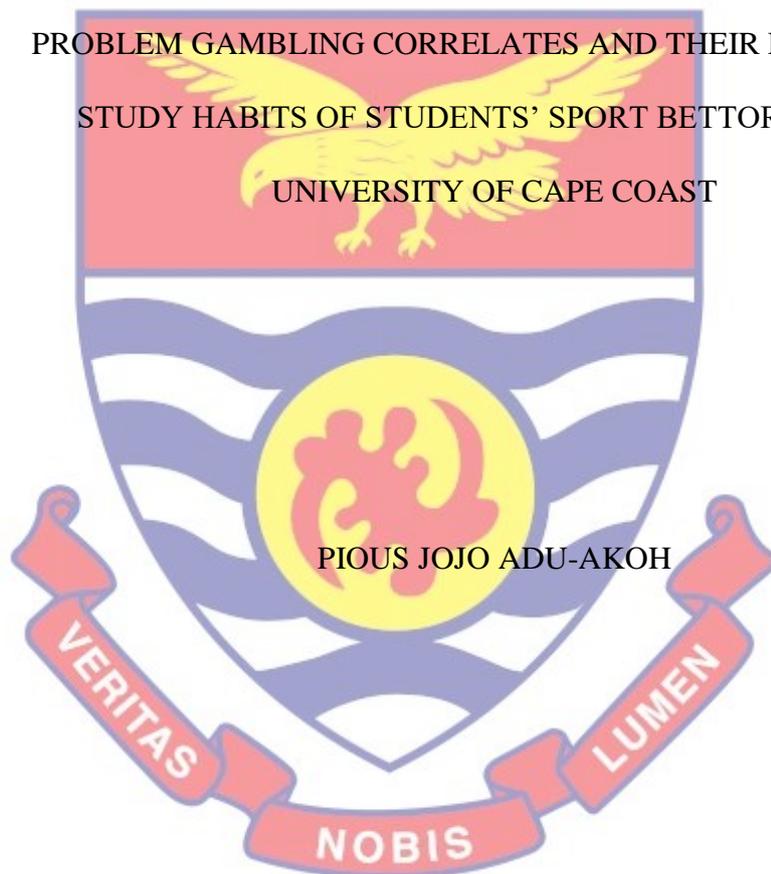


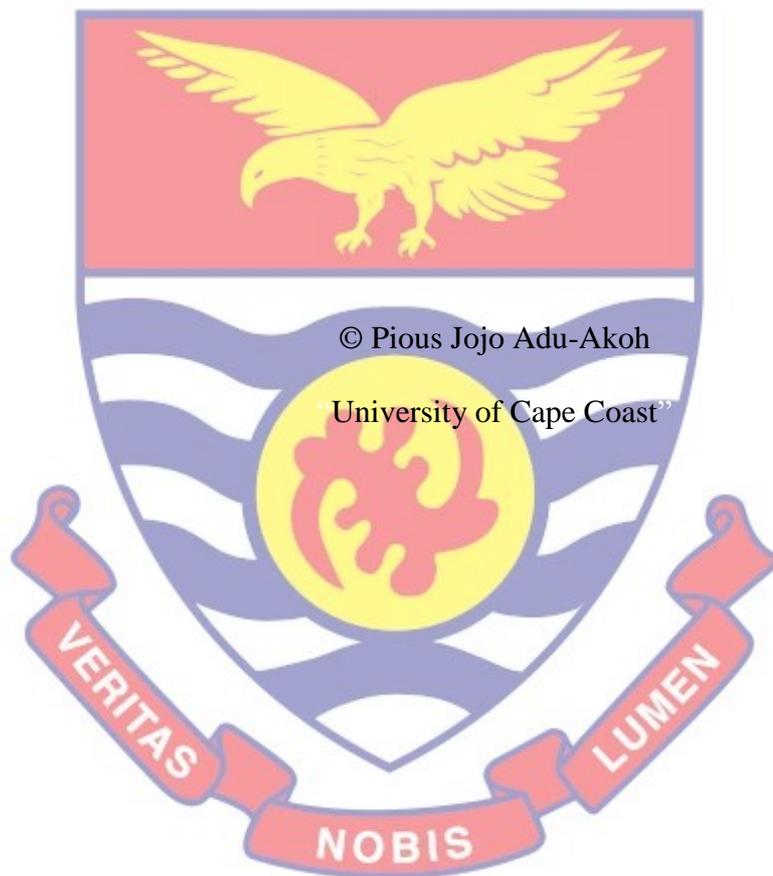
UNIVERSITY OF CAPE COAST

PROBLEM GAMBLING CORRELATES AND THEIR EFFECTS ON
STUDY HABITS OF STUDENTS' SPORT BETTORS IN THE
UNIVERSITY OF CAPE COAST



PIOUS JOJO ADU-AKOH

2022

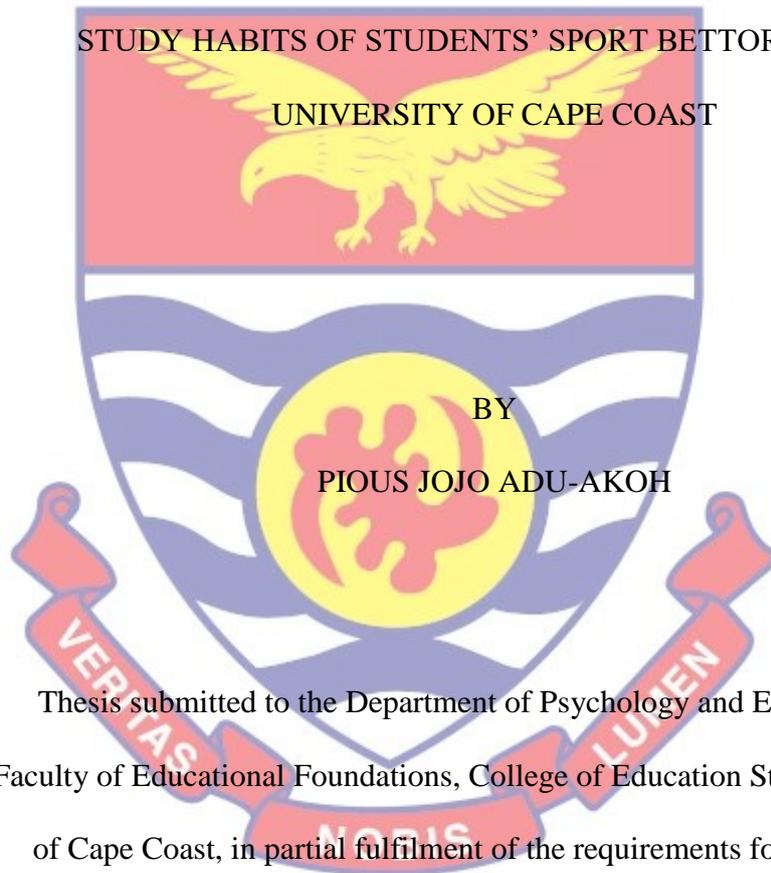


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STUDY HABITS OF STUDENTS' SPORT BETTORS IN THE
UNIVERSITY OF CAPE COAST



BY
PIOUS JOJO ADU-AKOH

Thesis submitted to the Department of Psychology and Education of the
Faculty of Educational Foundations, College of Education Studies, University
of Cape Coast, in partial fulfilment of the requirements for the award of
Master of Philosophy degree in Educational Psychology.

JUNE 2022

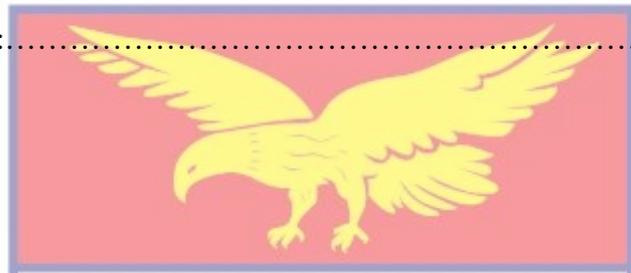
DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature..... Date.....

Name:.....

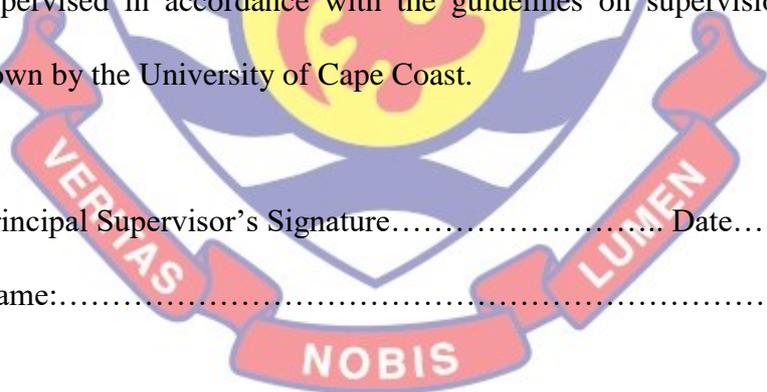


Supervisors' Declaration

We hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Signature..... Date.....

Name:.....



Co-Supervisor's Signature..... Date.....

Name:.....

ABSTRACT

This study investigated gambling activities of students' sport bettors of the University of Cape Coast and the effects these activities on the patterns of study habits. The purpose of the study was to examine the correlated behaviours of problem gambling and the effects on study habits of students' sports bettors in the University of Cape Coast. The descriptive survey design of the quantitative research approach was employed in this study. The study used both adopted and adapted questionnaires to elicit responses. The data were analysed using descriptive statistics (means, standard deviations, frequency counts, percentages and percentile ranks) and inferential statistics (Ordinal logistic regression and multivariate analysis of variance). It was found that more than one-third of students sampled engaged in student sports betting at varying degrees of intensity. Also, it was discovered that betting for money was the main motivation of students' sports bettors. On the basis of the findings, it was recommended that the university through its new initiative to establish Students' Support Office (StuFSO) which intend to provide support to brilliant but needy students, should also widen their scope in amassing resources to also provide for average students the opportunity to apply for a semester bursary which will cater for the student's basic needs within a semester. Also, the activities of the Study Habit Unit of the counselling centre in collaboration with the department academic advisors, hall counsellors and the recommended "Gaming Research Unit" of the Department of Psychology and Education should intermittently run open forum where students can test their study habit level.

KEY WORDS

Problem gambling

Gambling correlates

Effects

Study habit

Students' sports bettors

University of Cape Coast



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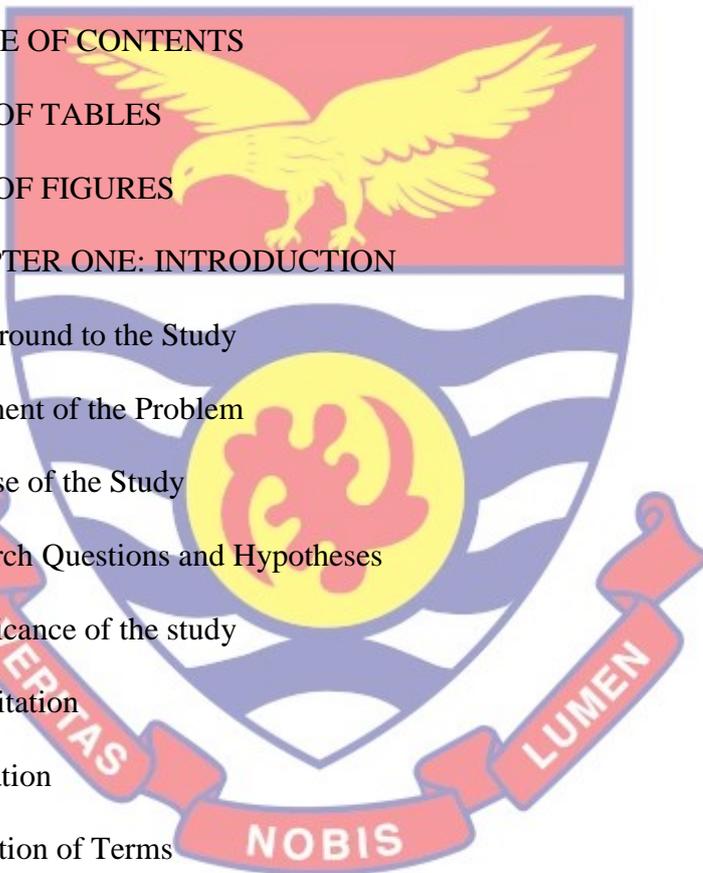
DEDICATION

To my beloved sister, Anna Waring Laetitia Adu-Akoh.



