates the relationship between predictor variables of the study and the dependent variable. An operationalization of study variables was presented to describe each variable and make it easy for understanding.

2.2 Theoretical Review

Theories are a set of possible assumptions, propositions or explanations on facts that attempts to provide clarity or rational description of cause and effect relationships that exist among established groups of observed phenomenon. Theories are essential in attempting to explain the concept of the study. They give the researcher the ability to understand and develop the objectives of the study and relating them to the theoretical assumptions that have been made by existing studies (Kothari, 2004).

2.2.1 Theory of Planned Behaviour

The theory of planned behaviour (TPB) provides the likelihood of an individual engaging in a particular behaviour/decision by evaluating the information available to them. According to this theory, the behaviour of an individual is highly associated with the strength of his or her intention to be involved in the behaviour. According to Ajzen (1985) who proposed the development of the theory of planned behaviour (TPB), it was widely applied as a psychological tool to assist in understanding of various behaviours of a person such as

behavioural health, gambling and among others. This theory can be connected to the theory of reasoned action (TRA) which was more applicable when the probability of success and actual control over performance of a behaviour are suboptimal (Collins & Carrey, 2007).

Moreover, the theory provides information of how the influences upon a person determine that person's decision to follow a particular behaviour (Norman, Armitage & Quigley, 2007). Within the theory, the factors affecting behaviour are intentions to engage in that particular behaviour and perceived behavioural control (PBC) over a person's behaviour. Behavioural intention describes an individual's motivation of his or her conscious plan or decision to perform certain actions (Norman *et al*., 2007). Therefore, a strong intention is, the more likely that an individual will perform certain actions. Attitudes and subjective norms are other important determinants of TPB. Attitudes can be explained as the extent to which an individual may have positive or negative feelings of his or her behaviour of interest. It takes into account the expected results of performing certain actions at a time (Norman, Armitage & Quigley, 2007).

Subjective norm is the belief that significant others/ friends and relatives think an individual will perform the behaviour (Ajzen, 1991). It can be connected to an individual's perception of the social environment surrounding the behaviour. Connecting this factor to the gambling behaviour among individuals, especially in the country (Kenya), there is a perceived feeling that the social environment has favoured gambling activities. With the significant others/friends and relatives being the biggest contributors in terms of urging their friends to participate in gambling activities, individuals have in most cases increased their gambling behaviour with the idea of earning extra money (Weinstock, Whelan, Meyers & Watson, 2007). As a result, this has seen increased gambling companies, and further affecting the behavioural attitudes of individual participants (Thrasher, Andrew & Mahony, 2011).

Also, perceived behavioural control (PBC) is essential in depicting a person's perception of the degree to which performance of his or her behaviour will be easy or difficult (Ajzen, 1991). Therefore, it increases when individuals perceive they have more chances, resources and confidence of winning or gaining more advantage (Lee & Kozar, 2005). Kenya has experienced increased emergence of betting firms over the last few years. However, there are still scanty studies to explain this phenomenon. Existing studies have utilized the TPB to explain the behavioural concept of individual gambler's behaviour. This theory therefore may be useful to the study as it highlights how individuals acquire or follow the attitudes of significant others/individuals and their intention behaviour to become sports gamblers.

This theory therefore significantly contributed to the study as it highlights the behavioural attitudes of the individuals. It further provided an open scenario of how betting firms take advantage of the social environment as explained by social norms factor so as to grow their businesses. As a result, the theory is useful in explaining intentions as a motivation factor which causes individuals to behave in a certain manner, especially in gambling activities. A study by Cheon, Lee, Crooks & Song (2012) explained how individual's attitude influences the intention to adopt mobile devices which enhance gambling activities.

2.2.2 Social Learning Theory

This is an observational theory of learning/modelling that shapes behaviours including socially undesirable behaviours. As such, individuals are bound to demonstrate those individuals whom they esteem (Bandura & Walters, 1977). Based on this hypothesis, a relationship could exist between gambling participants, those who bet and those who place these bets for individuals to participate in (Bookmakers). This theory further states that the simple idea of the learning model is that gambling/betting is a behaviour governed by contingency of reinforcement operating under classical conditioning shift. The idea behind

this theory is that people tend to learn a lot with time from those around them (Bandura, 2001).

As such, both good and bad reinforcement increases the gambling response by being elicited and explain the persistence as well as the emergence of betting firms (Anderson & Brown, 1984). In the learning theory, winning and losing play a key role in reinforcing the behaviour of participants; especially between bettors and bookies/bookmakers (betting firms). For instance, in the betting/gambling activities, winning money generates some form of excitement being rewarded by both participants (Reith & Dobbie, 2011). Likewise, the experience of separation empowering temporary emotional escapes from aversive negative pull of feeling states speaks to a negative reinforce that likewise rouses increased betting practices (Bandura, 1978).

This theory therefore contributes to the study as it provides mechanisms of understanding the need for individuals to keep placing bet even after losing. Ever since the emergence of betting activities in Kenya, the number of youths involved in gambling activities have increased significantly. While the rate of unemployment has been increasing as well, betting activities have remained significantly high over the years. This theory therefore provides a learning model which illustrates factors that motivate individuals to keep betting even with no money at hand. There is a high influence of need to win among people based on the previous performance or success of their significant others. This has contributed significantly to the increased betting behaviour and as a result, can be connected to the increased emergence betting firms.

2.2.3 Big Five Factor Model

This is a theory of personality that tends to describe the personality traits of an individual. A trait can be seen as a relatively stable characteristic that causes people to behave in a certain

way/s (Goldberg, 1993). With increased gambling activities across the country, there is minimal explanation offered in research in relation to personality of gamblers. And as a result, this theory seeks to offer more insight into how personality trait model explains the gambling behaviour of university students, more so at this critical moment when majority of youths especially in the university perceive gambling as an economic activity that can provide them source of quick cash to improve their living standards (Goldberg, 1993).

Various theories have been developed to attempt and describe the personality of individuals such as psychoanalytic or humanistic theories. While other researchers believed that there still existed a gap that needed to be filled, the trait theory of personality was developed since it focuses on differences between individuals (Digman, 1990). Personality theory therefore aimed at identifying and measuring individual personality characteristics. The initial model of personality trait was advanced by Ernest and Raymond (1961) in Lodhi, Deo and Belhakar (2002). Later on, Digman (1990) and Goldberg (1993) developed five factor model which comprise five important aspects which explain personality behaviour of an individual.

The five factor model/theory is composed of openness to experience, agreeableness, extraversion, conscientiousness, and neuroticism. Openness entails feelings, actions, unusual ideas and values as well as curiosity which improves their level of experience. Understanding the gambling activities has seen youths taking advantage of the experience they have to influence their peers (Goldberg, 1993). Conscientiousness is the tendency to display self-discipline and strive for achievement. It relates to how individuals control themselves from certain external forces. Extraversion entails the assertiveness, excitement-seeking and positive emotions. Agreeableness entails individuals getting along with others since they are willing to compromise their interest. Lastly, neuroticism is the tendency to experience negative emotions such as anger or depression which can push others to participate in gambling activities (Digman, 1990).

Connecting this theory to the study in relation to explaining the gambling behaviour among the students of higher institutions, majority of students have been pushed into gambling behaviour through anger and depression. While many could not have light jobs to support their stay at the university, they end up seeking excitement from betting so as to either reduce their stress, improve their emotions. They share their feeling with others since they are easily agreeable with other individuals' values and beliefs.

2.3 Empirical Review

This section presents the established scholarly work that illustrates the association between predictor variables of the study and the dependent variable. It provides the methodologies and findings that have been used in the previous studies on each independent variables of the study.

2.3.1 Personality Factor and Students' Betting Behaviour

Personality or trait of an individual can be described as relatively stable characteristics that causes a person to behave in a certain way(s). Each individual possess unique factors that drive them to behave in certain ways based on how they interact with the environment. In an environment that has experienced continuous gambling activities, personality has remained a key factor that researchers have attempted to identify its relationship with the individual's gambling behaviour. Wang, Ho, Chan and Tse (2015) assessed the association between personality traits, based on the big five model, and addictive behaviours to different online activities among adolescents with a sample size of 920 participants using a structured questionnaire. The findings revealed that low openness and low consciousness were significantly associated with online and gaming addiction among the youths.

The growing trend of increased betting behaviour across the world has posed major challenges for the young and vulnerable university students whose impulsivity still depends

on a number of external factors. Impulsivity as one of the personality factor is associated with unplanned behaviour with little forethought of the consequences based on the outcome. As the need and want of university students increase by the day, many may think that gambling could be an effective way of improving their financial income. Mitchell and Potenza (2014) did a peer reviewed literature study on addictions (gambling) and personality traits (impulsivity) from 2004 to 2012. The study findings revealed that personality traits or factors such as impulsivity may have significant implications on the gambling behaviour among youths (adolescents).

Miller, Mackillop, Fortune, Maples, Lance, Keith Campbell and Goodie (2013) researched on how personality factor correlates with pathological gambling based on the big three and big five personality models. The study was carried out in a large community with a sample size of regular gamblers of 354; where 111 were considered pathological gamblers, and analysis done using bivariate and multivariate analyses. Data was gathered using a structured clinical interview. The results of the study revealed that both the personality factors adopted in the study had a significant correlation with problem gambling at a statistical significant level.

Buckle, Dwyer, Duffy, Brown and Pickett (2013) did a study to investigate sex differences and personality factors associated with gambling behaviour in a non-clinical sample of young men and women. The study had participants of 212 university students where 62 were men and 150 being women with a mean age of 18.7 years. Problem gambling behaviour was assessed using The South Oaks Gambling Screen (SOGS) while NEO Five-factor was used to measure personality traits. The findings of this study established that of men and women who took part in the study, men were more likely to participate in gambling activities than women. Further, the study established that of the five personality factors assessed, low openness to experience and low agreeableness were most strongly associated with problem gambling behaviour.

Vaddiparti (2017) explored personality disorders and their association with gambling disorder among adolescents. The research review covered literature published from 2015 to August 2016 so as to determine the prevalence rates of common personality disorders through PubMed, Web of Science, and Google Scholar among others using the key word; gambling, pathological gambling, and problem gambling and personality disorder. The study findings indicated that the presence of personality disorder such as plausibility is associated with gambling behaviour among the students.