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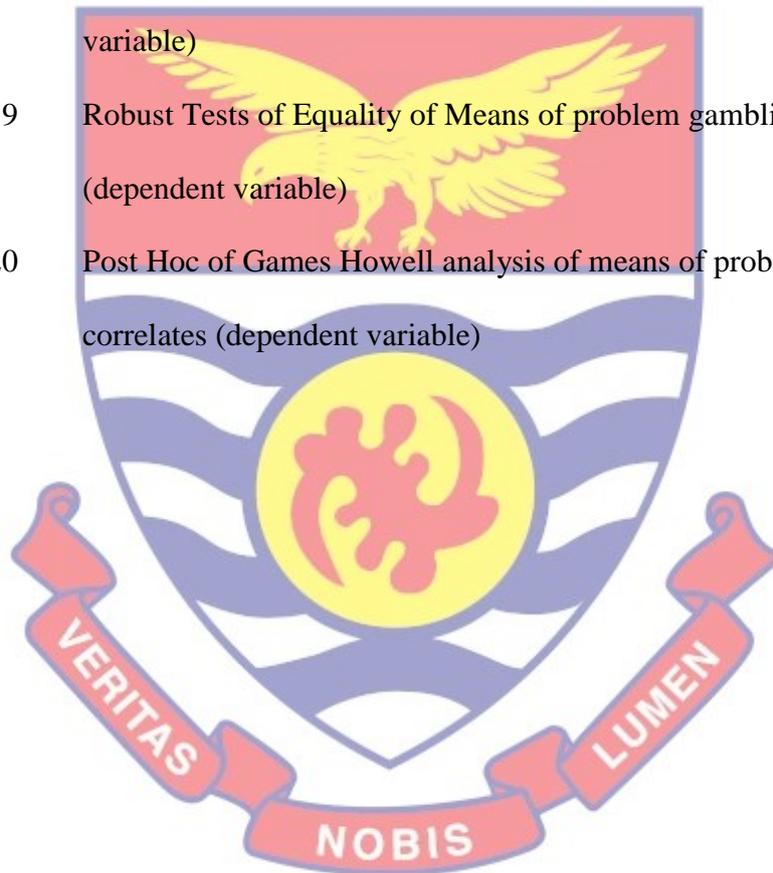
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CHAPTER ONE

INTRODUCTION

Gambling is a concern in most medical-psychological gambling studies. It is seen as a source of production in economic research, and its social and personal consequences are seen in sociology and psychology. History has also shown that the view on gambling in society has changed over time. Nevertheless, gambling is understood in different contemporary psychosocial and cultural contexts within the educational setting in Ghana.

All students within the university campus and its surrounding areas can readily access gambling, either legal or illegal. There have been reports from the electronic media of students on Ghanaian university campuses who gamble away their tuition fees, others indulging in wild behaviours upon victoriously winning 100s of cedis, missing lectures, and spending hours at betting centres to watch and keenly follow their football teams, etc. (GNA, citi newsroom, March 28, 2019).

Several studies across Europe, America and some parts of Africa show that gambling whether sports related or not, gambling has an addictive component which comes along with other related behaviours that may negate the normality of one's life (Delfabbro, 2008; Griffiths, 2007; McCormack, 2011; Sammut, 2010; Salonen, Hellman & Castr, 2018 etc.). A few of these studies looked at gambling and its impacts on the students' performance over a period of time (Bradley & Greene, 2013; Vitaro et al, 2018).

However, the current study narrowed the situation by researching into problem gambling correlates and their effects on study habits of students' sport bettors in the University of Cape Coast.

Background to the Study

Gambling is a well-known activity in most nations (Smith, Hodgins, & Williams, 2007). It is believed that roots of Gambling cannot be known but it has been in existence since prehistoric times. Human society since ancient times has been exposed to gambling and the taking of risk (Schwartz, 2013). Six-sided dices (as a divination) were used in Mesopotamia in the period around 3000BC to predict events (Brown, 2006). Gambling was recorded in the times of the Stone Age prior to the time history was written (Brown, 2006). Schwartz (2013), claimed that centres noted for gambling were common and prominent in China during the first millennium of the BC. He also mentioned that during the 10th century in China, Lotto games and dominoes were readily available. The Chinese, Japanese, Greeks and Romans as early as 2300 B.C., used to play game of skills and chances as a form of gambling (American Gaming Association, AGA, 2003). Gambling seems so important for the human race because it was long before civilisation and is evident in any culture, it is believed that the origin of gambling may be the pagan custom of interacting with the spirits which involved the tossing pebbles, bones and pieces of twigs (AGA, 2003). Sammut (2010), elucidates that "man's quest to understand his environment using religion and science gave rise to the charm of gambling". Be that as it may, innate Americans, accepted that divine beings decided their good fortune and chance, in this way created diversions which were related to gambling. The AGA (2003), also

posit that the colonization of the Americans by the British were financed through different lottery taxation within the early 17th century.

Throughout Britain, during the Georgian period, lotteries have been viewed as an overall taxation system, and have become well established throughout America since the arrival of European settlers (Griffiths, Wardle, Orford, Sproston & Erens, 2009). According to Griffiths et al (2009), gambling can be done using cash, pets or any form of property, as it was recorded from the 2017 British Gambling Prevalence Study that about 70% bet with cash. Sammut (2010) also stated that one's true life may suffer if he/she get preoccupied with gambling or games. Thus, this could lead to pathological gambling or problems gambling when the person becomes addicted to the whole gambling operation. The risk component in gambling is believed to make gambling so attractive, so that excessive play eventually results in a loss. Gamblers could thus lose more than cash, as the money and time invested are directly affected by their relationships with their family and companions and their working lives.

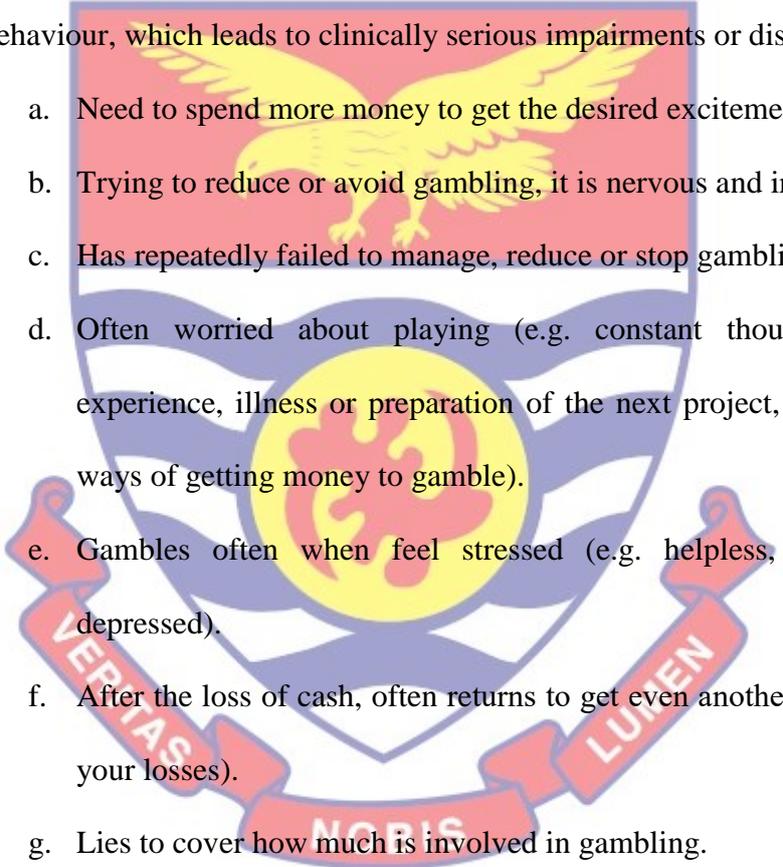
Multiple terms, such as 'Problem', 'Pathological' and 'Compulsive', have been interchangeably used to describe excessive and persistent gambling according to McCormack (2011). Also in Delfabbro (2008) and Griffiths (2009), the notion of being involved in excessive gambling is characterised by words such as addictive, extreme, dependent, compulsive, impulsive, disordered and at-risk. There are still controversies about the use of these terms in the definition of problem gambling. Nonetheless, the harmful outcome that results from the compulsion to gamble could be described as problem gambling (McCormack, 2011). McCormack adds that problem

gambling was used to describe less serious gambling problems without differentiating between the various gravities, or to cover every level of problem gambling.

Petry (2005), argue that pathologic gambling is a clinical, important psychiatric disorder. The term “pathological,” when behavioural gambling was accepted as a mental disorder, appeared in the Diagnostic and Statistical Handbook III (American Psychiatric Association, 1980). In 1994 it was listed as a DSM IV impulsive behaviour disorder (APA, 1994). Recently, the Mental Disorders Diagnostic and Statistical Manual (DSM-5) has identified and classifies Gambling Disorder under Non Substance-related Disorders according to Chu and Clark (2015). It is the first addiction classified in the DSM-5 that is behavioural and it is also referred to as Problem Gambling (Chu & Clark, 2015). Therefore the term “problem gambling” is often used to distinguish between pathological, professional and social gambling according to Mayer, Heyer, and Griffiths (2009). Mayer et al opined that, the term “problem gambling” refers to all the patterns of disruptive or damaging gambling behaviour. To them, social gambling usually takes place with family or acquaintances and lasts for a short time, which involves a well calculated losses. Some gamble alone without any social element in a non-problematic way. They further opined that there are limited risks and discipline in professional gambling. Thus, problem, social and professional gambling do not fully meet the criteria of pathological gambling (American Psychiatric Association, 1994, 2013).

However, pathological gambling does not only focuses on the addictive component of gambling or on the problem dimension, in which the

money is lost, friends and relationships are disturbed, but there are 10 symptoms of a pathological gambling: 1) anxiety, 2) progress, 3) tolerance, 5), retirement and loss of control, 6) escape, 7) deception, 8) crimes, 9) personal life disruptions, and ultimately, 10) financial rescue (Lesieur & Rosenthal, 1991; APA, 1994, 2013). The DSM-V pathological gambling criteria (APA, 2013) also demonstrates that the person who exhibits four or more of the following in 12 months shows a persistent and recurrent problem gambling behaviour, which leads to clinically serious impairments or distress:

- 
- a. Need to spend more money to get the desired excitement.
 - b. Trying to reduce or avoid gambling, it is nervous and irritable.
 - c. Has repeatedly failed to manage, reduce or stop gambling.
 - d. Often worried about playing (e.g. constant thoughts about the experience, illness or preparation of the next project, dreaming about ways of getting money to gamble).
 - e. Gambles often when feel stressed (e.g. helpless, guilt, nervous, depressed).
 - f. After the loss of cash, often returns to get even another day (“chasing” your losses).
 - g. Lies to cover how much is involved in gambling.
 - h. Has jeopardized or lost a significant relationship, job, or educational or career opportunity because of gambling.
 - i. Relies on others to provide money to alleviate gambling’s desperate financial situations.

Griffiths, Wardle, Orford, Sproston, and Erens (2011) report that just under 1% of the world’s population meets the Problem Gambling Severity Index

(PGSI) and DSM-IV scale (APA, 1994) requirements for problem gambling. Inferring from the above, it could be noted that all pathological gamblers are problem gamblers while not all problem gamblers are pathological gamblers.

In this study, the term ‘problem gambling’ would refer to the adverse effects on the gambler or on other individuals, his/her social life or even on the community as a result of the individual’s excessive gambling behaviour (Ferris & Wynne, 2001).

Today, the widespread of legitimate gambling, promotions of gambling activities coupled with easy accessibility via the internet has exposed many university students to the act (Conrad, 2008). As a result, there is a reason to expect that university gambling may be more prevalent today than in previous years (Winters, Stinchfield, Botzet, & Anderson, 2002). Pathological gambling prevalence among university students is projected to be 5.6%, almost three times the prevalence of 1.9% in the general adult population (Shaffer & Bethune, 2000). Usually, sports gambling, poker, dice, bingo, non-casino slot machines, cockfights, racing on horses or grass-hounds, throwing parts, internet gaming, raffles, tickets for scratching and winning ticketing, state-run lotteries and pull tabs are posited by Verbeke and Dittrick-Nathan (2007) as youth or student gambling events. Verbeke and Dittrick-Nathan also found that students gamble for fun, for socialization, for money and for risk-winning scenario thrills. They further stated that, students often gamble to avoid issues at home or at school, to keep them from feeling isolated, and to relieve feelings of depression, isolation and other negative moods. In addition, McBride and Derevensky (2012), argues that students are more likely to gamble because of easy access to internet and internet cafés, game centres,

betting venues, need for immediate satisfaction and an interest in increasing social standing.

Sports betting as an industrial sector have grown globally over the years, and are a component of the package sold for game days in the Americas, particularly in the developed world. Mwadime (2017), reports that illegal gambling can alone reach \$500 million. Global Gambling Revenue in 2018 has been measured at 435 billion dollars and is an increasing part of the global economy (Global Betting and Gaming Consultants - GBGC Report, 2018). The countries with retracting economies often frequently use gambling as a source of revenues (Cassidy, Pisac & lousouarn, 2013). The GBGC announced in 2018 that Asia is the largest gambling market with a percentage of 31.3, while the USA is the largest game industry jurisdiction. Sixty million Nigerians aged 18-40 are active sports bettors in Africa, as stated by gamblingafrica.com. They spend 3000 Naira on sports bets on average or 7.50 dollars per day. Data from South African governments indicate that more than 50% of adults in South Africa sports bet (Nzimande, Louw, Mannya, Bodasing & Ludin, 2010). This was also recorded for south, east, central and western Africa. According to a 2014 report published by Price Water House Coopers, Nigeria, Kenya and South Africa betting markets in 2018 worth \$37 billion and that the popularity of sportsbooks online such as Bet365, 888Sport, Safari Bet and Betway has been increasing.

According to bettingcompaniesghana.com, the games industry in Ghana only took off in the last decade. Inferring from the site, in just over a decade, the industry has seen a booming effect, and over 20 regional casinos and betting firms are currently operating in Ghana. There are also hundreds of

foreign casinos and betting brands in the state. Ghana has an even more recent growth of online gaming and betting industry. A burst of online casinos and betting companies began operating in the country in order to cater for this growing audience (*bettingcompaniesinghana.com*). The offline betting companies were also made available online. Through new channels such as the internet and social media, there have been increasing advertising of sports activities (Derevensky, Sklar, Gupta, Messerlian, 2010; Binde, 2014). The trend has been recently identified in the introduction of television gambling advertising in countries such as, USA, Canada, South Africa, Kenya, Nigeria and Ghana, etc. (Koross, 2016; Milner, Hing, Vitartas & Lamont, 2013; Ssewanyana & Bitanahirwe, 2018).