2.3.2 Technological Factor and Students' Betting Behaviour

Internet has been interchangeably referred to as online gambling mostly applied on gaming activities. The effectiveness of these internet-enabled devices has been mostly supported by the increased technological advances and increased internet-enabled devices across the world. As indicated by Shaffer, Peller, LaPlante, Nelson and LaBrie (2010), there is a wide perception that web/online betting use is well on the way to keep on extending as online sites become progressively used to participate in excitement and recreational exercises, for the most part through telephones. The study findings revealed that the most regular inspirations and advantages of internet betting are the comfort and their openness (Shaffer *et al*., 2010). While other findings established that the ease and speed of online gambling especially in fast growing economies is what has led to increased gambling habits among the people.

The most significant changes in the betting market have been mostly pegged on the significant changes in the past few years in relation to the expanded accessibility of web betting. It has been seen as the quickest means of betting and is changing the manner in which bettors and other betting players take part in their betting exercises. The straightforwardness at which cash can be spent is seen as one of the advantages of internet or mobile gambling. Gainsbury (2015) researched the relationship between internet gambling and gambling addiction or disordered gambling. Data for the study was in form of a

comprehensive existing literature review and was conducted to provide an overview of significant trends and developments that relate to internet gambling. The study results indicated that as internet betting continues to evolve and participation increases, especially among the youths who are highly motivated by internet technology and online commerce, it is likely that problem gambling will continue to emerge as well as emergence of gambling firms (Gainsbury, 2015).

Technology in the field of gambling innovation has continued to grow at a rapid pace. With many youth populations increasingly becoming more adaptable to use of technological devices over the years, there is a prevalent feeling that technology through its factors such as accessibility, affordability, anonymity, convenience, interactivity and simulation has led to increased internet gambling among youths (Gainsbury, Russell, Hing, Wood, Lubman, & Blaszczynski, 2014). The results of the study also showed that digitization of betting platforms has reconfigured the betting links hence creating a new online betting ecology that has attracted a wide number of youths in the society. As such, betting firms have taken this advantage brought about by digitization and has seen their increase over time, especially in countries perceived as first adopters of new ideas (Lopez-Gonzalez & Tulloch, 2015).

Gainsbury, Russell, Wood, Hing and Blaszczynski (2015) further did a descriptive study to compare issues and non-issues and in danger online betting to see further why some online bettors experience betting related damages, utilizing an online survey with 2799 sample population of Australian online bettors. The inspiration for the investigation was that online betting gives special highlights that may encourage the advancement of expanded betting behaviours among individuals. The study established that majority of people use internet as a place to engage their behaviour. The study further observed that these individuals seem, by all accounts, to be dependent on the internet; and use online sites or activities that they would

take part in with the exception of on the internet itself. This leads to increased interactive behaviour hence increased gambling habit among individuals.

Technology has also made it easier for not only accessing gambling sites but also easy online payment because of simple accessibility of internet use across the world. As per an examination by Gainsbury, Parke and Suhonen (2013) on determining shopper dispositions towards online betting, the investigation discoveries showed that mindful betting highlights were by and large seen good, more so by Casino players. However, the respondents additionally uncovered that there is abnormal state of doubt and concerns in regards to online betting. The investigation additionally show that consumer attitude assume a significant job in driving betting behaviour particularly internet betting across the study population (Gainsbury, Parke & Suhonen, 2013). As a result, the study reveals that internet gambling has further affected the spending limits of gamblers as majority do not have spending limits. The study was an online review completed by 10,838 online casino gamblers from 96 countries.

2.3.3 Attitude Factor and Students' Betting Behaviour

Attitudes are psychological constructs that tend to determine the behaviour of an individual towards a particular product or service in the market (Chiu & Storm, 2010). Further, attitudes are seen as signals that provide individuals with ability to determine whether objects are positive or negative and thus affects how individuals behave. Being one of the most predictor of individual behaviour, it has been applied to establish the prevalence of gambling behaviour. Yi and Kanetkar (2010) examined an exploratory study on implicit measures of attitudes toward betting with 102 undergraduate students as the sample size. The examination discovered that idleness-based measures of attitudes toward betting were not fundamentally associated with self-report measures. Moderate to high-risks bettors held progressively uplifting measures toward betting.

Socialization has remained a key in explaining how individuals interact with one another or objects hence affecting their attitudes and behaviours. Attitudes can be developed from families, peers or advertising (McComb & Sabiston, 2010). When these occur, individuals begin to create abilities and learning that they use in buyer decision making. As such, various socialization determinants may impact a person's betting attitudes and consumption goals. Pitt, Thomas, Bestman, Daube and Derevensky (2017) carried out a research on elements that impacts youths' betting attitudes and intentions of consumptions in Australia. The results showed that youths' impression of the fame of various items were influenced by what they had seen or heard about the items, regardless of whether through friends, families or advertising of gambling products. The examination additionally uncovered that youths showed utilization expectations towards games gambling. Data for the study involved 48 reviewed respondents using organized questionnaires, and thematic analysis to explore the information gathered.

Moreover, Salonen, Alho and Castren (2017) did a cross-sectional study on mentalities/attitudes towards betting, betting involvement, and betting related mischief between 2011 and 2015. The justification for the study was that data about open betting behaviours and betting involvement is important for the powerful counteractive action of betting related damage. Information for the examination included 4484 gathered in 2011 and 4515 gathered in 2015. Attitudes were estimated dependent on the Attitudes Towards Gambling Scale (ATGS-8). The study findings revealed that attitudes or mentalities towards betting turned out to be increasingly positive from 2011 to 2015. Additionally, the outcomes uncovered that female dispositions were commonly negative, however moved towards positive direction except for those below 25 years of age. The study further presumed that attitudes towards betting turned out to be more positive in male than female partners.

With new innovations used to upgrade improved betting items and advertisements aimed at improving their consumption, attitudes have remained key in determining how gamblers behaviour and their level of consumption. A research by Thomas, Randle, Bestman, Pitt, Bowe, Cowlishaw and Daube (2017) on open attitudes towards betting product damage and damage reduction procedures in Australia established that more than 33% of the examination members are in danger of encountering some increased level of betting as a result of their attitudes towards gambling products.

2.3.4 Unemployment Factor and Students' Betting Behaviour

According to Fong, Campos, Rosenthal, Brecht, Schwartz, Davis and Chung (2010) the contemporary society has experienced changes that were never seen before. These has been characterised by the different behaviours that the current generation has unlike in the previous generation. The study established that a high number of youths do not experience the transition that earlier generation had, especially being reluctant after school. The current generation is full of hope and would do all it takes to become reach as soon as they can. However, even with unemployment challenges, they are still adamant that they can grow and become richer. This has seen a number of them finding ways such as betting or gambling so as to earn more money from it.

Further, the existing improper labour functioning markets in the face of changing social and political conditions has forced youths and other individuals to establish other avenues of income generating practices or activities (Reith & Dobbie, 2013). As such, with the opportunity of employment getting thinner and thinner by day; majority of youths have resorted to gambling as the only way to get extra money for upkeep. According to the findings of their study, Reith and Dobbie (2013) argue that those who support gambling argue that it can be an enjoyable entertainment, creation of jobs, generates revenue and stimulates tourism. While critics have argued that gambling may be bad for the larger part of

the society, inability to provide employment opportunities has to by larger extent, contributed to emergence of betting companies in the country.

Wanjohi (2012) in her examination on impact of joblessness on youth betting in Nairobi established majority of youths were associated with betting, however youth joblessness had no impact to their betting. This indicated that the alternative hypothesis was rejected and the null hypothesis accepted. The implications of this finding were that there could be other factors contributing to gambling among youths. The goals of the examination were to; decide the degree to which the young take part in betting, see if youth joblessness adds to betting, and establish whether the youths participate in betting as a way to get income and to decide the socio-economic qualities of youth taking part in betting. Information for the examination was gathered using questionnaires, and analysis performed with the help of descriptive and inferential statistics.

Gambling business has seen faster growth and changes not only in Kenya but also across the region. Ahaibiwe, Lakuma, Katunze and Mawejje (2016) did a study on the socio-economic effects of gambling in Uganda. The study sought to answer three inquiries: what is the dimension of involvement in the betting business in Kampala City? how does betting influence different parts of welfare and the economy and what is the ampleness and adequacy of the current administrative structure? Using a household survey conducted in 2015 in Kampala, the study findings established that around one in each four grown-ups had tried betting in the twelve months before the research. The investigation further demonstrated that age, salary, business status and sex are real determinants in betting involvement. Thusly, the investigation reasoned that the least fortunate in the society spend a higher extent of their own pay on betting than the more extravagant people.

Arge and Kristjansson (2015) also researched on how unemployment may affect betting behaviour of individuals in Iceland. Their research utilized a simple random technique with 1887 as the sample size participant's whose age ranged between 18 – 70 years. Information for the study was arrived at with the use of telephone questions surveys that covered a number of research variables explaining betting growth. The study had three objectives; to show association between unemployment and sequence of betting, to see variation in betting activities between people who have good salary and those who have informal job, and lastly to show whether those who bet a lot are more likely to remain bettors. The findings of the study showed a weak and inconsistent association between unemployment and gambling patterns. Further, the findings indicated that there was no enough evidence to support the notion that gambling is more prevalent in unemployed than employed. Therefore, the existing gap in this study was that it was undertaken to determine the prevalence of gambling and the influence that unemployment may has on it. However, it did not address the influence of unemployment as a factor that may contribute the emergence of gambling firms in Kenya.

2.4 Conceptual Framework

A conceptual framework of the study tends to explain the relationship that study variables have between them; especially predictor and dependent variables of the study. A conceptual framework contributes to the study by identifying the variables of the study and show the relationship among them. It further sets the platform for demonstration of the specific research questions that guides the phenomenon under investigation.