In terms of sports bet legality, New Jersey was the third state after Nevada and Delaware of the USA in June 2018 to legalise sports betting (New York Times, 2018). More than one hundred countries have started preparing bills to allow sports betting shortly after the New Jersey and Delaware states. Several countries allowed sports betting in 2019. Similarly, all forms of gambling, including sport betting, were legalized in the UK by the Gambling Act of 2005. The Act defined gambling as “an act that can constitute gaming, betting and participating in a lottery.” The law also allowed its citizens, subject to protections in accordance with the act, to place bets in sport in a legal manner.

The Betting Lottery and Gaming Act of Kenya 1966 (Majani, 2011), set up a Betting Control and Licensing Board (the Board). The Board authorizes the issuance of sportsbook licences. If a sportsbook is licensed, be it online or brick-and-mortar, it can legally operate in Kenya (Majani, 2011). If a

sportsbook is not allowed, *sportsbettingdime.com* states that operations in Kenya are illegal. Many sportbooks, including SportPesa, Betway, JustBet, Betin, and others, have been licensed for use by the Board in the country. According to Zipporah Nyambura's 2017 article (*sportsbettingdime.com*), over one million users of the general people of Kenya benefit from SportPesa alone. By contrast, according to *sportsbettingdime.com*, the South African regulatory framework for online gambling is very robust. Like many nations, South Africa adopts a legally regulated but heavily regulated approach to online betting, which means South Africans who wish to make a bet online have numerous legal options, although there is also a host of illegal betting activities which might lead to penalties. Sportsbooks must be authorised to operate legally in Kenya as they are in South Africa. Unlike in Kenya, however, the authorities of South Africa take a practical approach. Sportsbooks operating without a permit or gamblers using these sportsbooks are subject to fines, imprisonment and seizure. BetWay, Bet.co.za, BetVictor, SportingBet and BettingWorld are all licensed sites in South Africa. However, many unlicensed websites offer South Africans their services.

Digital gaming and sport betting rules in Nigeria are vague compared to places like South Africa. The Criminal Code prohibits all forms of gambling not expressly authorized and sets out sanctions for those who operate illegally and for those who use them. Nonetheless, the current law does not really address online gambling sites, so it is important to interpret and extrapolate the legal framework for online sportsbook betting. Nigerians using offshore sportsbooks which do not have a license in Nigeria probably violate the law and may be subject to a small fine. However, authorities seem to care

little about such sites and the risk of prosecuting them simply by placing bets on an online sportsbook.

In Ghana, according to *gamblingafrica.com/ghana*, the Ghana Gaming Commission (GGC) is fully legal and regulated. The commission is Ghana's sole regulatory body for the gambling industry, excluding the lottery regulated by the NLA. The Gaming Act 721, (2006) covers enforcement, supervision and oversight of game of 'chances'. The GGC is also responsible for the registration of casinos and operators for sports betting (Sewor, 2019). The *gamblingafrica.com/ghana* provides many forms of gambling: lotteries, sports betting, land based casinos, and online gambling. After sport betting legislation was introduced in 2006, several licenced operators throughout the country have begun offering online sports betting, as well as their brick and mortar corner shops. Sportsbooks in Ghana includes, amongst other items, Safaribet, Premier Betting, Eurobet, Alphabet, Soccerbet, Betway Ghana, and MyBet.

Statement of the Problem

Several studies outside of Africa have shown that university and college students have the highest levels of gambling and problem gambling (Knapp & Crossman, 2006). In the direction of sport gambling and problem gambling, according to a study by Weinstock, Whelan, Meyers, and McCausland (2007), nearly 67% of college students bet on sports. Knapp and Crossman (2006), revealed that albeit gambling is a commonplace on university campuses, and that only 22% of 119 schools studied had adopted a type of gambling policy.

However, the linkages between gambling participation and students' study habit remains unclear because it seems limited studies have explored this area. Nonetheless, Bradley and Greene (2013), advanced that many longitudinal studies have examined the relationship between academic performance and other risk-taking behaviours. Relationships between gambling participation and academic performance could simply result from common antecedents of risky behaviours such as alcohol, unprotected sexual behaviours, unhealthy dietary behaviours and drug use (Bradley & Greene, 2013). In 2018, a longitudinal study undertaken by Frank Vitaro at the Sainte-Justine Hospital, the University of Montreal and the Research Unit on Child Psychosocial Maladjustment, revealed that there is a good connection between gambling and academic performance.

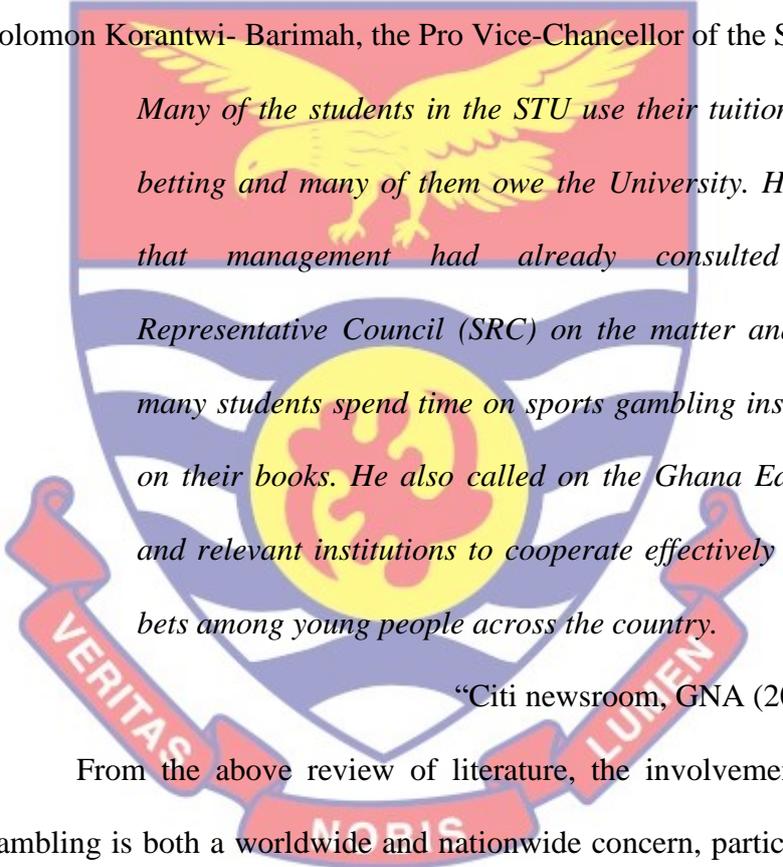
In Africa, a 2017 study of gambling activities in Kenya, Uganda, South Africa, Ghana, Nigeria and Tanzania assessed 3,879 youth aged 17 to 35 (based on the African Youth Charter), found that 54% of young people participate in gambling (GeoPoll, 2017). The survey reported Kenya as the country with the largest number of young people (76%) who previously gamble, Uganda, 57% and Ghana, 42% with the lowest figure (GeoPoll, 2017). Generally, on student's gambling within Africa, there seems to be few studies on the issue of campus gambling (Koross, 2016; Mwadime, 2017; Ssewanyana & Bitanhirwe, 2018; Glozah, Tolchard, & Pevalin, 2019).

Considering the above studies on students gambling in Africa, Koross (2016), examined the effects of betting on students' behaviour and found that "majority of Kenyan university students spend more hours gambling than reading and attending to school work". This was an indication that gambling

has an influence on students' behaviour as well as the student's study habit. Mwadime (2017), Ssewanyana and Bitanihirwe (2018), examined the impact of sport betting on vulnerable users and how to control and legislate gambling activities. Mwadime (2017), concluded that majority of underage (below 40years) individuals engaging in sports betting were aware of the risks posed by sports betting. Ssewanyana and Bitanihirwe (2018) proposed that a strict implementation and enforcement of underage gambling laws, education and public awareness campaigns regarding problem gambling is a necessity and lastly Ssewanyana and Bitanihirwe suggested a social policy creation and productive public health intervention for the treatment of youth and adults with problem gambling. The works of Mwadime (2017) and Ssewanyana (2018), though sited in Africa was done outside the context of students' study habit.

Similarly, in Ghana, Glozah, Tolchard and Pevalin (2019) through an exploratory study investigated the attitudes of SHS students towards gambling and found that there was a positive attitude towards gambling. Consequently, it has been very difficult to manage student learning with sports betting among Ghanaian students on university campuses. School administrators are, for instance, challenged to control sports bets by rendering all sports betting sites unavailable via Wi-Fi for students at the Kwame Nkrumah University of Science and Technology, Ghana. Students strongly disagreed as they responded that even without a university Wi-Fi link they could still bet. Citi Newsroom records a similar story on March 28, 2019 when students of Sunyani Technical University (STU), Ghana, highly patronized operations of one of the betting companies which has opened their premises in front of the

main campus of STU on the highway of Sunyani-Kumasi. The Ghana News Agency (GNA) in the same year visited the University betting centre in the night and found many students betting busily. Some of these including female students were seriously glued to mobile phones, while others were looking for help from other colleagues and the centre's operators. The GNA confirmed through an interaction with an attendant at the centre that more than 70 students visit the online sports centre every day. In the same report, Dr. Justice Solomon Korantwi- Barimah, the Pro Vice-Chancellor of the STU stated that;



Many of the students in the STU use their tuition fees for sports betting and many of them owe the University. He told reporters that management had already consulted the Student Representative Council (SRC) on the matter and regretted that many students spend time on sports gambling instead of focusing on their books. He also called on the Ghana Education Service and relevant institutions to cooperate effectively to control sport bets among young people across the country.

“Citi newsroom, GNA (2019, March 28)”

From the above review of literature, the involvement of student in gambling is both a worldwide and nationwide concern, particularly in Ghana. Though there have been a lot of foreign studies on the issue of student gambling, its prevalence and its related behavioural issues, there seems to be no local study in any university on the effects of problem gambling on study habits of students' sports bettors. Hence, in terms of literature and the study area, there remains a void for this study to fill. Thus, this study investigated

problem gambling correlates and their effects on study habits of students' sport bettors in the University of Cape Coast.

Purpose of the Study

The purpose of this study was to examine the correlate behaviours of problem gambling and the effects on study habits of students' sports bettors in the University of Cape Coast. Specifically, the study aims at finding the:

1. prevalence of problem gambling among UCC students.
2. motivation of UCC students for sports betting in the University of Cape Coast.
3. problem gambling correlates of university students' sports bettors.
4. identify the dimensions of study habits exhibited by UCC students.
5. relationship among problem gambling severity (PGSI gambler sub-types) and the dimensions of study habits of students' sport bettors.
6. difference in problem gambling correlates of PGSI gambler sub-types (problem gambling severity) of students' sports bettors.

Research Questions and Hypotheses

Research Questions

The study was guided by the following research questions.

1. How often is problem gambling prevalent among UCC students?
2. What motivates students to engage in sport betting in the University of Cape Coast?
3. What are the problem gambling correlates exhibited by UCC students' sports bettors?
4. What are the dimensions of study habits exhibited by UCC students?

Research hypotheses

The following hypotheses were formulated to guide the conduct of the study:

H₀1: There is no significant relationship between problem gambling severity (PGSI gambler sub-types) and the dimensions of study habits of students' sports bettors.

H₁1: There is a significant relationship between problem gambling severity (PGSI gambler sub-types) and the dimensions of study

habits of students' sports bettors.

H₀2: There is no significant difference in the means of problem gambling correlates among the PGSI gambler sub-types of students' sports bettors in the University of Cape Coast.

H₁2: There is a significant difference in the means of problem gambling correlates among the PGSI gambler sub-types of students' sports bettors in the University of Cape Coast.

Significance of the study

The study aimed at unearthing the motivation, prevalence, problem gambling correlates and the dimensions of study habit which result from problem gambling among students' sport bettors, thus this study sought to create awareness at the various level of the university's student management bodies, stakeholders; lecturers, psychologists, counsellors; students and researchers.

For university management bodies and stakeholders, it is anticipated that the findings of this study would expose the activities of students' sports betting. Thus, this will help university authorities to enhance the content and guidelines of their orientation programmes, formulation of rules and

regulations governing students' activities and also formulate gambling policies to regulate the kind of student-services in and around the university.

For educational psychologists and counsellors, the study will inform them and provide the basis for organising gambling educational programs or awareness. Educational psychologists together with counsellors in collaboration with the authorities of the university could design gambling policy to regulate students' behaviours. The findings would also expose psychologists and counsellors in the university to some behaviours which are as a result students' problem gambling and adequately design counselling, guidance and institutional programs to handle such behaviours.

Since the study seems to be the first of its kind of the University of Cape Coast, it is believed by the researcher that it will contribute immensely to a body of knowledge as the study would provide empirical evidence of sport betting activities on the university campus which will inform students, researchers and management of the university at large; likewise, members of the wider academic community including lecturers wishing to explore the field of students' problem gambling in universities will find this study a great resource.

Delimitation

In terms of the scope, the study was delimited to only the objectives of the study which discussed issues relating gambling, sport betting and study habits. Some of the issues covered under gambling were the prevalence rates of gambling, motivation and the problem gambling correlates or related behaviours exhibited by students who gamble. The study was also delimited to only regular undergraduate 400 students; thus, student pursuing post-graduate

degrees were exempted from the study. The study was also delimited to the use of descriptive survey design which only seeks to report events as they currently exist. The use of disproportionate stratified probability sampling technique delimited the sample sizes. Some sections of the population were over-represented and others were under-represented. However, this was not a problem as the study was not a comparative study. The study was also delimited to the use of multivariate analysis of variance and ordinal logistic regression in analysing the data. These analytical tools were very appropriate because they controlled skewed data as results of outliers, and they also checked multivariate normality, multicollinearity, etc. lastly, in terms of geography, the study was carried out in the University of Cape Coast.

Limitation

This study just like any other studies has its own limitation and weakness. The researcher used a disproportionate stratified probability sampling technique; the disadvantage of this technique was that some sample were overrepresented or underrepresented which resulted in skewed results. Thus, appropriate statistical tools were used to check skewedness and also appropriately interpret the results.

Secondly, the findings are limited to self-report instruments, which can bring about the problem of external validity and reliability issues. However, to improve the reliability of self-report, anonymity was assured the participants. This may not entirely warrant honesty on the part of participant self-reporting on his gambling behaviours and may intentionally or unintentionally give false information about the variables under study.

Lastly, it is worth noting that the study's data are indicators and not absolute measures of behaviour, attitudes and beliefs. Thus, this study is a tentative first step in examining the effects of these indicators on the participants.

Definition of Terms

The key terms occurring in the study are hereby defined as they were operationally used in the study:

Gambler: This is an individual who has gambled within the 12 months period.

Gambling (Betting): It involves the primary intention of winning money or any material goods by risking or staking money or valuables on an event with an uncertain outcome.

Low risk gambler: This is an individual who is not likely to experience any adverse consequences from gambling but may be at risk if he/she gambles heavily.

Moderate risk gambler: This person may be at risk if they gamble heavily. The individual has a probability of encountering harmful effects of gambling.

Motivation: It is the experience of desire or aversion.

Non-gambler: This is an individual who gambles but at the time of filling the questionnaire has not bet in the last 12 months. This individual would be limited to responding only the problem gambling correlates questions and ignores most of the questions on the questionnaire. Such individual may exhibit some problem gambling correlates.

Non-problem gambler: It is an individual that does not have any behavioural problems, although he/she may be a frequent gambler with heavy involvement in terms of time and money. The professional gambler may fit into this sub-

type of problem gambling and information on problem gambling correlates are for comparative purposes.

Pathological gambling: Pathological gambling is a chronic disorder of an addiction to gambling, which may need a clinical therapy or treatment.

Problem gambler: This is an individual who has experienced adverse consequences from gambling, and may have lost control of his/her behaviour. This person is likely to respond favourably to more of the problem gambling correlates than any sub-group.

Problem gambling correlates: These may be experiences or behaviours exhibited prior to gambling or exhibited after some past months of gambling. Problem gambling correlates include the individual faulty cognition, first-time experiences, family problems, co-morbidity, problem recognition, relieve of pains, stress, depression and suicidal behaviours.

Problem gambling severity: These are the Problem Gambling Severity Index (PGSI) groupings. The groupings or sub-types are “non-problem gambler”, “low risk gambler”, “moderate risk gambler”, and “problem gambler”. These groups have different intensity of severity level.

Problem gambling: This involves an adverse effect on the gambler or/and on other individuals, his/her social life or even on the community as a result of excess gambling.

Professional gambling: It is involves an individual who makes a living by spending a lot of his/her time gambling with limited risks and discipline.

Self-Determination: It is about motivating people to make decisions without external influence or interference.

Social gambling: It usually takes place with family or acquaintances and lasts for a limited time, with appropriate predetermined losses.

Sport betting: This involves placing money on the outcome of a sporting match (football match, cricket, table tennis etc.) as well as on events that occur within the match or the fixture at large.

Students' sports bettors: Students who engage in sport betting.

Study Habits: These are the behaviours exhibited when preparing for tests or learning academic material. The dimensions of the study habits include allotment of time, concentration, consultation, procedure in studying and reading and library use.

Organisation of the Study

The study is organized into five major chapters. The first chapter focuses on the introduction which comprises the background to the study, statement of the problem, purpose of the study, research questions and hypotheses, and significance of the study, limitations and delimitation of the study.

Chapter two covers the review of related literature which is grouped into theoretical framework, conceptual review and empirical review.

Also, chapter three focuses on the methodology of the study which comprises research design, the study area, population, sampling procedure, data collection instrument, data collection procedure and data processing and analysis.

Chapter four deals with the presentation and discussion of the results or findings obtained. The demographic data were analysed using frequency counts and percentages. Research question one was answered using frequency

counts and percentages. Research question two, three and four were answered using means, standard deviation and percentile ranks. Ordinal logistic regression was used in analysing research hypothesis one. Research hypothesis two was analysed using a One-way Multivariate Analysis of Variance (MANOVA)

Lastly, chapter five deals with the summary, conclusions and recommendations and suggestions made out of the entire study for further research.



CHAPTER TWO

LITERATURE REVIEW

This chapter incorporated conceptual review, theoretical framework and empirical review.

Theoretical Framework

Under the theoretical Framework, the Theory of Reasoned Action Approach (2010) by Ajzen and Fishbein underpinned the study. Other relevant theories in relation to the study were also reviewed. The following are theories reviewed in relation to the study;

- a. William Glasser choice theory (2000)
- b. Slovic's Affect Heuristic Theory (2002).
- c. Self-regulation Theory (Baumeister, Heatherton & Tice, 1994).
- d. Theory of Self-Determination (Deci & Ryan, 1985).
- e. Blaszczynski and Nower (2002) of Problem and Pathological gambling.

Theory of Reasoned Action Approach (2010) by Ajzen and Fishbein

The Theory of Reasoned Action Approach (Fishbein & Ajzen, 2010) embodied the theory of Reasoned Action and the Theory of Planned Behaviour. According to Fishbein and Ajzen (1975), the theory of Reasoned Action Approach which is an updated theory of Reasoned Action and Planned Behaviour theory aims at understanding and predicting human behaviour, insisting that a successful completion of human behavioural decision-making process is mainly controlled by the will of the individual. The Reasoned-

Action Approach (RAA) is an integrative framework for the prediction of human social behaviour and the changes that may occur in that behaviour. The Reasoned-Action Approach states that people’s intention predicts their behaviour. Fishbein and Ajzen (2010), further stated that these intentions are moderated by actual control. Intention is determined by attitude, perceived norm, and perceived behavioural control. Perceived behavioural control influences behaviour directly and indirectly through intention. The approach added a factor, known as the *actual control*; Fishbein and Ajzen (2010), defined it as one’s ability to perform a target behaviour influenced by the skills, abilities, and environmental factors. Actual control feeds back to perceived control. Performing a behaviour feeds back to the beliefs underlying the three determinants (attitude, perceived norm & perceived behavioural control) of intention. Influences that are not captured by the model are believed to be mediating the determinants. The Reasoned Action Approach consists components such as attitudes toward the behaviour, subjective norms, perceived behavioural control, and intentions.

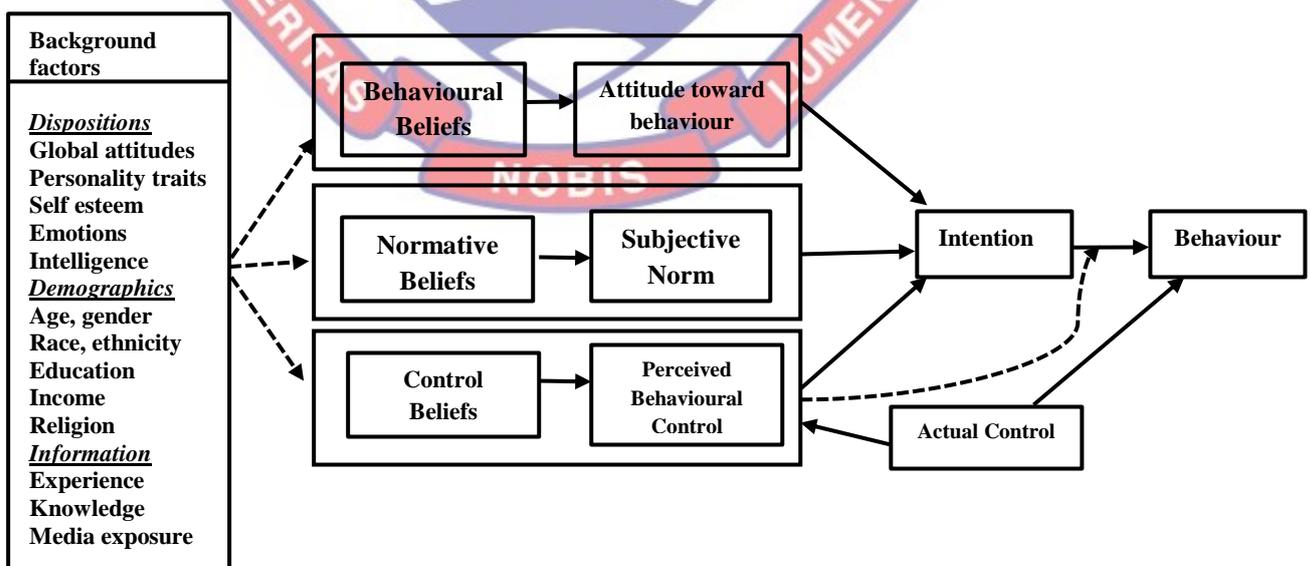


Figure 1 : Reasoned action approach, Fishbein & Ajzen, 2010

The Reasoned-Action Approach uses a number of concepts to explain one's gambling behaviour.

According to Ajzen (2002), attitudes are formed by a series of beliefs and result in a value being placed on the outcome of the behaviour. If the outcome or result of a behaviour is seen as being positive, valuable, beneficial, desirable, advantageous, or a good thing, then a person's attitude will be favourable with a greater likelihood of the person engaging in the behaviour and the otherwise is true. That is if a student gambles and wins consistently more than the amount he or she uses in stacking the bet, then since the outcome of his/her behaviour is advantageous to him/her, the likelihood of the person engaging in the behaviour is high or great. The more specific the attitudes and behaviours are, the more obvious the correlation degree between attitudes and behaviours is (Fishbein et al, 1980). Attitude is usually the most powerful predictor of the behavioural intention (Ajzen, 1991; Lim & Dubinsky, 2005). All other internal factors (e.g., personality, intelligence, experience, age, gender, etc.) and external factors (e.g., information, context, cultural background, etc.) indirectly affect attitude (Zhang, 2018).

Beliefs can be divided into three categories of behavioural beliefs, normative beliefs and control beliefs (Doll & Ajzen, 1992). Theorists use the word "belief" to refer to personal beliefs linked to real or falsified ideas and concepts. Yet "belief" needs no vigorous introspection and examination (Wikipedia, 2020).

The subjective norm depends on a moral belief and it is the behaviours the society expects from the individual. This depends on moral beliefs. These are the behaviours which we think important people expect from us in our

lives (Ajzen, 2002). These important people are often members of the family, peers or co-workers, religious individuals, health professionals or others of great respect – these are mostly people we like. What these influential people expect from us and our ability to fulfil their anticipated expectations forms our subjective norms. In relating this to student gambling, when friends expect one to gamble in order that they ‘fit’ in the friendship ‘circus’, they are eventually pressured to do so. It is pointed that the subjective norm is the weakest element that influences behaviour, but the influence of subjective norm on negative behaviour, such as illegal downloading, buying pirated, risky sexual behaviour, gambling and so on, is very significant (Fishbein & Ajzen, 1975).

A behaviour under volitional control is one in which the person is able to decide, at will, to engage in or not (Ajzen, 1991). For instance, according to Colby, Swanton, and Colby (2012), the exercise one chooses to do is under volitional control just as heavy gambling behaviour of a college student is likewise. With respect to gambling, Oh and Hsu (2001)’s results indicated that decisions to gamble are largely a volitional process for casual participants, and that many who were found addicted to gambling were not under volitional control. In some situations a person may not have complete control over a behaviour even though the intention to engage in the behaviour is not great.

Behavioural control is concerned with “perceived control over performance of behaviour, or how easy or difficult it is to perform the behaviour” (Ajzen, 2002). These are beliefs the person has that help or hinder performance of the behaviour (Ajzen, 2002); that is, they affect the perception of how easy or difficult it is to carry out the behaviour (Ajzen, 1991). If a

student believes that sport betting is a sure way of making money then it makes it easier for him/her to engage in the act.

Behavioural intention is the tendency of individuals to pursue an act, which can also be called the subjective probability of individuals in seeking to engage in particular acts (Fishbein & Ajzen, 1975). Therefore, according to TRA as stated earlier, behavioural intention is the most appropriate variable to predict behaviour. In decision-making process, the three factors of attitude, subjective norm and perceived behavioural control are likely to codetermine the behavioural intention of individuals, or each of the three factors directly change the behavioural intention, which means the three factors may influence each other or has different influence on behavioural intention separately. That is to say if a behavioural intention to gamble is positively influence by the subjective norms and behavioural controls, then he is more likely to participate in sport betting. Martin et al (2010), in a south-eastern university of the United States found that the behavioural intention had a positive significant relationship to past year gambling and also to gambling frequency. Also, Neighbors et al. (2007) found that favourable attitudes toward gambling correlated with problematic gambling (i.e., gambling frequency, expenditure, and negative consequences). In Ghana, Glozah, Tolchard and Pevalin (2019), assessed student's interest in gambling and found that attitudes of SHS student was positive towards gambling.