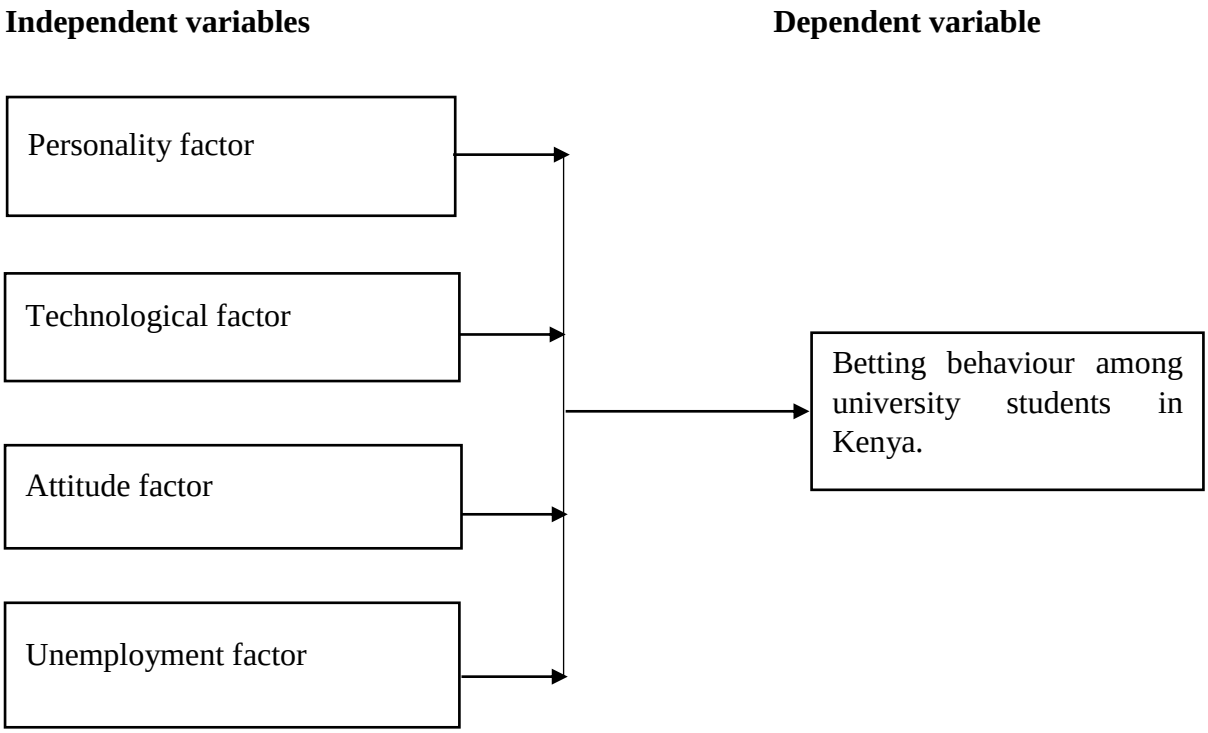

Figure 2.1 Conceptual Framework

2.5 Operationalization of Variables

This refers to the process of simplifying the research variables for easy understanding, and faster development or designing process of data collection tools. It simply refers to the breakdown of research variables into a number of statements that can be used as a measurement of study variables during the process of collection and analysis of the information gathered. A scale was designed (Likert scale ranging from 1-5 where 5 was very influential and 1 not influential) to assist in measuring study indicators.

When measuring personality factor variable, the study adopted the Five Factor model of personality and the revised NEO Personality Inventory (NEO PI-R) measures adopted by McCrae and Costa (2003) and later applied by Bagby, Vachon, Bulmash, Toneatto, Quilty and Costa (2007). For technological and unemployment factors, the researcher developed 8-points judgemental statement measures related to each factor using Likert-scale and was guided by measures used by Griffiths and Barnes (2008). In measuring the attitude factor variable, the study adopted the ATGS – 8 measures by Orford, Griffiths, Wardle, Sproston and Erens (2009) which was used to assess the attitude factor using Likert Scale. Lastly, on the gambling behaviour as the dependent variable of study, this research used the adapted version of the DSM-IV of pathological gambling criteria used Wardle, Moody, Spence, Orford, Volberg, Jotangia and Dobbie (2011) in their study of gambling behaviours.

While the study may have adopted measures developed by other studies in the literature, a critical review of these measures was taken into consideration to ensure that the statements developed in the questionnaire tool of the study were easy to understand by the respondents. Also, the goal of reviewing these measures was to make them simple and reliable measures. The measurements for the study therefore were shown in table 2.1 of the study.

Table 2.1 Operationalization of Variables

Variable	Indicator	Scale	Measurement
Personality factor	Anxious Self-discipline Comfortable	Interval	Likert Question 6
Technological factor	Accessibility Convenience Affordability	Interval	Likert Question 7
Attitude factor	Monetary gain Excitement Socialization	Interval	Likert Question 8
Unemployment factor	Wages/salaries Financial problem Lifestyle	Interval	Likert Question 9
Betting behaviour among university students	Addictive Stress Poor performance	Interval	Likert Question 10

Source: Author (2019)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter aimed to provide tools and other essential apparatus that were applied in gathering the research information from the respondents for the study. A good methodology was important for the research study as it highlighted how the information gathered were effectively utilized to gain insightful information regarding the research questions. It acted as a framework and the structure of the study. Therefore, this chapter discussed design of the study, population of the study, sampling methodology, information accumulation methods, research analysis, quality of the study (pilot test, validity and reliability) and moral issues regarding data accumulation process.

3.2 Research Design

A design for the research study refers to the plans, frameworks or systems put in place by the researcher to guide the process of the research study (Sekaran & Bougie, 2016). It aimed to assist data collections instruments such as questionnaires and survey tools by ensuring that the research instruments strictly answer the research questions of the study. A design was also effective in organizing the research study into a way that simplifies the process of gathering information from the population of the study (Kothari, 2004).

This research therefore adopted a descriptive research design with help of paper-based questionnaire survey which were effectively applied in gathering quantitative data for answer the research questions (Cooper & Schindler, 2006). The advantage of descriptive research design using questionnaires was that they aimed to provide real time useful information for examining the research phenomenon. Additionally, the study also used a case study design. The reason for adopting this design was because it involves empirical examination of a given

phenomenon within its real-life situation, using various evident sources. Cooper and Schindler (2006) further explained that a researcher is allowed to apply multiple research design to ease the process of solving research phenomenon.

Therefore, the design first assisted the researcher in identifying the accessible sample population, where quantitative information was gathered through use of questionnaire surveys. Lastly, it highlighted how the data gathered from the accessible sample population were coded and analysed to make study conclusions.

3.3 Target Population

A population of the research study refers to the area of interest that the researcher was interested in carrying out his or her study. The area of interest must have accessible objects, persons or individuals who represents the study population. Further, a target population can also be explained as the entire objects or persons that the study is interested in so as to answer the research questions (Mugenda, 2008). A good population of the study therefore should be easy to access, and very informative in providing adequate information that can be efficiently applied making study inferences.

This study was on university students in Kenya. According to Kenya YearBook 2015/2016, there are 443,783 university students in Kenya. The study therefore will be on the university students. The justification for this population is that university is considered the risky place of betting, and constitutes majority of youth population who are believed to be actively involved in gambling activities especially sports betting so as to maintain their university lifestyle.

Exclusion and inclusion criteria were used to identify the appropriate target population from these universities. To be eligible to participate in the study, the study included all those who have participated in the gambling activities not less than six (6) months and must be between

20 – 25 years of age. This was ascertained by asking the respondents to indicate their betting experience and their age.

3.4 Sampling Technique and Sample Size

Sampling techniques refers to the procedures or methods that the researcher applied in picking appropriate elements or objects of the examination from the target population of the study (Kothari, 2012). It is a process that was used by the study in selecting a number of individuals whose findings were used for generalization. Non probability sampling technique were used because it uses researcher's judgement to determine the appropriate sample size of the study.

As such, this study sought to use a sample size of 200 university students drawn across various universities, especially in Nairobi using snowballing technique. According to this non-probability sampling technique, the researcher relied on each individual identified to reach other students so as to gather the data needed to answer the research questions (Kombo & Tromp (2011).

3.5 Data Collection Instruments

Data or information for the study refers to anything given or gathered as a true/fact on which the study inferences or conclusions were based. For this, data collection instruments can be explained as tools of information and steps that the study applied in measuring the research variables (Cresswell & Poth, 2017). This study purely depends on primary data as the major source of data. One critical tool for getting accurate primary information from the respondents was the use of questionnaire as the source of data collection tool. The advantage of using questionnaire was that it gives respondents ample time to respond to contents of the information in the document with clearly defined guidelines on how to answer the questions.

Questionnaires were also regarded as important means of gathering information as they sought to provide answers to real-time issues (Cooper & Schindler, 2011).

Therefore, the study used structured questionnaires. Having structured questionnaires as a data collection tool enable the study to obtain quantitative information which was easy to understand, analyze, interpret and useful for making conclusions. The study also adopted the use of survey questionnaires to easily obtain accurate information in determining factors contributing to emergence of betting companies in Kenya using a sample size of 200 respondents for the study.

The questionnaires for the study had a series of closed questions, with spaces to tick or scales to be used for ranking statements relating to study variables. Most research questionnaires have been based on Likert scale (Cresswell & Creswell, 2017). This study therefore designed Likert scale type of questionnaires aimed at gathering quantitative information. Likert scale further assisted the study to determine the perception of the respondents towards the study objectives in a scale of 1-5 where 5 is very influential and 1 is not influential.

3.6 Data Collection Procedure

The study was across various universities in Kenya, especially in Nairobi. The selection of university students was based on the researcher's judgmental techniques so as to provide real time information that understand the perception of youths who are the most unemployed on the prevalence of betting behaviors and the factors contributing to it. Therefore, to obtain accurate data, the researcher visited various universities to inform them of the study and to sought permission to undertake the research; while explaining the purpose and significance of the study (Kothari, 2004).

Once the permission was granted by a number universities, the researcher personally administered the structured questionnaires to the respective sampled population in every

institution with the help of other respondents (students). The researcher identified one student in a number of universities and relied on those students to get other students. Once the required number was attained, the data was coded for analysis. The idea behind this strategy was to ensure that data collection process becomes easy and much information gathered as soon as possible.

3.7 Pilot Test Study

The reasoning for performing pilot testing for the research was to ensure that there was high level of accuracy and trustworthiness of the study design and tools for gathering information. A pilot study refers to a small experiment taken on a population which was not the real population of the study to test the effectiveness of the questionnaires before making final data collection. It aimed to improve the contents and quality of the questionnaires. It involved evaluating specific questions prior to the main survey (Novikov & Novikov, 2013). The study therefore involved a 10 percent sampled respondents of the study which was purposively selected to provide information for the study.

3.7.1 Validity

Validity may refer to the extent of research instrument in providing accurate information in answering the research questions. It addresses how accurately information were gathered, by ensuring that the information given by the respondents were informative and accurate enough in meeting the research objective (Kombo and Tromp, 2011). Therefore, to ensure that the construct of the study truly measures what it intended to measure accurately, content validity was used. Content validity refers to the process where opinion of experts was included in checking the contents of the questionnaire questions. The study designed one questionnaire and share with the research supervisor to check the contents of the construct. The feedback from the supervisor was therefore used to improve the contents of the research constructs so as to prove accurate information for the study (Cresswell & Cresswell, 2017).