To conclude, Ajzen and Fishbein (2005), suggest that if the intention is to predict a particular behaviour (e.g. sport betting) the appropriate attitude to measure in order to predict whether or not people will engage in the behaviour is the attitude (beliefs and outcomes of betting) to that behaviour. However, if

the intention is to predict whether or not people will engage in a variety of specific behaviours (e.g. sport betting, study habits, etc.), it is the specific attitude (variables of the various beliefs) that is most important.

The theory of Reason Action has been critiqued of its assumption that, when someone forms an intention to act, they will be free to act without limitation (Sutton, 1998; Ogden, 2003). However, in practice, constraints such as limited ability, time, environmental or organisational limits, and unconscious habits will limit one's freedom to act. Thus, the theory of Planned Behaviour (TPB) attempts to resolve this limitation. Also the theory has a lot of confounding variables left out, hence, testing the model becomes difficult (Ogden, 2003). Sutton further pointed 9 variance in behaviour unexplained in the theory. Some of these are; intentions may change, intentions may be provisional, violation of the principle of compatibility and scale correspondence, restriction of range/variance in intention or behaviour etc.

William Glasser Choice Theory (1999)

Though this theory is heavily criticised (White, 2005). For the purpose of this study, the choice theory will be helpful in explaining students' behaviour towards sport betting. For instance, inferring from the theory, could it be that students have a need (fun, survival etc.) that they seek to fulfil in order to equate their perceived world with their imagery world of quality life? If that is the case, could their behaviour; action or thoughts of sport betting be controlled by themselves? Or could it be that their feelings to gamble is out of control causing an imbalance in their perceived world and the imagery world of quality life, hence making life filled with unhappiness?

The term “Choice Theory” was propounded by William Glasser (Glasser, 1999). The Choice theory posits that behaviours we choose are central to our existence. The main precept of choice theory is based on the idea that people choose behaviours in attempt to meet their basic needs. These needs are; love and belonging, fun, freedom, power, and survival. The needs do not exist on a hierarchy; rather, everyone has different levels of need strength (Glasser, 1999). Ideally, one acts in a way to achieve his/her needs when there is a realisation that the needs are not met. That is to say if a student finds it difficult to survive financially on the university campus, he/she finds means to survive and sport betting or gambling could be perceived as one of the means of surviving financially on the university campus. Glasser (1999), made it clear when he said that “every act is intentional, and every act is motivated to meet one or more of the five needs”. Sullo (2007), continues that choice theory is a “biological theory that suggests we are born with specific needs that we are genetically instructed to satisfy”. According to Irvine (2005), “Freedom is usually associated with choice and that choice must be actual rather than illusory, and must not be forced or restricted” (Brooks & Young, 2011; Patall, Cooper, & Robinson, 2008; Schwartz 2009). Patall et al. (2008), indicate that “bounded choice; free choice with a limited number of options, is optimal”. Three to five options allows real choice. Increasing the number of choice options results in ego depletion (Patall et al., 2008; Schwartz, 2009).

Quality World

In Glasser’s world of Quality World, imperfect or negative role models do not exist. He further describe his quality world as the discovery of

individuals, things, ideas that improves one's quality of life. In this case, he ignores all the negative things or individuals that make the quality of life somehow impossible. The Basic Human Needs describe what we need, the Quality World determines how to achieve these needs. The Basic Human Needs are universal but our Quality Worlds are unique. A student who gambles has his/her quality world to be more of people who will lead him or her to fulfil his/her basic needs using sport betting.

Perceived World

Glasser (1999), explains that the perceptual system is the only means by which one can experience the real world. That our senses; eyes, ear, mouth, and skin receives information from the real world. He continued that "all individuals possess a total knowledge filter that contains all what one know or has experienced". If it is sport betting that a student has learnt and needs-satisfying, he/she places a positive value on it. If sport betting hinders his/her ability to meet his/her needs, he/she places a negative value on it. If the sport betting neither helps nor hinders in meeting his/her needs, he/she may place little or no value on it; it remains neutral. Every student comes to every situation with different knowledge and experience, and therefore different values, our perceptions of the real world are different. Thus, no one student live in the same "real world." We live our lives in our Perceived Worlds. Thus, our perceived worlds differ from one person to the other. That is, it is highly subjective: based on one's culture, education, experience, gender, age, etc., it is unique, subject to constant change (new information, new experiences = new perceptions) and sometimes frequently inaccurate.

Comparing Place

Glasser (1999) also posits a “Comparing Place” where we compare and contrast our perception of people, places, and things immediately in front of us against our ideal images our Quality World. Our subconscious pushes us towards equating our real world experience (perceptive world) with our Quality World. When a student thinks of satisfying his needs and realises that sport betting could help him/her to meet his needs, then sport betting becomes the answer to attaining his/her quality world. When there is a mismatch, where sport betting does not help him/her to satisfy his/her needs, there is a degree of frustration, depending on how important the Quality World is to the student. That frustration signal, as Glasser terms it, is felt as an urge to behave in a way that will help us get more of what we want.” Thus, student who engages in sport betting may gradually develop into a problem gambler by constantly gambling in order to meet his needs.

Total Behaviour System

“Total Behaviour as used by Glasser is made up of four components: acting, thinking, feeling, and physiology. Glasser suggests we have considerable control over the first two of these; yet, little ability to directly choose the latter two as they are more deeply sub- and unconscious. According to him, our total behaviour is our best attempt at a time, given the resources at our disposal (knowledge, skills, etc.) to meet our needs. According to Glasser, the component we have the most control over is our acting. The next most easily controlled component is our thinking. Therefore, to Glasser, a student who engages in sport betting can at any moment in time

stop or changes his behaviour towards gambling if that does not help him to meet his needs.

In summing the theory of choice, Glasser posit that when a student through sport betting is unable to meet his needs he experience failing or failed personal unhappiness. The student becomes unhappy because the people in his quality life has failed him and hence a failed perceptual world. Glasser then emphasis that this state of unhappiness is a mental illness. To him mental illnesses are as a result of failed relationships.

Glasser related mental illnesses to failed relationships and that one does not need any medication to cure these mental illnesses. He opposed the idea of 'pharmacology' or 'medications' and that one's mental illness can be cured by improving on this relationships. This ideology was critiqued because not all mental illnesses are as a result of failed relationships so 'medications' or 'pharmacology' was a necessity in one's life. His critics believe that Glasser ignored the biological component of one's life and that when this aspect of man suffers, he may need medication.

Slovic's Affect Heuristic Theory

With respect to gambling, the illusion of control may occur among gamblers or sport bettors as they loss control of their sense of cognition. The individual may use several approaches of heuristics. For instance, representativeness heuristic: which describes the "tendency for people to think something is more likely if it reflects their beliefs of a situation" (Kahneman & Tversky, 1973), availability heuristic: "it is characterized by the tendency to believe that what first 'comes to mind' is more likely" (Kahneman & Tversky) belief in the 'law of small numbers': "describes the tendency for people to

believe that rules that apply to large samples will apply also to small samples” (Kahneman & Tversky) and the gamblers’ fallacy: it is “mistaken notion that the odds for something with a fixed probability increase or decrease depending upon recent occurrences”.

These approaches may be used unknowingly by the individual students in an attempt to make more wins. A study by d’Astous, and Di Gaspero (2015) and Chóliz (2010), showed that betting online on sports events involves a mix of heuristic and analytic processes.” Chóliz (2010), further stated that “sometimes these heuristics can induce problem gambling behaviour and that illusion of control is also one of the main biases observed in problem gambling on active games like sports bets, on slot machines, casino games etc”.

“The affect heuristic is a type of heuristic, a mental shortcut that allows people to make decisions and solve problems quickly and efficiently, in which current emotion; fear, pleasure, surprise, etc. influences decisions. “It is a subconscious process that shortens the decision-making process and allows people to function without having to complete an extensive search for information” (Finucane, Alhakami, Slovic & Johnson, 2000). The affect heuristic is typically used by student gamblers to judge the risks and benefits of sport betting, depending on the positive or negative feelings that people associate with a stimulus. “If the student’s feeling towards sport betting is positive, then the student is more likely to judge the risks as low and the benefits high. On the other hand, if his feeling towards sport betting is negative, he is more likely to perceive the risks as high and benefits low” (Finucane et al, 2000).

Robert B. Zajonc popularised in 1980 when he argued “that affective reactions to stimuli are often the first reaction which occur automatically and subsequently influencing the way in which we process and judge information” (Zajonc, 1980). Finucane et al (2000), theorized that “a good feeling towards a situation (i.e., positive affect) would lead to a lower risk perception and a higher benefit perception, even when this is logically not warranted for that situation”. This implies that “a strong emotional response to a word or other stimulus might alter a person’s judgment. He or she might make different decisions based on the same set of facts and might thus make an illogical decision”. Overall, every decision-making stage is influenced by affect heuristic.

Slovic, Finucane, Peters and MacGregor (2007), contrast two modes of thinking: the analytic system and the experiential system or the affective approach. The analytic system, also referred to as the rational system, is a thought that is considered to be slow and requires effort; it requires consciousness, probabilities, logical reasoning, and substantial evidence.

The experiential system is the exact opposite. It is intuitive and mostly automatic which makes it more convenient for people because it does not require effort or consciousness. Students who engage in sport betting are prone to dwell on their affective which is mostly convenient in making quick decisions. Decision to bet on the right team in order to make huge wins of money depends on the idea of lowering the risk of losing money and increasing the benefit or chances of winning more money. Though most of these decisions of betting on a particular team cannot even be explain

logically, but the situation of making huge wins of money warrant them to make such affective decisions.

Studies done on heuristics, shows that heuristics shape our attitudes and opinions towards our decisions, especially risk perception. Zajonc (1980), opined that affect may be independent of cognition which indicate that there are conditions where affect does not require cognition. Research has shown that cigarette advertisements were designed to increase the positive affect associated with smoking and decrease the perceptions of risk (Hanson & Kysar, 1999). “Therefore, seeing this advertisement could lead people astray to start smoking because of its induced appeal.” This was similar with the constant advertisements of sport bets as these adverts induced in the younger generation zeal to gamble (Derevensky, Sklar, Gupta, Messerlian, 2010; Binde, 2014; Hing, Cherney, Blaszczynski, Gainsbury, & Lubman, 2014). In a study by Slovic, Finucane, Peters and MacGregor (2004), they found that most smokers, especially those that start at a younger age do not take the time to think about how their future selves will perceive the risks associated with smoking. Essentially, smokers give little conscious thought to smoking before they start and it is usually after they have started smoking and have become addicted that they learn new information about health risk (Slovic et al., 2004).

Critics states that heuristics can be helpful in many situations, but it can also lead to biases which can result in poor decision-making habits. According to these critics, like other heuristics, the affect heuristic can provide efficient and adaptive responses, but relying on affect can also cause decisions to be misleading.

Self-regulation Theory (Baumeister, Heatherton & Tice, 1994)

Roy Baumeister, one of the leading social psychologists who have studied self-regulation. Together with his colleagues defined self-regulation as an important personality process by which people seek to exert control over their thoughts, their feelings, their impulses and appetites, and their task performances (Baumeister, Gailliot, DeWall, & Oaten, 2006). According to Matric (2018), self-regulation is described as the individuals' ability to direct their actions towards goals and ideas which can come from personal desires or the expectations of others, and helps individuals adjust to the demands of society and the environment.

Nonetheless, problem gambling is understood from the angle that self-regulation has failed. Baumeister, Heatherton, Tice (1994), opined that under-regulation and mis-regulation are the two types of self-regulation failure. According to them under-regulation refers to “the failure to exert control over one's behaviour. For example, some people gamble because they cannot stop themselves”.

When there are temporary discrepancies in one's strength to self-regulate, they are unable to exert the same level of self-control on different tempting situations. “The process of exerting self-control or making choices reduces the amount of ego strength available for future self-control efforts. The success of self-control depends on ego strength: when ego strength is depleted, self-control is more likely to fail. It could therefore be said that low levels of self-regulation strength results in students' consistent gambling. The basis of self-regulation is setting of goals and that without goals attaining self-regulation is difficult (Heatherton & Tice, 1994; Sayette, 2004). For instance,

the goal of not risking one's money and the goal of making a large sum of money can conflict when people gamble. "Gambling requires people to risk their money but also allows for the possibility of winning a lot of money. Such conflicting goals make it hard to determine the best course of action" (Baumeister, Schmeichel & Vohs, 2007). Attaining self-regulation becomes difficult when the goal set is misdirected or inappropriate (Karoly, 1993). Misperception by gamblers make setting of goals difficult. For instance when problem gamblers believe that they gamble just as much as their friends do, then setting of goals to resist the behaviour of gambling becomes difficult. This may also create a strong positive urge to gamble with friends. Individuals who are unable to monitor themselves will be unable to self-regulate. Individuals who finds it difficult to monitor their own behaviour are more likely to have a problem with self-regulating. According to Baumeister et al (2007) and Heatherton and Tice (1994), "if a student gambler cannot estimate the financial and social cost that comes with weekly bets in the long-term, then the gambling behaviour of the individual becomes difficult to self-regulate".

Baumeister et al (1994), further explains that misregulation could occur when, "focusing one's regulatory efforts on the wrong thing" and "having false or misleading beliefs about the self and the environment". For instance, a problem gambler may continue to gamble to avoid adverse situation at home or in his life. Also when gamblers tend to believe in the idea that the gambling activities are controlled by, the "illusion of control"; "belief in luck"; "superstitions"; and the "gambler's fallacy", then, misregulation could occur.

Illusion of control refers to the belief that one has control over the chances of events occurring overtime. Moore and Ohtsuka (1999), found that illusion of control and gambling has a linkage. Also with the issue of lack, Wohl and Enzle (2003), found that gamblers who had encountered near big loss were associated with a strong belief of luck. They found that these gamblers later bet more money because they believe that they could eventually win more money. However, this was not with gamblers who actually encountered a big lost. The former believe they are luckier than the latter. With superstitious belief, Moore and Ohtsuka (1999), found that winning and the ability to use strategies to win were associated with the gambler's superstitious beliefs. These beliefs are more "dominant among problem gamblers as compared to non-problem gamblers. For instance, with gambler's belief, gamblers believe that after losing on several occasions on a bet, the probability of subsequently making a big win is high. Thus, after the losing a number of times in a row, gamblers assume that their luck is about to change, as such they continue to gamble because they expect that they will be able to recoup their losses" (Baumeister et al., 2007). All these beliefs could lead to misregulation.

Lastly, misregulation may also occur when people attempt to protect their self-esteem (Baumeister et al). They theorized that student gamblers with high self-esteem could have a lot of good chances of winning a bet than those with low self-esteem. According to them, when there is an ego depletion, gambler's self-regulation skills is lost or lessens. Ego depletion even as pointed by Baumeister, has brought forward a lot critic. According to Maranges, (2014), Segerstrom and Nes (2017) and Vadillo, Gold and Osman

(2016) and many other researchers found that a variety of factors have been contributed to ego depletion and make it harder to control oneself and also regain willpower. These may include:

- Age: Older people may be more resistant to ego depletion than their younger counterparts.
- Choice: When one is forced to do something, less self-control is exhibited than one making his/her own decision.
- Cognitive dissonance: Doing or saying something that contradicts ones' beliefs can diminish your self-control.
- Emotional distress causes ones willpower to deplete more quickly.
- Heart rate: when ones' heart rate varies, the less self-control one is.
- Hormones: the ovaries work harder during the phase of menstruation, women have been found to experience decreased self-control during premenstrual syndrome.
- Illusory fatigue: that is when one think a task is mentally tasking, she/he becomes mentally fatigued faster.
- Low blood sugar makes it more difficult to resist temptation.
- Unfamiliarity: It takes more energy to try something new.

Theory of Self-Determination (SDT) (Deci & Ryan, 1985)

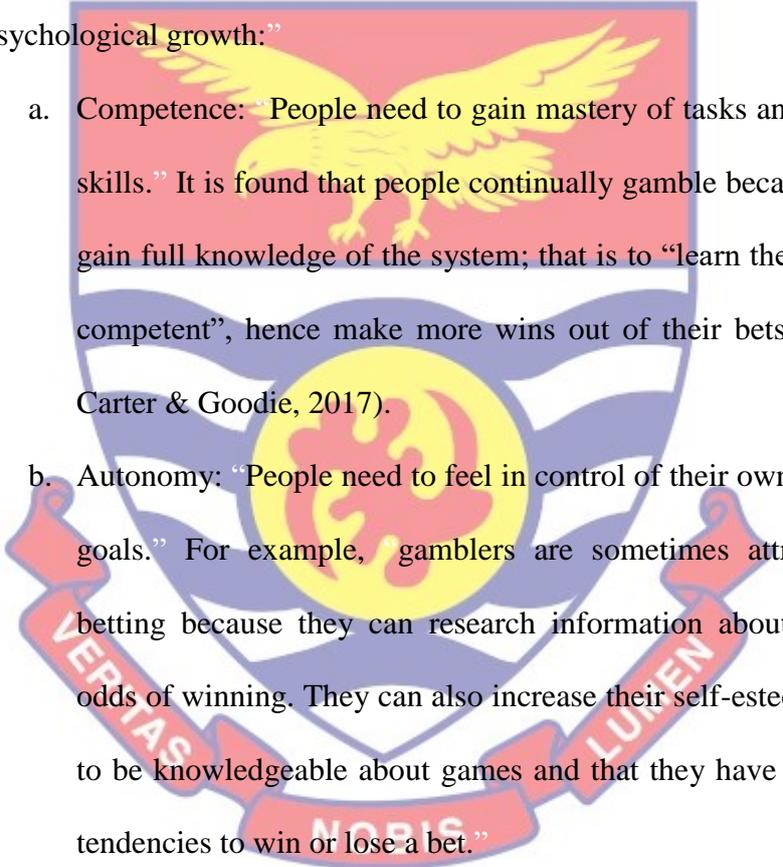
Self-determination Theory (SDT) explores how one relates with his/her social environment. It is a broader perspective of man's personality and motivation. According to Neighbors and Larimer (2004), motivational orientations are important determinants of problem gambling. SDT deals with how both intrinsic and extrinsic motivation influence one responses within a situation. According to Deci and Ryan (1985), extrinsic motivation is where

external sources influences the behaviour of an individual. Extrinsically motivated gamblers are more likely to continually engage in sport betting because of external rewards such as money and social approval (Rodriguez, Neighbors, Rinker & Tackett, 2015).

On the other hand, intrinsic motivation comes from the individual's own inner drivers. Individuals who are more intrinsically motivated in their reasons for gambling were more likely to gamble because it “offered excitement, an opportunity to obtain knowledge, and a sense of accomplishment” (Rodriguez, et al, 2015). However, SDT differentiates between autonomous motivation and controlled motivation (Ryan & Deci, 2008). “When people are autonomously motivated, they act with a full sense of willingness and volition, wholly endorsing that which they are doing because they find it either interesting and enjoyable, or consistent with their deeply held, integrated values.” Autonomous motivation would be associated with less problematic gambling. This is because the individual is conscious of the potential risks posed by his/her gambling behaviour. In contrast, when people's motivation is controlled, they act out of coercion, seduction, or obligation. They tend to experience pressure and compulsion, rather than concurrence and choice.” “Controlled motivation would be associated with more problematic gambling” (Neighbors & Larimer, 2004). As a motivational theory, SDT examines why people behave the way they do. Research suggests that people are motivated to gamble because of the emotions, social connections, monetary gain, self-worth, and intellectual challenge that are commonly related to gambling (e.g., Chen, Wu, & Tong, 2015; Francis,

Dowling, Jackson, Christensen, & Wardle, 2015; Wu, Tao, Tong, & Cheung, 2012).

According to Deci and Ryan (2000), there are three psychological needs that motivate the self to initiate behaviour. These needs are said to be universal, innate and psychological and include the need for competence, autonomy, and social relations (relatedness). Self-determination theory, propose that people need to feel the following in order to achieve psychological growth:"

- 
- a. Competence: "People need to gain mastery of tasks and learn different skills." It is found that people continually gamble because they want to gain full knowledge of the system; that is to "learn the game", "to feel competent", hence make more wins out of their bets (Shinaprayoon, Carter & Goodie, 2017).
 - b. Autonomy: "People need to feel in control of their own behaviours and goals." For example, "gamblers are sometimes attracted to sports betting because they can research information about teams and the odds of winning. They can also increase their self-esteem by appearing to be knowledgeable about games and that they have control over the tendencies to win or lose a bet."
 - c. Connection or Relatedness: People need to experience a sense of belonging and attachment to other people. According to Shinaprayoon, Carter and Goodie, there is a reason to believe that people gamble because they want to be socially recognised among their peers.

According to Deci and Ryan (2015) “people tend to be amotivated for behaviour when they do not feel competent to do it or when they do not value the outcomes that are likely to follow the behaviours”. They opine that the concept of amotivation refers to people having no intentionality or motivation. Many gamblers are faced with amotivation when they are challenged by the fact that they play for money, but sometimes feel they do not get a lot out of their gambling activities. Thus, many motivation theories use the primary distinction of individuals being motivated versus unmotivated. But, “SDT, however, has a tripartite differentiation of autonomous motivation, controlled motivation, and amotivation” (Ryan, & Deci, 2015).

One being intrinsically or extrinsically motivated may have some level of challenges on himself or on the elements within his environment. Basically, the critics of this theory highlights that individuals who lack self-determination will attempt to put the blame on someone or something else in an attempt to take of the pressure from themselves.

Blaszczynski and Nower (2002) of Problem and Pathological gambling

“The Pathways Model (Blaszczynski & Nower, 2002), is a theoretical framework that proposes three pathways for identifying subtypes of problem gamblers. The model asserts that all individuals with gambling disorder share common ecological factors of availability, accessibility, and acceptability of gambling, combined with cognitive distortions and habituation, resulting from operant conditioning that occurs in the gambling environment. The model shows the different characteristics that could be exhibited by a problem gambler as a result of nature and nurture experiences by the individual.

Pathway 1: Behaviourally Conditioned (BC)

Pathway 1 gamblers are characterized by an absence of specific pre-morbid features of psychopathology, and their gambling results largely from the effects of conditioning, distorted cognitions surrounding probability of winning and disregard for the notion of independence of events, and/or a series of bad judgments/poor decision-making rather than because of impaired control. “Gamblers fitting of this typology are differentiated by the absence of any pre-existing clinically significant psychopathology” (Blaszczynski & Nower, 2002). “However, it is suggested that BC gamblers can develop co-morbid correlate behaviours such as depression and anxiety, but such disorders are a consequence of problematic gambling rather than being contributing factors. It is also suggested that “BC gamblers may demonstrate instability, fluctuating between heavy gambling and pathological gambling” (Blaszczynski & Nower, 2016). “Moreover, gamblers typically receive wins in highly variable patterns (Browne, Rockloff, Blaszczynski, Allcock, & Windross, 2015), and it has been theorized that variable reinforcement schedules are a powerful environmental factor that maintain gambling behaviour (Hurlburt, Knapp & Knowles, 1980). It is proposed that “counselling and minimal intervention programmes benefit this subgroup” (Blaszczynski & Nower, 2016).

Pathway 2: Emotionally Vulnerable

Pathway 2 gamblers share similar ecological determinants, conditioning processes, and cognitive schemas; however, these individuals are present with pre-morbid drug abuse, anxiety, and/or depression, a history of poor coping and problem-solving skills, problematic family background

experiences, and major traumatic life events that fuel gambling participation motivated by a desire to modulate affective states and/or meet specific psychological needs. “This subgroup of gamblers displays higher levels of psychopathology, in depression, anxiety and alcohol dependence” (Blaszczynski & Nower). In contrast, Pathway 2 gamblers are emotionally vulnerable as a result of psychosocial and biological factors, utilizing gambling primarily to relieve aversive affective states by providing escape or arousal. Once initiated, a habitual pattern of gambling fosters behavioural conditioning and dependence in both pathways.” “However, psychological dysfunction in Pathway 2 gamblers makes this group more resistant to change and necessitates treatment” that “addresses the underlying vulnerabilities as well as the gambling behaviour” (Blaszczynski & Nower).

Pathway 3: Biologically-Based Impulsive

Finally, Pathway 3 gamblers possess psychosocial and biologically-based vulnerabilities similar to Pathway 2 but are distinguished by a high degree of impulsivity, antisocial personality and attention deficit disorders, manifesting in severe multiple maladaptive behaviours.” Clinically, gamblers with a background history of impulsivity engage in a wider array of behavioural problems independent of their gambling, including substance abuse, suicidality, irritability, low tolerance for boredom and criminal behaviours. In an interactive process, the effect of impulsivity is aggravated under pressure and in the presence of negative emotions. Poor interpersonal relationships, excessive alcohol and poly drug experimentation, non-gambling-related criminality and a family history of antisocial and alcohol problems are characteristic of this group. Gambling starts at an early age,

rapidly escalates in intensity and severity, may occur in binge episodes and is associated with early entry into gambling-related criminal behaviours. These gamblers are less motivated to seek treatment in the first instance, have poor compliance rates and respond poorly to any form of intervention. Blaszczynski, Steel and McConaghy (1997), have labelled these gamblers the “antisocial impulsivist” sub-type.

The diagram below in Figure 2 shows Problem and Pathological Gambling Model of Blaszczynski and Nower (2002).