3.7.2 Reliability

Reliability refers to how effective a research instrument consistently measures what it was intended to measure or quantify. This therefore indicates that a good questionnaire instrument with good contents is the one that produces consistency and predictable results at any time a similar study is performed using the same questionnaire (Cooper & Schindler, 2006). To measure the reliability of the research instruments, Cronbach's alpha co-efficient test was used. According to this test, a co-efficient value of above +0.5 indicates that the research instrument was reliable in producing internal consistency results over time. Whereas, co-efficient values of below 0.5 may indicate that the instrument may not be reliable in producing internal consistent results (Kothari, 2012).

3.8 Data Processing and Presentation

Data processing is the application of reasoning to interpret and understand the information or data that was obtained from the field of study so as to establish research objectives. Quantitative analysis through standard deviation and mean and inferential analysis through correlation and regression analysis was performed using statistical software to answer the research questions.

3.8.1 Model

A model for the study was developed to indicate how changes in independent variables of the study contribute to changes in the dependent variable. Multiple regression analysis therefore was developed to establish the relationship between variables of the study to show how changes in variable X predict changes in variable Y.

$$\boldsymbol{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e}$$

$Y - betting\ behaviours\ among\ university\ students$

$\beta_0 - \beta_4 - regression\ coefficients$

$X_1 - personality\ factor$

$X_2 - technological\ factor$

$X_3 - attitude\ factor$

$X_4 - unemployment\ factor$

$\varepsilon - error\ term$

3.9 Diagnostic Tests

To determine whether data was effective for the study, various diagnostic tests were performed.

3.9.1 Normality Test

This test assumed that error term was normally distributed with a zero mean and constant variance. To effectively perform multiple regression for the study, data for the study must be normally distributed. This test was assessed by establishing skewness and kurtosis of the data. A p-value greater than 0.05 reveals a normal distribution of the data while below 0.05 shows that data for the study was not normally distributed (Cresswell & Cresswell, 2017).

3.9.2 Heteroskedasticity

The assumption of this test is that the variance for the error term should be constant for all the observations of the study. If the error term is not constant then there exists a problem of heteroskedasticity. Using Cameron & Trivedi's decomposition of IM-test, a p-value more than 0.05 reveals that there was no problem of heteroskedasticity while below 0.05 shows that the problem existed (Sekaran & Bougie, 2016).

3.9.3 Multicollinearity Test

This test sought to establish whether there was high correlation among predictor/explanatory variables of the study. The assumption of this test is that none of the independent variable in the model of the study should be correlated with each other. Variance inflation factor (VIF)

was used to determine existence of multicollinearity in the study model. A VIF with a value less than 4 clearly illustrates that there were no issues of multicollinearity while above 4 and above 10 illustrated existence of multicollinearity and a severe one respectively (Novikov & Novikov, 2013).

3.9.4 Linearity Test

This test was performed to establish the strength of relationship between study variables thus, Pearson correlation co-efficient was applied. The test aims to show the strength and direction of a linear association and should range between -1 to +1. A negative value (-1) revealed a perfect negative relationship while a positive value (+1) implied a perfect positive relationship (Kothari, 2004).

3.10 Ethical Consideration

The study ensured that high level of integrity was practiced during and after data collection period. To ensure that the study met the required ethical standards, the researcher obtained research letter from the researcher's institution and later on obtained the research permit from National Commission for Science, Technology and Innovation (NACOSTI). The letters were used to inform the respondents that the study was for educational purposes only and utmost confidentiality was maintained.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION OF THE FINDINGS

4.1 Introduction

The chapter of the study presents the empirical findings and results of the use of the study variables using the techniques and procedures mentioned in chapter three. This study sought to establish factors contributing to the betting behaviour among university students in Kenya. The specific variables of the study were personal factor, technological factor, attitude factor and unemployment factor. Specifically, data analysis was in line with specific objectives where patterns were determined, interpreted and implications drawn on them. Further, descriptive statistical and inferential statistical analysis were made. The discussion of the findings was based on the study findings and a comparison made based on the existing findings as discussed in chapter two of the study under literature review.

4.2 Response Rate

From the information gathered for analysis of the study, out of 200 questionnaires administered by the researcher, 149 were filled and returned. This represented a response rate of 75 per cent as shown in table 4.1. The response rate was considered satisfactory to make conclusions for the research study. According to an observation by Mugenda and Mugenda (2003), a response rate of 50% is considered adequate, 60 per cent and above is considered good, while a response rate of 70 per cent is rated very good and well. This is in line with Cooper and Schindler's (2011) whose assertion exhibited that a response rate of 50 per cent is adequate, while a response rate higher than 60 per cent is good. Therefore, based on these assumptions, the response rate for the study of 75 per cent was very good and well. The recorded response rate of 75 per cent could be attributed to the data collection challenges

especially in convincing the university students to participate in the study. Many of the students were not willing to give information freely. The findings were presented in table 4.1.

Table 4.1 Response Rate

Questionnaires issued	Sample size	Response rate (%)
Returned questionnaires	149	75.0
Un-returned questionnaires	51	25.0
Total	**200**	**100.00**

Source: Author (2019)

4.3 Pilot Study Results

Pilot study was undertaken to pre-test the data collection tool for the study. The pilot study was conducted on 20 university students in Kenya which represented 10 per cent of the sampled population of the study as determined using non-probability sampling technique, using a pre-set questionnaire. The questionnaire as a data collection tool for the study returned a fairly acceptable score since all coefficients of the study were above .50. However, gaps in the questionnaire were identified and rectified especially in the cases where respondents did not fully understand the questions and the study objectives. The study results were therefore presented in table 4.2 as indicated.

4.3.1 Reliability Findings

Reliability of the study was determined to establish the extent to which extent the construct of the study tools was without biasness and as well as to determine the level of consistency on study measurement over time. It therefore indicated the level of stability and consistency with which the study instrument measured the concepts they were expected to measure, as well as assess the goodness of study instruments. The study utilized Cronbach's alpha reliability coefficient to assess how well the constructs or items of the study questionnaire were correlated to each other. Kothari (2012) indicated that reliability of the study can be two-fold; reliability which showed the extent of accuracy and unreliability which showed the level of

inaccuracy. As such, the findings were presented to show the level of internal consistency of the study variables. Reliability results were expressed in form of coefficient values between 0 and 1.00. The higher the coefficient was, the more reliable the test was. Therefore, based on Kothari's (2012) emphasis, the rule of the thumb for Cronbach's alpha is that the closer the alpha is to 1 the higher the reliability. The findings were presented in table 4.2.

Table 4.2 Reliability results

Construct measurements	Cronbach's alpha	Number of constructs
Personality factor	0.516	8
Technological factor	0.583	8
Attitude factor	0.697	8
Unemployment factor	0.581	8
Gambling behaviour	0.654	8

Source: Author (2018)

The findings of the study as expressed in table 4.2 established that Cronbach's alpha coefficient values obtained range from 0.516 to 0.697. This shows that all the constructs of the study demonstrated that the values of Cronbach's alpha were above the suggested value of .5 thus was reliable (Cooper & Schindler, 2006). The instrument of data collection therefore appeared to be reliable and can be consistently used in providing similar results in the future.

4.4 General Information

The study established the general information of the respondents, also referred to as demographic information. A general analysis on this information was given by the respondents which included gender, education, age, and years of gambling activities and source of funds for betting among university students in Kenya. Thus, the study targeted 200 participants in regard to establishing factors affecting the betting behaviour among university students in Kenya and 149 questionnaires were generated.

4.4.1 Gender, Education, Age of the Respondents

The study sought to determine the gender of the respondents, education of the respondents and age of the respondents. Gender was considered an important factor since it aimed at establishing the behaviour among male and female individuals who participate in betting activities. In addition, level of education was considered an important factor since the study aimed at distinguishing whether there was a difference in betting behaviour among university students based on their education level. Lastly, age was considered so as to critically show the betting behaviour among university students based on the age bracket included in the study. The findings were presented in table 4.3

Table 4.3 Gender, Education and Age of the Respondents

Demographics	Factor level	Frequency	Response rate (%)
Gender of the respondents	Male	100	67.1
	Female	49	32.9
Total		**149**	**100**
Education of respondents	Graduate	37	24.8
	Undergraduate	53	35.6
	Diploma	39	26.2
	Others	20	13.4
Total		**149**	**100**
Age of respondents	Below 19 years	38	25.6
	20 – 23 years	73	49.0
	24 – 27 years	25	17.0
	Above 27 years	13	0.09
Total		**149**	**100**

Source: Author (2019)

The descriptive analysis of the study showed that out of the 149 respondents, majority were male (67.1 per cent), as indicated in table 4.3. The results showed that individuals who participated in this study a lot were men compared to female counterparts who were only 32.9 per cent. However, the findings could mean that the male gender may be dominating betting

activities more than female individuals. Hence, the percentages indicate an increase in betting behaviours among men. Table 4.3 also indicates how the respondents of the study were distributed as per education level. The study established that majority of the respondents (35.6 per cent) had undergraduate level of education while diploma level of education respondents was 26.2 per cent. This was followed closely by 24.8 per cent of the respondents who had graduate level of education with other levels of education coming last at 13.4 per cent. The findings therefore show that majority of university students who participate in gambling activities a lot are those in undergraduate level of education than their counterparts in other levels of education across the universities.

Further, the study also established the age of the respondents in regards to their gambling behaviours. The results revealed that 49.0 per cent of the respondents' ages were between 20 – 23 years, followed distantly by 25.6 percent who were below 19 years of age. Those between the age of 24 – 27 years came third at 17.0 per cent while above 27 years of age were the least at 0.09 per cent. The study findings therefore indicate that majority of individuals who participate in gambling activities a lot are between the ages of 20 – 23 years. The study findings show an increase in the number of young university students engaging in gambling activities once they join university, with an approximate age of 19 years, with majority being between 20 – 23 years. The findings of this study therefore agreed with the findings of Koross (2016) who established that there are high gambling activities in Kenyan universities especially among students aged between 18 – 24 years.

4.4.2 Years of Gambling activities, Betting Source of Funds

The study aimed to determine the years of gambling activities among university students in Kenya. This was carried out so as determine the level of experience that some of them have towards gambling activities and the motive of their gambling behaviour in relation to their experience. The study also sought to determine betting source of funds among university

students. This was aimed at determining whether some of them use their salary or upkeep that they receive from their parents. The findings were presented in table 4.4.

Table 4.4 Years of Gambling activities, Betting Source of Funds

General Information	Factor level	Frequency	Response rate (%)
Years of gambling activities	6 months – 1 year	51	34.2
	Above 1 year	98	65.8
Total		**149**	**100**
Betting source of funds	Salary	60	40.3
	Upkeep from parents	89	59.7
Total		**149**	**100**

Source: Author (2019)

The study determined the years of gambling activities among university students in Kenya as the respondents. Table 4.4 indicates that 65.8 per cent of target university students have over or above 1 years of gambling activities while 34.2 per cent have betting experience of between 6 months to 1 year. The implication of this findings is that majority of the university students could be participating in gambling activities, especially sports betting without the knowledge of their parents since most of them doing it secretly. The study findings concur with the findings of Weinstock *et al*., (2007) who established that close to 63 per cent of university students are online bettors and therefore many of their parents or guardians could not be having an idea of their activities in their respective universities, especially in regards to betting behaviour.

The study also reported that (59.7 per cent) of the respondents noted that their betting source of funds is from their upkeep from parents. They argued that due to lack of employment that could provide them with salary, they tend to minimize their university expenses and use their upkeep money for betting activities, with expectation of winning huge amount of money for future use. Only 40.3 per cent of the university students use their own salary for betting. The increased upkeep from parents as a source of betting activities among university students is

expected to increase as the number of university intakes continues to rise, with no clear indication of employment opportunities while still studying, especially those taking diploma and undergraduate courses. The study findings agreed with the findings of Griffiths & Barnes (2008) who noted that universities are considered to be the place with highest individuals considered to be at risk of gambling activities.

4.5 Descriptive Analysis of Study Variables

Descriptive analysis was performed as per the specific objectives of the study; personality factor, technological factor, attitude factor and unemployment factor. The study used mean and standard deviations to explain the performance of construct of measurements for each study variables and the findings were explained as follows.

4.5.1 Personality Factor

The first objective of the research study was to examine how personality factor affects gambling behaviour among university students in Kenya. Respondents were asked to indicate their level of agreement with the construct measurements of the study variables. The study developed a scale of 1 – 5 where 1 = not influential (NI), 2 = slightly influential (SI), 3 = not sure (N), 4 = influential (I) and 5 = very influential (VI). The findings were recorded in table 4.5

Table 4.5 presented the findings on personality factors based on their mean and standard deviations. All the measurement constructs of personality factor had a deviation range of 1.236 to 1.294. The study established that I am always anxious to win any forms of betting such as sports betting had a mean of 2.651 with a standard deviation of 1.262. Gambling or betting makes me feel at ease had a mean of 2.564 with a standard deviation of 1.280. Respondents also indicated that I feel interesting when taking part in gambling activities with a mean of 2.678 and a standard deviation of 1.221. Further, the study established that

respondent said gambling makes them feel comfortable as they earn extra money with a mean of 2.362 and a standard deviation of 1.181. My level of self-discipline has reduced since I started betting had a mean of 2.534 with a standard deviation of 1.266. I always develop the urge to bet at all cost irrespective of which sports activities had a mean of 2.396 with a standard deviation of 1.294.

Table 4.5 Personality Factor

Personality factor	**Obs**	**Mean**	**Std. Dev**
I am always anxious to win any forms of betting e.g. sports	149	2.651	1.262
Gambling or betting makes me feel at ease	149	2.564	1.280
I feel interesting when taking part in gambling activities	149	2.678	1.221
Gambling makes me feel comfortable as I earn extra money	149	2.362	1.181
My level of self-discipline has reduced since I started betting	149	2.534	1.266
I always develop the urge to bet at all cost irrespective of which sports activities	149	2.396	1.294
Due to increased depression among youths, I have decided to bet	149	2.396	1.236
My emotions always run high whenever my friends and I are placing bets	149	2.443	1.281
Composite mean		**2.527**	

Source: Author (2019)

The study also reported that due to increased depression among youths (table 4.5) , I have decided to bet had a mean of 2.584 with a standard deviation of 1.236 while my emotions always run high whenever my friends and I are placing bets had a mean of 2.443 with a standard deviation of 1.281. In overall, the study established that the measurement constructs of personality factor had a composite mean of 2.527, suggesting that respondents indicated that personality factor is slightly influential in affecting their gambling behaviour. Therefore to some extent, the study findings agreed with the findings of Wong, Ho, Chan and Tse (2015) whose study on personality factor and betting behaviour among youths indicated that there is a positive association between those variables. The respondents indicated that they participate in betting activities to feel good, reduce depression among other reasons.

4.5.2 Technological Factor

The second objective of the research study was to establish how technological factor affects gambling behaviour among university students in Kenya. Respondents were asked to indicate their level of agreement with the construct measurements of the study variable. The study developed a scale of 1 – 5 where 1 = not influential (NI), 2 = slightly influential (SI), 3 = not sure (N), 4 = influential (I) and 5 = very influential (VI). The findings were recorded in table 4.6.

Table 4.6 Technological Factor

Technological factor	Obs	Mean	Std. Dev
I have simple and easy access to devices such as phone which I use for betting activities	149	2.698	1.349
I have easy avenue of connecting to the internet both at home and in school	149	2.711	1.357
Technology has made it easy for me to get betting tips from various sites	149	2.705	1.338
Betting firms have friendly face to face sites which encourage betting activities e.g., giving 100% bonuses for some odds	149	2.611	1.349
There is high exposure to culture of technology usage among the university students	149	2.745	1.371
High level of ease of use of technological devices such as cyber place has made it easy for youths to engage frequently in betting	149	2.664	1.339
Most university students have knowledge of computer use which enable them to master betting terminologies faster	149	2.456	1.302
Affordability on adoption of internet use among universities have enhanced the interaction level between students and betting sites	149	2.577	1.342
Composite mean		**2.646**	

Source: Author (2019)

As indicated in table 4.6 the study sought to determine how technological factor affects gambling behaviour among university students. Based on the findings on measurement constructs of the variables using mean and standard deviations, the study established that I

have simple and easy access to devices such as phone which I use for betting activities had a mean of 2.698 and a standard deviation of 1.349, I have easy avenue of connecting to the internet both at home and in school had a mean of 2.711 with a standard deviation of 1.357, technology has made it easy for me to get betting tips from various sites had a mean of 2.705 and a standard deviation of 1.338 while betting firms has friendly face to face sites which encourages betting activities e.g. giving 100% bonuses for some odds had a mean of 2.611 with a standard deviation of 1.349.

The study findings also indicated that there is high exposure to culture of technology usage among the university students with a mean of 2.745 with a mean of 1.371, high level of ease of use of technological devices such as cyber place has made it easy for youths to engage frequently in betting had a mean of 2.664 and a standard deviation of 1.339, most university students have knowledge of computer use which enables them to master betting terminologies faster had a mean of 2.456 with a standard deviation of 1.302 while affordability on adoption of internet use among universities have enhanced the interaction level between students and betting sites had a mean of 2.577 and a standard deviation of 1.342. In general, the findings established that personality factor had a composite mean of 2.646, indicating that technological factor slightly affects gambling behaviour among university students. Therefore, to some extent, the findings are in agreement with the findings of Shaffer *et al.,* (2010) who confirmed that ease and speed of online gambling has been as a result of increased technological use.

4.5.3 Attitude Factor

Thirdly, the study also sought to find out how attitude factor affects gambling behaviour among university students in Kenya. Respondents were asked to indicate their level of agreement with the construct measurements of the study variable. The study developed a

scale of 1 – 5 where 1 = not influential (NI), 2 = slightly influential (SI), 3 = not sure (N), 4 = influential (I) and 5 = very influential (VI). The findings were recorded in table 4.7.

Table 4.7 Attitude Factor

Attitude factor	Obs	Mean	Std. Dev
I bet because I have the desire to win money and be like others who have money	149	2.832	1.165
The desire to feel important and improve my self-esteem has seen me involved in gambling activities	149	2.886	1.348
I bet because I have the desire to turn betting into strategies that can earn me more profit and feel complete	149	2.651	1.208
I feel youths increasingly bet to build relationships with others so as to eliminate boredom and negative feelings	149	2.698	1.250
The urge to increase stakes when placing a bet makes me feel excited	149	2.651	1.273
I have followed my friend's ways of borrowing money online so that I can use for betting	149	2.738	1.193
I always think of gambling practices as one way to invest so as to get more money in a short time	149	2.892	1.258
I have influenced other students to combine money so that we can place high betting stakes and get more money than betting alone	149	2.664	1.292
Composite mean		**2.752**	

Source: Author (2019)

Table 4.7 was used to report the findings on respondents' attitude towards betting behaviour among university students. The study used mean and standard deviation. From the findings, it was established that I bet because I have the desire to win money and be like others who have money had a mean of 2.832 and a standard deviation of 1.165, the desire to feel important and improve my self-esteem has seen me involved in gambling activities had a mean of 2.886 and a standard deviation of 1.348, I bet because I have the desire to turn betting into strategies that can earn me more profit and feel complete had a mean of 2.651 with a standard deviation of 1.208 and, I feel youths increasingly bet to build relationships with others so as

to eliminate boredom and negative feelings had a mean of 2.698 with a standard deviation of 1.250.

Also, it was recorded that the urge to increase stakes when placing a bet makes me feel excited had a mean of 2.651 with a standard deviation of 1.273, I have followed my friend's ways of borrowing money online so that I can use for betting had a mean of 2.738 with a standard deviation of 1.193 and I always think of gambling practices as one way to invest so as to get more money in a short time had a mean of 2.892 with a standard deviation of 1.258. Lastly, it was established that I have influenced other students to combine money so that we can place high betting stakes and get more money than betting alone had a mean of 2.664 with a standard deviation of 1.292. The findings also noted a composite mean of 2.752 which suggested that the respondents to some extent agreed that attitude factor may affect their gambling behaviour. This is line with the findings of Pitt, Thomas, Bestman, Daube and Derevensky (2017) whose study findings in Canada established that individual attitude may affect his or her behaviour depending on whether it is negative or positive.

4.5.4 Unemployment Factor

The fourth independent variable of the study was unemployment factor. The study therefore sought to find out how unemployment factor affects gambling behaviour among university students in Kenya. Respondents were asked to indicate their level of agreement with the construct measurements of the study variable. The study developed a scale of 1 – 5 where 1 = not influential (NI), 2 = slightly influential (SI), 3 = not sure (N), 4 = influential (I) and 5 = very influential (VI). The findings were recorded in table 4.8.