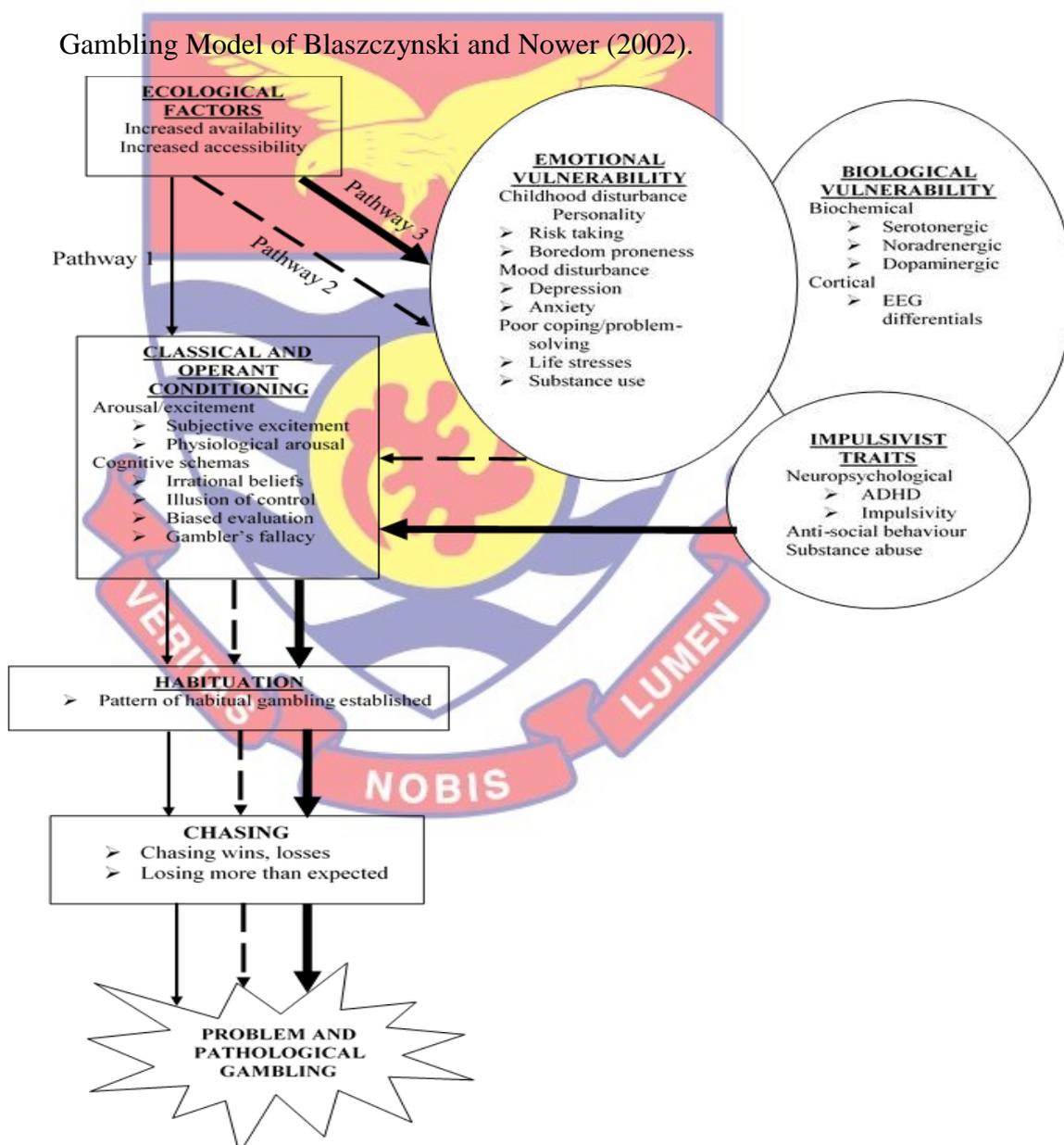


Figure 2: Problem and Pathological Gambling Model of Blaszczynski and Nower (2002)

Conceptual Review

The concept of Study Habits

Habit formation is no new concept in psychology and education. Habit development does not occur overnight. It sometimes takes conscious effort to build up a good habit. “Habit formation is the process by which behaviour, through regular repetition, becomes automatic or habitual” (Andrews, 1903). For a behaviour to be automated, regular repeating of the behaviour in a particular sequence over a period of time is assured of such behaviour becoming automatic and part of the individual (Wood & Neal, 2016). “For some behaviours and some people, only 18 days of repetition were required for the behaviour to become sufficiently automatic to be performed without thinking, for other behaviours and participants, however, over 200 days of repetition were needed” (Lally, van Jaarsveld, Potts, & Wardle, 2010).

Hassan, Sadaf, Aly and Baig, (2018), “based on behaviour formation defined study habits as the study practices that include the frequency of study sittings, rehearsal of learned material, review of material, studying in a favourable surroundings and self-testing . According to Essuman as cited by Awabil (2013), to measure students study habit any of the 10 scales or dimensions: “Time Allotment”, “Concentration”, “Consultation”, “Correction”, “Note-taking”, “Procedures in Studying”, “Reading and Library Use”, “Written Work and Taking Examinations”, should be considered. For the purpose of this study, 5 dimensions were used to determine the study habit of students.

Time Allotment/Management

According to Egbochuku as cited by Awabil (2013), time management is “setting and following a schedule of study in order to organise and prioritise your studies in the context of completing activities of work, family and so on”. Sopon (2017), opine that “effective management skills help students to work towards their goals and avoid unnecessary activities which distract one’s attention”. Kaushar (2013), argued that “good time management makes students to act accordingly”. According to him, “only by organizing and planning time that the student can avoid distraction from regular studies”. For the purpose of this work, student’s time allotment was centred on the duration of time students spend on reading their courses, both the liked and disliked courses; the number of hours spent in a day studying, the time spent on extracurricular activities and whether students like spending time alone in studies.

Concentration

McWhorter (2016) opine that “concentration is keeping your mind on what you are reading or studying, involves two major skills or abilities; exclusion and focusing. If the students can master some techniques in using each of these skills, they will notice a change in their level of concentration”. Concentration as used in this study looked at the ability of a student to direct his/her attention on the task at hand. There are a number of factors that affect concentration, some of which are the environment, light, temperature, emotions, other people and the reader’s body. For example, sound can affect ones concentration. “Although many students insist that they can accomplish a lot while TV, radio or CD is playing, scientific studies suggest otherwise”

(Awabil et al, 2008). Conversation can also distract one's attention which can inhibit concentration. Students should therefore be careful when studying with friends. Again, the student's desk should not be full of unwanted materials as this can also inhibit concentration. There are two major distractions which causes loss of student's concentration: distractions within us (internal causes of poor concentration) and distractions outside us (external causes of poor concentration). According to Awabil et al (2008), internal causes of poor concentration include: personal worries, tension and anxiety, stress and day dreaming. External causes of poor concentration include: noise, glaring light, desk temperature and posture.

Consultation

Consultation according to Awabil (2013) involves “seeking help from peers and teachers in order to adequately understand some material or find answers to an assignment”. To him, “consultation” is “help-seeking”. Alevan, McLaren, Roll and Koedinger (2006),” defined help-seeking “as the student's ability to solicit help when needed from a teacher, peer, textbook, manual or internet”. According Awabil, formation of group studies is as a result of students seeking help from each other. Thus, Ohene (2010), opined that a “study group should ideally comprise a maximum of five people and a minimum of three”. Ipaye (2005) added that the purpose of the group is to regularly meet to study; discuss and do assignments and projects works. Consultation as defined in this study looked at how students are comfortable in seeking academic help from their lecturers, friends, consulting books for further ideas and also forming a group study where necessary.

Procedures in Studying

Procedures in studying are the measures put in place to reduce distractions while learning and also facilitate smooth learning. As used in this work and also inferring from Essuman (2006), procedures in studying involve one adequately organising and assembling all materials that will be needed in the course of learning close to himself. For instance books, pens, notebooks, dictionary etc. should be assembled around the individual's desk where learning is taking place. Distractive objects such as mobile phones, magazines and newspapers should be put far off. Procedures in studying should also involve what the individual has planned to study in order to prevent him/her from wasting time. The individual should not rush through the learning process but rather should take his time to understand the topics or subjects understudy. Essuman (2006) also opine that the individual should also endeavour if possible, to study beyond what has been give him/her by his/her lecturer or tutors.

Reading and Library Use

Egbule and Olofu (2017), recommended that “students cultivate the habit of reading in the library” because of the presence of up-to-date reference materials and the serenity of the library environment. Osa-Edoh and Alutu (2012), posited that “today, student has much to read because of the great demand inherent in the core curriculum and thus, the ability to read fast will be an advantage.” According to them quick reader takes in and retains more than slow readers because the quick reader catches the drift and flow on the passage better whereas the slow readers delay over each word. For the purpose of this work, reading and library use by students focused on student's

ability to remember what is read, the number of times required by the student to understand what he/she read and whether students are of the habit of consulting from books in the library so as to complete their assignments or even seek to borrow books from the library. Reading and library use also expresses whether students like reading the books borrowed from the library or dislike reading in general.

Sport Betting

Sport betting involves placing money on the outcome of a sporting match (football match, cricket, table tennis etc.) as well as on events that occur within the match or the fixture at large. Sport betting in Ghana could take place at the betting centres or even on the website of these sport betting companies. Placing of bet (i.e. money) on the score line of a football match or on any events such as determining the number of ‘throws’ a team could conceive in the match could be done through ones mobile money accounts or bank accounts. On the university’s campus, there are a number of sport betting centres where students can place their bet using “physical” cash instead of the “electronic” cash. Recently, the Gaming Commission of Ghana in fulfilment of Gaming Act 721, (2006) hereby published 22 sport betting companies which are in good standing for the 2020 operational year. Some of these sport betting companies include sportybet, 1Xbet, betway, soccabet, eazibet etc.

Problem Gambling

In this study, the term “problem gambling refers to the adverse effects on the gambler, on other individuals, his/her social life or even on the community as a result of the individual’s excessive gambling behaviour” (Ferris & Wynne, 2001). Problem gambling often depends on whether the

gambler or the ‘relatives’ suffers harm. As stated earlier severe problem gambling may be diagnosed as pathological gambling if the gambler meets certain criteria on the DSM-V (APA, 2013). Hence, problem gambling refers to all the harmful behaviours resulting from constant gambling as stated in the works of these gambling researchers (Griffiths, 2009; Calado, & Griffiths, 2016; Jazaeri, & Habil, 2012; Griffiths, Wardle, Orford, Sproston, & Erens, 2011).

Problem Gambling Correlates

The problem gambling correlates domain according to Ferris and Wynne (2001), includes “variable that further develop the profiles of gambler sub-types based on the Problem Gambling Severity Index (PGSI)”. Problem Gambling Correlates may be the experiences or behaviours exhibited prior to gambling or exhibited after some past months of gambling. Problem gambling correlates include the individual “faulty cognition”, “first-time experiences”, “family problems”, “co-morbidity”, “problem recognition”, “relieve of pains”, “stress”, “depression” and “suicidal behaviours”. The variables of problem gambling correlates explicitly determine whether a gambler has had any suicide ideation, suicide attempts, or feelings of depression. The correlates also point out if a gambler has been treated for stress, has undergone self-medication either with gambling or alcohol or even indulged in the use of drugs and alcohol in course of his/her gambling activities. Also, the correlates assess the individual’s family history of alcohol, drug and gambling problems. Lastly the individual developing a winning system or strategy to minimise loses and maximise wins is reckoned as part of the correlates of problem gambling.

Empirical Review

Finally, the empirical review focused on works that had bearing on the issues of student gambling, problem gambling and sport betting (e.g.; Griffiths & Parke, 2010, Lopez-Gonzalez, Griffiths, & Estévez 2020; Glozah, Tolchard, & Pevalin, 2019; Koross, 2016; Mwadime, 2017; Salonen, Hellman, & Castr, 2018 etc.). The review considered following themes (i.e. the research objectives):

Prevalence of Gambling (problem gambling) among Students

Tertiary students have been identified as “an at risk group in relation to online gambling” (Wood, Griffiths, & Parke, 2007). The problem of gambling peaks due to the fact that many students (18-24years) are use the internet regularly. (Productivity Commission; PC, 2010). A study by Petry and Weinstock (2007), revealed that “out of 1356 university student participants, 23% reported ever gambling on the internet”. Almost two-thirds (61.6%) of regular Internet gamblers were problem gamblers. The high rate of internet gambling of Petry and Weinstock may be demographically influenced as students in these universities may have readily accessible Wi-Fi. Similarly, Griffiths and Parke (2010) and King, Delfabbro, and Griffiths (2010) found that “the use of smartphones and other mobile devices has facilitated the spread and rise of gambling among the youth”. Given the global expansion of the gambling industry, Williams, Volberg and Stevens (2012), found a “significant increase in the prevalence of problem gambling to be inevitable”. Griffiths (2009) also reported that “availability of opportunities to gamble and the incidence of problem gambling within a community are known to be linked”. Thus, the results of Giralt et al. (2018), indicated that “participation in

gambling activities is common among under-aged adolescents and that prevalence of problematic gambling exceeds rates of adults”.

According to Koross (2016), there is a high prevalence of gambling among university students in Kenyan university. Majority of the students, 50% indicated that they bet at least once a week, while 28% indicated that they bet at least once a fortnight and 12% at least once a month and 7% at least once in the past three months. The findings showed that almost all the students do bet at varying frequency counts. This agrees with the findings of Ly (2010) who established in his study that almost 60% of university students are regular gamblers. The findings also indicated that university gambling students can be grouped into six types of gamblers; compulsive gamblers, serious social gamblers, casual social gamblers, antisocial or personality gamblers, escape gamblers and professional gamblers.” Though the sample size of Koross, was small (100 university students), it was conducted in an African university setting so it provides the researcher with a compelling case and what to expect as the study was conducted.

With the issues of gamble severity and the frequency of bets, Mwadime (2017), found that “more than once a week bets were the most common frequency of betting followed by weekly bets”. In support of this, Caldeira et al (2017), stated that frequent or daily gambling was rare and that gambling weekly or gambling more than once within a week was relatively high. Ahaibwe, Lakuma, Katunze and Maweje (2016), also stated that “the youth are likely to bet on sports on a daily basis compared to the older bettors but in all the weekly sports bet was very high”. Mwadime (2017), further found that more than half of the respondents who gambled sometimes win

their bets. Their wins instigated a personal believe and a high level of confidence among gamblers as this resulted in sports betting addiction. Griffiths et al, (2009) also earlier discovered that “favourable attitudes towards gambling were associated with greater time and money spent on gambling”.