Unemployment factor has remained a big challenge for most countries across the world. The study included it as a fourth objective so as to determine whether it affects gambling behaviour among university students in Kenya. Findings on measurement constructs were

presented in table 4.8. The study established that lack of formal employment opportunities has seen a number of youths involved in gambling activities had a mean of 2.893 with a standard deviation of 1.175, majority of youths participate in gambling activities to get extra income for their personal upkeep had a mean of 2.523 with a standard deviation of 1.255, I prefer betting because it provides quick cash before my side hustle with a mean of 2.530 and a standard deviation of 1.183 while increased cost of living has pushed us towards betting activities so as to pay some of the bills had a mean of 2.544 with a standard deviation of 1.249.

Table 4.8 Unemployment Factor

Unemployment factor	**Obs**	**Mean**	**Std. Dev**
Lack of formal employment opportunities has seen a number of youths involved in gambling activities	149	2.893	1.175
Majority of youths participate in gambling activities to get extra income for their personal upkeep	149	2.523	1.255
I prefer betting because it provides quick cash before my side hustle	149	2.530	1.183
Increased cost of living has pushed us towards betting activities so as to pay some of the bills	149	2.544	1.249
Due to frustrations that comes with lack of employment, gambling keeps me busy when am feeling low	149	2.658	1.350
Even though I might lose more bets, I still bet hoping that one day I shall win a lot of money	149	2.577	1.203
Winning bets motivates me to keep betting frequently so as I can get extra cash to support my siblings	149	2.745	1.321
Due to lack of effective ways of addressing unemployment challenges, gambling behaviour has continued to increase	149	2.604	1.179
Composite mean		**2.634**	

Source: Author (2019)

The study findings also showed that due to frustrations that come with lack of employment, gambling keeps me busy when am feeling low with a mean of 2.658 with a standard

deviation of 1.350 (table 4.8), even though I might lost more bets, I still bet hoping that one day I shall win a lot of money had a mean of 2.577 with a standard deviation of 1.203 winning bets motivates me to keep betting frequently so that I can get extra cash to support my siblings had a mean of 2.745 with a standard deviation of 1.321 whereas due to lack of effective ways of addressing unemployment challenges, gambling behaviour has continued to increase had a mean of 2.604 with a standard deviation of 1.179. As such, the general composite mean of measurement constructs of unemployment factor was 2.634, an indication that respondents acknowledge that unemployment factor may be slightly influential on gambling behaviour among university students in Kenya. This is in concurrence with the findings of Wanjohi (2012) who stated that joblessness among Kenyan youths affect their gambling behaviour.

4.5.5 Gambling Behaviour

Gambling behaviour among university students in Kenya was the dependent variable of the study. The study sought to determine how changes in gambling behaviour may be affected by changes in personality factor, technological factor, attitude factor and unemployment factor as the independent variables of the study. But foremost, the study determined the descriptive variables of the measurements constructs using a scale of 1 – 5 where 1 = not influential (NI), 2 = slightly influential (SI), 3 = not sure (N), 4 = influential (I) and 5 = very influential (VI), and the findings were presented in table 4.9.

Table 4.9 indicates the descriptive findings on gambling behaviour as a dependent variable of the study. The results revealed that gambling has caused me a lot of financial problems had a mean of 2.624 with a standard deviation of 1.194, I have been so much stressed because of gambling activities had a mean of 2.631 with a standard deviation of 1.093, in some cases, I just need to gamble with a lot of money so that I can feel excited had a mean of 2.671 with a mean of 1.142 while I am always attracted to the betting sites which are user friendly had a

mean of 2.537 with a standard deviation of 1.194. The fifth measurement which states that I have lost some of my connections with my family due to gambling behaviour had a mean of 2.644 with a standard deviation of 1.225 as shown in table 4.9.

Table 4.9 Gambling Behaviour

Gambling behaviour among university students	Obs	Mean	Std. Dev
Gambling has caused me a lot of financial problems	149	2.624	1.194
I have been so much stressed because of gambling activities	149	2.631	1.093
In some cases, I just need to gamble with a lot of money so that I can feel excited.	149	2.671	1.142
I am always attracted to the betting sites which are user friendly	149	2.357	1.194
Have lost some of my connections with my family due to gambling behaviour	149	2.644	1.225
Gambling activities have affected my way of life as well as schooling, hence affecting my performance	149	2.362	1.015
I don't think I have reached a stage of being called a pathological gambler (always bet at all cost)	149	2.336	1.149
Many people have criticized my way of betting since many students have committed suicide as a result of betting.	149	2.389	1.172
Composite mean		**2.524**	

Source: Author (2019)

Nevertheless, the study also found out that (table 4.9) gambling activities have affected my way of life as well as schooling, hence affecting my performance had a mean of 2.362 with a standard deviation of 1.015, I don't think have reached a stage of being called pathological gambler (always bet at all cost) had a mean of 2.336 with a standard deviation of 1.149 while many people have criticized my way of betting since many students have committed suicide as a result of betting had a mean of 2.389 with a standard deviation of 1.172. Consequently, gambling behaviour among university students had a composite mean of 2.524. The findings therefore concurred with the findings of Wood, Griffiths and Parke (2007) that university students have been identified as the largest group with high risk in relation to gambling activities.

4.6 Diagnostic Tests

This section discussed the goodness of fit of the model through detecting whether data for the study met some statistical tests such as normality test, heteroskedasticity test and multicollinearity test so as to be used in the study. The discussion was as follows.

4.6.1 Normality Test

This test assumed that error term was normally distributed with a zero mean and constant variance. To effectively perform multiple regression for the study, data for the study must be normally distributed. This test was assessed using skewness/kurtosis tests for normality and the findings were presented in table 4.10.

Table 4.10 Normality Test Results

Skewness/Kurtosis tests for Normality					
				- joint -	
Variable	**Obs**	**Pr (Skewness)**	**Pr (Kurtosis)**	**Adj chi2 (2)**	**Prob>chi2**
Residual	149	0.724	0.397	0.85	0.652

Source: Author (2019)

As shown in table 4.10, residual of the variables of the study was used to estimate the normality test. The study findings established that p-value = 0.652 > 0.05. The tests reject the hypothesis of normality when the p-value is less than or equal to 0.05 and accept the hypothesis when the p-value is greater than 0.05 (Cresswell & Cresswell, 2017).

4.6.2 Heteroskedasticity Test

Heteroskedasticity occurs in a study when the variance of the errors varies across the observations. A high dispersion therefore would mean problem of heteroskedasticity exist. The test was performed using Cameron & Trivedi's decomposition of IM-test as indicated in table 4.11.

Table 4.11 Cameron & Trivedi's Heteroskedasticity Test Results

Cameron & Trivedi's decomposition of IM-test			
Source	**chi2**	**Df**	**P**
Heteroskedasticity	18.16	14	0.199
Skewness	6.07	4	0.194
Kurtosis	0.44	1	0.506
Total	**24.68**	**19**	**0.172**

Source: Author (2019)

Table 4.11 presented the findings on heteroskedasticity test. The results revealed that the p-value was 0.172 which is greater than 0.05. Suggesting that there was no presence of heteroskedasticity in the study. The findings concur with Sekaran and Bougie (2016) who said that heteroskedasticity test with a p-value of above 0.05 is good for a study.

4.6.3 Multicollinearity Test

This test was done to examine whether the study model had correlation between independent variables of the study using Tolerance and Variance Inflation Factor (VIF). A good model for the study should not have correlation between its independent variables. The findings were presented as follows;

Table 4.12 Multicollinearity Test Results

Variables	**Collinearity statistics**	
	VIF	**Tolerance (1/VIF)**
Personality factor	1.58	0.634
Technological factor	1.17	0.857
Attitude factor	1.56	0.641
Unemployment factor	1.52	0.656
Mean VIF	**1.46**	

Source: Author (2019)

The results in table 4.12 showed that the VIF values for the variables were far below 4; where personality factor had VIF of 1.58, technological factor had 1.17, attitude factor had 1.56 and

unemployment factor had 1.52. Whereas the VIF mean was 1.46. This showed that there was no problem of correlation between independent variables of the study as suggested by Novikov and Novikov (2013).

4.7 Model Fitting

Multiple regression analysis was determined using ordinary least square (OLS) model. When the assumptions of linear regression model are correct, ordinary least square (OLS) provides efficient and unbiased estimates of the parameters. The model of the study therefore was as follows.

$$\boldsymbol{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e}$$

$Y - betting\ behaviours\ among\ university\ students$

$\beta_0 - \beta_4 - regression\ coefficients$

$X_1 - personality\ factor$

$X_2 - technological\ factor$

$X_3 - attitude\ factor$

$X_4 - unemployment\ factor$

$\varepsilon - error\ term$

4.7.1 Correlation Analysis

To estimate the correlation analysis, the study used Pearson correlation coefficient which is a measure of the strength of linear relationship between variables in the study (personality factor, technological factor, attitude factor, unemployment factor and gambling behavior). The coefficient ranges from -1 to +1. A negative coefficient value showed negative correlation and vice versa. A coefficient above 0.5 was considered strong while below 0.3 was considered weak.

Table 4.13 Correlation Analysis Results

Pearson correlation coefficient results						
		Gambling behavior	**Personality factor**	**Technological factor**	**Attitude factor**	**Unemployment factor**
Gambling behavior	Correlation	1.0000				
	Sig. (2-tailed)					
	N	149				
Personality factor	Correlation	0.4686*	1.000			
	Sig. (2-tailed)	0.0000				
	N	149	149			
Technological factor	Correlation	0.2279*	0.3513*	1.0000		
	Sig. (2-tailed)	0.0052	0.0000			
	N	149	149	149		
Attitude factor	Correlation	0.1924*	0.5137*	0.2153*	1.0000	
	Sig. (2-tailed)	0.0188	0.0000	0.0084		
	N	149	149	149	149	
Unemployment factor	Correlation	0.3431*	0.4806*	0.2925*	0.5169*	1.0000
	Sig. (2-tailed)	0.0000	0.0000	0.0003	0.0000	
	N	149	149	149	149	149

*Correlation is significant at 0.05 level

Source: Author (2019)

The Pearson correlation coefficient summary (table 4.13) showed that the correlation between independent variables and dependent variable was positive; and further was significant at 95 per cent confidence level. The correlation analysis to determine strength of relationship between personality factor and gambling behavior was significantly correlated ($r = 0.4686$, $p < 0.05$). This indicated a strong relationship between personality factor and gambling behavior among university students. The study also established a weak positive relationship between technological factor; attitude factor variables and gambling behavior ($r = 0.2279$, $p < 0.05$; $r = 0.1924$, $p < 0.05$ respectively). Lastly, the study also revealed that a positive relationship between unemployment factor and gambling behavior among university students ($r = 0.3431$, $p < 0.05$) (table 4.13). Of the four variables of the study, the study indicated that personality factor had the highest correlation coefficient value with gambling behavior, followed by unemployment factor while technological factor and attitude factor came third

and fourth respectively. The study therefore showed that independent variables of the study had significant positive relationship with gambling behavior among university students (Mitchell & Potenza, 2014; Gainsbury, 2015; Pitt *et al*., 2017 and Ahaibiwe *et al.,* 2016).

4.7.2 Multiple Regression Analysis

Regression analysis was used to determine the significance of the relationship of personality factor, technological factor, attitude factor and unemployment as independent variables and gambling behaviour among university students as the dependent variable. The analysis sought to indicate the extent of changes on dependent variable caused by independent variables of the study.

Table 4.14 Model Summary Table

Model summary results				
Model	**R**	**R- square**	**Adjusted R-square**	**Std. error of the estimate**
1	0.502	0.252	0.232	0.242

a) Predictors: Constant; personality factor, technological factor, attitude factor, unemployment factor

Source: Author (2019)

Table 4.14 was used to indicate the findings on model summary of the study model. A model summary indicates the degree to which variations in dependent variable are caused by variations in independent variables of the study. R is the correlation coefficient which reveals the relationship between the study variables. The table 4.14 therefore shows that there is a strong positive relationship between study variables as indicated by an R of 0.502. R-square of the study model is was 0.252 which demonstrate that 25.2 per cent of changes in gambling behaviour among university students are caused by changes in personality factor, technological factor, attitude factor and unemployment factor. As such, other changes (74.8 per cent) in gambling behaviour among university students may be caused by other factor variables not included in the study objectives.

4.7.3 Analysis of Variance (ANOVA)

This analysis was determined to estimate how well the model was fit for the study and the findings were presented in table 4.15.

Table 4.15 Analysis of Variance (ANOVA)

Analysis of variance (ANOVA) results					
Source	**Sum of square (SS)**	**df**	**Mean sum of square (MS)**	**F**	**Sig.**
Model	8.949	4	2.237	12.15	0.0000[b]
Residual	26.509	144	0.184		
Total	**35.458**	**148**	**0.239**		

a. Dependent variable: Gambling behavior among university students in Kenya.

b. Predictors: (Constant); Personality factor, technological factor, attitude factor, unemployment factor

Source: Author (2019).

The ANOVA results in table 4.15 indicates that the regression model of the study had a significance level of 0.000 per cent (%) which is an indication that the data was appropriate or ideal in making inferences for the study parameters since significance level was less than 0.05. F statistics of 12.15 which was derived as the ratio of MS model to the MS residual further showed that the model of the study was significant as indicated by significance level of sig. $0.000^{b} < 0.05$ (table 4.15). This implied that the changes in the predictor variables affect gambling behavior among university students in Kenya. As such the study concurred with Kothari (2012) that estimated significance level of the study should be within 95 per cent confidence level so as to assist in making study inferences.

4.7.4 Regression Coefficients

Regression coefficient of the study was estimated to determine the relationship between independent and dependent variables of the study. Significance level was used to accept or rejected the hypothesis of the study. The findings were as follows.

Table 4.16 Regression Coefficient Results.

Regression coefficient results table					
	Unstandardized coefficients		Standardized coefficients		
Variables	**B**	**Std. Error**	**Beta**	**t**	**Sig.**
(Constant)	1.468	0.242		6.06	0.000
Personality factor	0.399	0.084	0.429	4.74	0.000
Technological factor	0.042	0.065	0.050	0.65	0.519
Attitude factor	-0.142	0.091	-0.139	-1.55	0.124
Unemployment factor	0.177	0.081	0.194	2.18	0.031

a. Dependent variable: Gambling behavior among university students in Kenya.

Source: Author (2019)

Data in table 4.16 was used to present the regression coefficient findings. The study established that personality factor, technological factor and unemployment factor all had positive regression coefficient (β) value ($\beta = 0.399, \beta = 0.042\ and\ 0.177$) respectively, except for attitude factor which had a negative regression coefficient (β) value. Table 4.16 further established that only personality factor ($p = 0.000 < 0.05$) and unemployment factor ($p = 0.031 < 0.05$) had significant positive relationship with gambling behavior among university students in Kenya. Additionally, the study also established that there was insignificant positive relationship between technological factor and gambling behavior among university students in Kenya ($p = 0.519 > 0.05$). However, only attitude factor had insignificant negative relationship with gambling behavior among university students in Kenya ($p = 0.124 > 0.05$).

Therefore, from the data extracted from (table 4.16), the regression equation was;

$$\boldsymbol{Y = 1.468 + 0.399X_1 + 0.042X_2 - 0.142X_3 + 0.177X_4}$$

The interpretation therefore suggests that if all factors are held constant; gambling behavior among university students in Kenya would be at 1.468. However, with changes, such as a unit increase in personality factor, technological factor and unemployment factor, gambling

behavior among university students would increase by 0.399, 0.042 and 0.177 respectively. Whereas, a unit increase in attitude factor of the respondents would results to a unit decrease in gambling behavior among university students by (-0.142). This therefore implied that both personality factor, technological factor and unemployment factor affect gambling behavior among university students in Kenya positively. The findings agree with the findings of Vaddiparti (2017), Gainsbury (2015) and Fong *et al*., (2010). However, the effect of technological factor is insignificant. As for attitude factor, the study established that it affects gambling behavior among university students negatively. The findings therefore disagreed with the findings of Thomas *et al*., (2017)

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The study sought to establish factors contributing to the betting behavior among university students in Kenya. The chapter presents a brief summary, conclusion and recommendations of the study findings based on the research discussion. The conclusion relates directly to the research objectives/questions and the recommendations were based on the discussion of the study findings and conclusions. The chapter further presents the suggested area of studies that could be undertaken in the future so as to extend knowledge on factors contributing to the betting behavior among university students in Kenya.

5.2 Summary of the Research Findings

The study targeted university students in Kenya who participates in gambling activities, especially sports betting in Kenya with more focus on university students in Nairobi, both private and public universities. A total of 200 students were randomly picked using non-probability sampling technique (judgemental/purposive). The summary of the study findings presented herein followed the research objectives as had been indicated in chapter one of the study.

5.2.1 Personality Factor

The first objective of the study was to find out the influence of personality factor on the betting behavior among university students in Kenya. The study demonstrated that respondents to some extent agreed that personality factor is slightly influential in influencing the betting behavior among university students in Kenya. This was based on the descriptive findings, with a composite mean in the bracket of slightly influential. Respondents also indicated that it is slightly influential that gambling or betting makes them feel at ease or they

feel interesting when taking part in gambling activities. As a result, individuals' lack of perseverance and stability may make them very vulnerable to betting behavior which in most cases reoccurs over time, hence making them to become gamblers or pathological gamblers.

A correlation analysis was performed to determine the strength of relationship between personality factor as an independent variable and gambling behavior among university students in Kenya as a dependent variable. The study findings established that of the four variables of the study, personality factor had the highest positive Pearson correlation coefficient value with gambling behavior, which was also within the recommended significance level of the study. This implied that there was a strong positive correlation between personality factor and gambling behavior among university students in Kenya. The findings agreed with the previous research that personality factor may be a big factor that influences gambling behavior among university students in Kenya.

In order to support or disagree with the previous findings that personality factor affects gambling behavior in youths especially university students, this study performed a regression analysis so as to determine the relationship between personality factor and gambling behavior among university students in Kenya. The study findings established a positive regression coefficient value which was within the recommended significance level of p-value of the study. As a result, the study demonstrated that there was a significant relationship between personality factor and gambling or betting behavior among university students in Kenya. The study therefore accepted the alternative hypothesis of the study and rejected the null hypothesis of the study.

5.2.2 Technological Factor

The second objective of the study was to determine how technological factor influences gambling behavior among university students in Kenya. With growth of globalization and technological appliances, university students have been able to use these devices on internet to access many services, including betting activities. However, the gap still existed on the influence that these developments (technological) may have the gambling behavior among university students in Kenya. The findings on descriptive statistics established that respondents indicated to some degree, technological factor has been slightly influential in determining their gambling behavior.

Additionally, a correlation analysis was determined to estimate the strength of the relationship between the two variables of the study (technological factor and gambling behavior among university students in Kenya). The results revealed that technological factor had the third most positive Pearson correlation coefficient value, and indication that there was a weak positive correlation between technological factor and gambling behavior among university students in Kenya. Further, the study findings revealed that the Pearson correlation coefficient value of technological factor was within the significance level of the study.

The study findings also presented the regression analysis results of technological factor and gambling behavior among university students in Kenya. It was revealed that there was a positive regression coefficient value for technological factor, suggesting that it has a positive relationship with gambling behavior among university students in Kenya. While the variable (technological factor) may have had a positive regression coefficient value, the level of significance was above recommended level of the study. This therefore indicated that technological factor has insignificant positive influence on the gambling behavior among university students in Kenya. As a result, the study accepted the null hypothesis and rejected the alternative hypothesis.

5.2.3 Attitude Factor

The third objective of the study was to establish how attitude factor influences gambling behavior among university students in Kenya. The study considered attitude as a predisposition of an individual's way of doing things, looking at things and the belief towards a particular object or action. The descriptive analysis was performed to determine the level of agreement with each measurement constructs of attitude factor. Using the composite mean derived, the study established that respondents to some degree, recorded that attitude factor may be slightly influential in influencing their gambling behavior in the university. However, this may depend upon the positivity or negativity of such attitudes.

Consequently, the study estimated the correlation between attitude factor and gambling behavior among university students in Kenya. The study established that of the four predictor variables of the study, attitude factor had the lowest Pearson correlation coefficient value with gambling behavior among university students in Kenya. However, it was within the recommended significance level. Therefore, the correlation analysis revealed that there was a weak positive correlation between attitude factor and gambling behavior among university students in Kenya. The strength of the relationship however, was weak.

The study further sought to find out the relationship between attitude factor and gambling behavior among university students in Kenya. This was in order to clearly show whether attitude factor influences gambling behavior among university students in Kenya. Based on the regression analysis, the study established that attitude factor had a negative regression coefficient value with a p-value above the recommended significance level of the study. This therefore implied that attitude factor has negative influence on the gambling behavior among the university students in Kenya. The study therefore disagreed with some of the previous findings in the empirical review since it accepted the null hypothesis and rejected the alternative hypothesis of the objective of the study.

5.2.4 Unemployment Factor

The increased rate of unemployment especially among the youths has continued to pose a real challenge for the government and in every household. While universities keep producing high number of graduates yearly and admitting almost half the number, students have found themselves as the biggest participants in betting activities. This study therefore used unemployment factor as a fourth objective so as to determine whether it has influence on gambling behavior among university students in Kenya. The descriptive findings of the study established that university students to some extent agreed that unemployment is slightly influential in influencing their gambling behavior.

Also, the study did a correlation analysis to determine the strength of the relationship between unemployment factor and gambling behavior among university students in Kenya. The findings recorded in the correlation table demonstrated that of the four variables of the study, unemployment factor was the second variable with a positive Pearson correlation coefficient value for the study which was also within the recommended significance level of the study. As a result, the study findings showed that there was a strong positive correlation between unemployment factor and gambling behavior among university students in Kenya.

The study also regressed unemployment factor as an independent variable with gambling behavior among university students in Kenya as a dependent variable. The study established that unemployment factor had a positive regression coefficient value with a p-value which was within the recommended significance level of the study. As such, the study established that unemployment has significant positive influence on the gambling behavior among university students in Kenya. The study therefore was in agreement with previous findings discussed in empirical review which provided that there is a significant positive relationship between unemployment factor and gambling behavior among university students in Kenya. The study therefore accepted the alternative hypothesis and rejected the null hypothesis.

5.3 Conclusion

The study made the following conclusions based on the research findings and discussions of the study.

5.3.1 Personality Factor

The study explored the influence of personality factor on the gambling behavior among university students in Kenya. Based on the findings of the study, the study concluded that personality factor significantly correlates with gambling behavior of the university students. In addition, the study also concluded that there was a significant positive relationship between personality factor and gambling behavior among university students in Kenya. This could be as a result that some respondents indicated that gambling or betting makes them feel better and they also feel interesting when taking part in gambling activities especially sports betting activities.

5.3.2 Technological Factor

The study concluded that many technological characteristics such as accessibility, efficiency, convenience and availability of these devices are critical in determining the influence on technological factor on gambling behaviour among university students. It is in the public domain that almost all university students have access to internet use. As a result, the study concluded that technological factor has a positive relationship with gambling behaviour among university students in Kenya. The conclusion was arrived at having observed that there was a positive regression coefficient value which suggest that, a unit increase in technological factor would result to a unit increase in gambling behaviour. However, the study concluded that the level of influence is insignificant.

5.3.3 Attitude Factor

Based on the study finding the study concluded that attitude factor did not have significant influence on the gambling behaviour among university students in Kenya. This was based on the regression results which recorded a negative regression coefficient value between attitude factor and gambling behaviour. As a result, the study further concludes that attitude factor can either be positive or negative and depending on which angle a student is, those with positive attitude may develop a positive attitude towards betting while those with negative attitude towards betting may see it as a bad behaviour. Hence, this could be the reason of obtained mixed results which is basically a positive finding that attitude factor does not influence gambling behaviour as earlier stated in the null hypothesis of the study.

5.3.4 Unemployment Factor

The study concluded that increased unemployment rate has to some extent influenced the gambling behaviour among university students in Kenya. Increased cost of living plus the need to keep up with the living standards in the university have seen a number of students engaging in betting activities to get extra money for their social life. As a result, the study also concluded that unemployment factor significantly influences gambling behaviour among university students. This imply that with increase in the rate of unemployment, there is likelihood that the number of betting behaviour among university students will significantly go up.

5.4 Recommendations

The study made the following recommendations

5.4.1 Government

The study recommend that the government needs to develop effective frameworks aimed at controlling the betting activities in the country, especially in the institutions of higher

learning which is perceived as the highest risk place for gambling activities more so sports betting. The government should also highlight the driving factors behind the increasing betting activities among youths and if for example, lack of jobs, should find ways of addressing the increasing unemployment challenges in the country.

5.4.2 Policymakers and Regulations

Betting activities remain largely the unregulated business in the world with no clear policies that direct its operations. The study therefore recommends that there is need for all betting stakeholders in the country to develop clear policies that defines for example the age of the participants and the limit of gambling activities based on the amounts placed. The study recommends that such policies may not be on long term however may be beneficial in attempting to control the increased betting behaviour among university students in Kenya.

5.4.3 Academicians

Studies on betting always produce different results depending on factors used to determine the gambling behaviour among university students. This study therefore recommend that scholars or academicians should continue looking into this phenomenon so as to provide more insightful information on the factors contributing the betting behaviour among university students in Kenya. The recommendation aims at providing more knowledge to the current topic of the study.

5.4.4 Students

The study recommends that students should take into account that betting is not in any way, a form of investment. As such, students who want to invest should consider viable forms of investment such as real estate so as to grow their long term investment goals.

5.5 Recommendation for Future Study

The implications of banned sports betting activities on the university students or Kenyan youths need to be assessed. This follows the increased emergence of uproar from the public when the government attempted to close some of the sports betting sites in Kenya. The study looked at the factors contributing to the betting behaviour among university students in Kenya. The study recommends a similar study on university students but from private and public universities separately so as to look out for possible similarities.

5.6 Limitations of the Study

The study was limited to university students in Kenya and did not involve individuals not currently enrolled and in session in various universities in Kenya, especially within Nairobi with a non-probability sampled target population of 200 students using snowballing approach.

The study was limited to only four variables; personality factor, technological factor, attitude factor and unemployment factor and therefore did not involve any other factors outside the study. The study was limited to factors contributing to the betting behaviour among university students in Kenya.

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APPENDICES

APPENDIX A: DATA COLLECTION TOOL (Questionnaire)

This questionnaire is intended to gather information from the respondents in the five selected Private Universities within Nairobi Central Business District (CBD) on the factors contributing to the betting behaviour among university students in Kenya. The information given shall be solely utilized for education purposes and utmost good faith and confidentiality shall be hold. Your participation therefore is highly treasured.

Name of the University

SECTION A: GENERAL INFORMATION

1. Gender

Male	[ ]	Female	[ ]

2. Education

Graduate	[ ]	Undergraduate	[ ]
Diploma	[ ]	Others	[ ]

3. Age

Below 19 years	[ ]	20 – 23 years	[ ]
24 – 27 years	[ ]	Above 27 years	[ ]

4. Years of gambling activities

6 months – 1 year	[ ]	Above 1 year	[ ]

5. Betting source of funds

Salary	[ ]	Upkeep from parents	[ ]

SECTION B: Factors contributing to the betting behaviour among university students in Kenya.

The following statements are descriptive of study variables factors. Please indicate your level of agreement with each statement by ticking $(\surd)$ where appropriate in a scale of 1-5.

Key: very influential (VI-5), influential (I-4), not sure (N-3), slightly influential (SI-2) and not influential (NI-1).

6. Personality factor						
	Statement	**VI**	**I**	**N**	**SI**	**NI**
1	I am always anxious to win any forms of betting eg sports					
2	Gambling or betting makes me feel at ease					
3	I feel interesting when taking part in gambling activities					
4	Gambling makes me feel comfortable as I earn extra money					
5	My level of self-discipline has reduced since I started betting					
6	I always develop the urge to bet at all cost irrespective of which sports activities					
7	Due to increased depression among youths, I have decided to bet					
8	My emotions always run high whenever my friends and I are placing bets					

7	**Technological factor**	**VI**	**I**	**N**	**SI**	**NI**
1	I have simple and easy access to devices such as phone which I use for betting activities					
2	I have easy avenue of connecting to the internet both at home and in school					
3	Technology has made it easy for me to get betting tips from various sites					
4	Betting firms has friendly face to face sites which encourages betting activities e.g., giving 100% bonuses for some odds					
5	There is high exposure to culture of technology usage among the university students					
6	High level of ease of use of technological devices such as cyber place has made it easy for youths to engage frequently in betting					
7	Most university students have knowledge of computer use which enable them to master betting terminologies faster					
8	Affordability on adoption of internet use among universities have enhanced the interaction level between students and betting sites					

8	**Attitude factor**	**VI**	**I**	**N**	**SI**	**NI**
1	I bet because I have the desire to win money and be like others who have money					
2	The desire to feel important and improve my self-esteem has seen me involved in gambling activities					
3	I bet because I have the desire to turn betting into strategies that can earn me more profit and feel complete					
4	I feel youths increasingly bet to build relationships with others so as to eliminate boredom and negative feelings					
5	The urge to increase stakes when placing a bet makes me feel excited					
6	I have followed my friend's ways of borrowing money online so that I can use for betting					
7	I always think of gambling practices as one way to invest so as to get more money in a short time					
8	I have influenced other students to combine money so that we can place high betting stakes and get more money and betting alone					

9	**Unemployment**	**VI**	**I**	**N**	**SI**	**NI**
1	Lack of formal employment opportunities has seen a number of youths involved in gambling activities					
2	Majority of youths participate in gambling activities to get extra income for their personal upkeep					
3	I prefer betting because it provides quick cash before my side hustle					
4	Increased cost of living has pushed us towards betting activities so as to pay some of the bills					
5	Due to frustrations that comes with lack of employment, gambling keeps me busy when am feeling low					
6	Even though I might lose more bets, I still bet hoping that one day I shall win a lot of money					
7	Winning bets motivates me to keep betting frequently so as I can get extra cash to support my siblings					
8	Due to lack of effective ways of addressing unemployment					

	challenges, gambling behaviour has continued to increase					

10	**Gambling behaviour among university students**	**VI**	**I**	**N**	**SI**	**NI**
1	Gambling have caused me a lot of financial problems					
2	I have been so much stressed because of gambling activities					
3	In some cases, I just need to gamble with a lot of money so that I can feel excited.					
4	I am always attracted to the betting sites which are user friendly					
5	Have lost some of my connections with my family due to gambling behaviour					
6	Gambling activities have affected my way of life as well as schooling, hence affecting my performance					
7	I don't think have reached a stage of being called pathological gambler (always bet at all cost)					
8	Many people have criticized my way of betting since many students have committed suicide as a result of betting.					

APPENDIX B: LIST OF DORMINANT SPORTS BETTING SITES

1	SportPesa
2	BetPawa
3	Betin Kenya
4	1xBet
5	22 Bet Kenya
6	SportyBet
7	Betmaster Kenya
8	Dafabet Kenya
9	Betway
10	Helabet
11	Betika