From the work of van der Maas et al (2018), prevalence of problem gambling was quite low in their sample. The large majority, 90.3% of those who participated in gambling in the 12 months prior to the survey were classified as non-problem gamblers based on the PGSI (score of 0). 7.1% participants were classified with low-level gambling problems (PGSI: 1–2).

The number of problem gamblers as identified by the PGSI (8+) was 0.1% of the population.” It was found that “prevalence rates of risk and problem were very low but similar to those reported in previous Australian study that used the PGSI in samples of adolescents and young adults” (Delfabbro et al. 2014). “With gambling severity, significant difference was found between non-gamblers and high frequency gamblers on all gambling types” (Glozah, Tolchard, & Pevalin, 2019). Williams, Belanger and Prusak (2016), also found that the frequency of play, and gambling expenditure was also very high among Canadian urban aboriginals who gamble. To this, Ahaiabwe, Lakuma, Katunze and Mawejje (2016), also revealed that on average, those who gamble spend about 12 percent of their monthly income on gambling activities. They noted that expenditure on gambling by the gambler to some extent is impulsive and not budgeted for, and hence participants tend to underreport the facts. Yip et al (2017) also posited that “perceived gambling in family and excessive gambling among peers were both associated with greater likelihoods of at-risk and problem gambling”.

Motivation for Gambling among Students

Researchers have examined the pathways and processes that lead individuals to gamble. According to the New York Council on Problem gambling (www.nyproblemgambling.org), “many individuals use gambling to avoid handling personal feelings or problems, they ‘escape’ into activities such as Internet gambling and playing at slot machines to avoid interaction with others and to avoid having to confront existing problems”. Research has shown that youth with gambling problems are more likely to report using gambling as a form of escape or to relieve daily hassles or stress (Derevensky & Gupta, 2004). “These youth have positive attitudes toward gambling and subsequently seek out gambling for its perceived benefits: excitement, relief of boredom, power or control, and socialization” (Derevensky & Gupta, 2004). Neighbors, Lostutter, Cronce, and Larimer (2002), from their comprehensive set of 16 gambling motives based on open-ended responses revealed that most college students gamble to win money, for fun, for social reasons, for excitement, or just to have something to do. McGrath et al. (2010), also found that “gambling for money and for charitable events were frequently endorsed reasons for gambling”. From the study of Rodriguez, Neighbors, Rinker, and Tackett (2015), intrinsically motivated motives were operationalized with items such as, “for the pleasure I feel when my knowledge of the game improves,” and “because it is the best way I know of for meeting friends,” whereas extrinsically motivated motives were represented by items such as “to buy something I have been dreaming of” (i.e., gambling to become rich). Individuals who were more intrinsically motivated gambled because “the gambling brought them excitement, an

opportunity to obtain knowledge, and a sense of accomplishment”. However, extrinsically motivated gamblers gambled because of external rewards such as money and social approval. Further, they found that “gamblers who were motivated for intrinsic reasons were more likely to continue investing resources into gambling activities, though it was noted that gambling is less likely to be intrinsically motivated when it crosses the threshold into becoming problematic”. Mwadime (2017), ironically found that majority of the respondents perceived self-controlled when betting.

Wardle et al. (2007), found that “respondents with higher levels of education were less likely to gamble; 61% of those with a degree compared with 73% who were educated to GCSE/O level equivalent”. The British Gambling Prevalence Survey (Wardle et al., 2007) also “found that people in higher income households were more likely to gamble”. Affirming the above findings, Ahaibwe, Lakuma, Katunze and Mawejje (2016), mentioned that the propensity to gamble is strongly influenced by personal income level. In Ghana, Ofosu and Kotey (2020), revealed that “sports betting participants viewed betting as a means to an end, a chance to improve their financial circumstances”. Thus, the above show that the socioeconomic background of the individual could be a motivational factor for gambling. Could this also be the case of university students?

However, a recent study by Koross (2016), among university student cited Custer and Milt (1985) who argued that “gambling motives were different among gamblers”. They classified gamblers into six categories based on their purpose for gambling: (a) social gamblers, who play for fun and are not emotionally affected by their wins or loses; (b) professional players,

who gamble as a career and play for money but can tolerate losses as part of their business; (c) antisocial gamblers, whose only purpose is winning and thus might cheat during gambling to ensure they win; (d) serious social gamblers, who gamble as a leisure and social activity; (e) relief and escape gamblers, who play to seek emotional relief; and (f) addictive and compulsive gamblers, whose gambling behaviours are not self-controlled and affect their lives negatively. To investigate these determinants as state by Custer and Milt, Koross (2016), established that money was the main and biggest motivator causing university students to gamble. Similarly, Kam, Wong, So, Un, and Chan (2017), found that university student gamble for three main reasons, that is seeking entertainment, killing time, and as a result of peer influence. This was evident in Kenya as the mass media broadcasts show how the winners celebrate and motivate others to continue betting since they have chances of winning millions of money. Students also seem to rely on the money from the bets for their daily up keep and entertainment. The other motivators were betting for enjoyment and to be together with peers in that students stated it as their main motivator. Others indicated that boredom was their motivator instead of being idle they utilize their leisure time by betting. The above motivating factors were some of the reason students gave when the Ghana News Agency, GNA spoke with students in the Sunyani Technical University. Hence the researcher seeks whether this will be the case of the university of Cape Coast or will there be other concealing factors stimulating students to bet especially in sport bets on campus?

Problem Gambling Correlates of Students who engage in Gambling

Gambling is also a behaviour that can spiral out of control in some individuals. “As gambling becomes excessive, there are observable menace including debt, illegal activity and interpersonal conflict” (Clarke, 2010).

Gambling involves different types of threat, which materialise in various ways and affect individuals to different extents. According to a report by Giffiths (2009), “European research has consistently shown that problem gambling can negatively affect significant areas of a person’s life, including their health, employment, finances, and interpersonal relationships”. For example, Kausch (2003), suggests that “dysfunctional gamblers were characterized by suicide attempts, compulsive spending and shopping, and compulsive sexual behaviour”. Kausch also clarified that “the prevalence of drug abuse can affect the degree of the participation of problem gamblers and other problematic behaviours like suicidal behaviour”. According to Salonen, Hellman and Castr (2018), “negative consequences of gambling include: “financial crisis”; “relationship disruption”, “conflict”, or “breakdown”; “emotional or psychological harm”, and “decrements in health”; “cultural harm”; “reduced performance at work or in study”; and “criminal activity”. To them, financial crises involved “reduced savings, late payment of bills indebtedness and less money available for recreations such as eating out, going to movies, or other entertainment”; experienced emotional or psychological harms were “feelings of extreme distress, having regrets that made the gamblers feel sorry about their gambling, and feeling angry about not controlling their gambling”. They further clarified that the most common health-related harm was “loss of sleep due to time spent on gambling”. The

findings of Salonen, Hellman and Castr (2018), did not clearly state the presence or absence of premorbid conditions of participants but their study helped in depicting the real issues on the ground as the sample size of 7,186 from three regions and a clinical sample of 119 in a gambling help clinic were large enough to generalise even across different geographical areas.

Prior to the findings of Salonen, Hellman and Castr, The National Research Council (1999), also reported that negative consequences of gambling can include “crime”, “financial debt” and “bankruptcies”, “loss of career”, “homelessness”, “damaged family and personal relationships”, and “even suicide”. In relation to students, Derevensky and Gupta (2007), of the Youth Gambling Institute at Mc Gill University, Montreal, Canada, posited that “college students are the riskiest demographic and the highest-risk age group to experience the negative consequences” as outlined by the National Research Council. To this, Apinuntavech, Viwatwongkasem, Tipayamongkholgul, Wichaidit, and Sangthong, (2012), also reported negative consequences of gambling to include the “feeling of guilt”, “perception of poorer health” and “depression or insomnia after losing a bet”.

From the work of Koross (2016), “students were asked if gambling has caused them difficulty in sleeping and it was showed that majority of them barely sleep well. The findings indicate that gambling affects students behaviour as student may become restless, stressed and could provokes a student to get involved in other problem gambling correlate such as taking drugs so as to sleep. When students were asked to give their responses on their behaviours after losing and after winning it was evident that majority of them return as soon as possible so as to win back or win more. This habit led to

problem gambling. Earlier, Messerlian, Gillespie and Derevensky (2007), found that youth who are at risk for gambling problems are also more likely to have experienced an early ‘big win’. Koross again established that more than one-third of the student very often borrows money to finance their bets. This is an evident that students can develop habits of persistently borrowing money from friends and relatives for gambling. When asked if students have ever used their up keep money or school fees to bet, again, more than one-third of the students stated that they did. This was a habit that was evident in most universities as students have been reported to have missed exams or dropped out of collage because of non-payment of fees after using the money to bet and loss the bet. It was established that 65% of students as surveyed by Koross gambled to get money to pay debts and solve other financial difficulties. This explains why money was a great motivator as indicated in the earlier findings . The findings of Koross, though was on small sample size, would serve as a guide to look out for other problem gambling correlate in this study.

Prior to the above studies, Petry and Weinstock (2007), and Weinstock, Ledgerwood and Petry (2007), also found that “internet gambling frequency was significantly associated with poor mental health”. Thus, generally, more risky gambling behaviours are associated with higher frequency gambling (Glozah, Tolchard, & Pevalin, 2019). “Also people with gambling disorder were shown to be suffering from symptoms of exhaustion, insomnia, and pain syndromes” (Bischof et al., 2013). They also demonstrated that “95.5% of the adult gambling disorder group was affected by an additional mental disorder, especially, substance-related disorders were common followed by affective and anxiety disorders.”

According to Aguocha et al (2020), a study in Nigeria found that “there was an increased rate of gambling among those with at least one parent, sibling or friend that gambled.” They found that “social acceptability (by parents and peers) is recognized as a very important motivation factor for gambling.” Wong (2010), in similarity with Aguocha et al, reported that “many adolescents have been initiated into gambling at a very young age, in family context and some encouraged to wager in legal and illegal outlets by close family members.” Vitaro et al. (2014) also opined that “parent’s history of alcohol and mental health problems had significant effect on offspring’s substance use but not gambling”. Slightly contradicting the finding, Caldeira et al (2017), found that in general, “other risk factors had significant direct effects on both gambling and substance use”. Plant and Plant (2006), found that drinking have been associated with several problem behaviours, including gambling, sex, eating, etc. In Contrary to the Plant and Plant study, there was no link between alcohol misuse and the gambling behaviours as stated in Bondolfi, Jermann, Ferrero, Zullino and Osiek (2008).

Relationship between the Dimensions of Study Habit and Problem Gambling Behaviour

Study habits are the most important predictor of academic performance and global research has revealed that study habits affect academic performance (Credé & Kuncel, 2008; Ebele & Olofu, 2017; ; Kyauta, Shariff & Garba, 2018; Nuthana & Yenagi, 2009; Nonis & Hudson 2010; Maiyo, & Siah, 2015). Credé and Kuncel (2008) and Nuthana and Yenagi (2009), found that “study habits would have a significant direct relationship with the academic performance of college students”. Nonis and

Hudson, supported the findings of earlier studies that “study habits impact academic performance of students”. Credé and Kuncel; and Nuthana and Yenagi further revealed that “students who are better in reading and note-taking, well prepared for the board examination and have good concentration level may have better academic achievement”. The results of these studies suggest that good study habits enhance academic performance whilst poor study habits stifles students’ academic performance. According to Ebele and Olofu, “good study habits include studying in a quiet place, studying daily, turning off devices that interfere with study (such as TV and mobile phones), taking notes of important content, having regular rests and breaks, listening to soft music, studying based on own learning style, and prioritizing the difficult contents”. Some of the worst study habits include; “procrastination, evading the study, studying in inappropriate conditions, and loud sound of music and television during studying” (Siahi & Maiyo, 2015). Essuman, et al (2010), from their survey of “879 UCC undergraduate students,” they found that some students had “good study habits”. It was also revealed that “some students had satisfactory study habits”. A pilot study in 2006” by the same researchers in University of Winneba, (UEW) produced similar results. Based on their findings, Essuman et al. (2010), recommended that “respondents with satisfactory study habits should be offered counselling to enable them to improve their study habits or behaviour”.

In relating students study habits to gambling, Koross (2016) specify that majority of students “very often loose time from school and studying due to gambling”. This was an indication that gambling could affect students’ study habits. According to her; “It is through such behaviour of losing of

school time that leads to truancy”. The findings indicated that “students spent much of their time thinking about bets, how to match them so as to win at the expense of school work and assignments”. It was noted in Kenyan universities that “students spend more hours gambling than reading and attending to school work” according to Koross (2016). Affirming this, Oh, Ong, and Loo (2017), explained that “there is no doubt that an adolescent’s school learning habit would also be affected as their attention is being redirected to managing gambling-related problems”. Consequently, Vitaro, Brendgen, Girard, Dionne and Boivin (2018), showed that “there is significant concurrent correlations between gambling participation and academic performance of students of the ages of 14 and 17”. They also found that “higher level of gambling participation at age 14 predicted a decrease in academic performance from age 14 to age 17”. However, Vitaro, et al (2018), cautioned that “there is the tendency for correlates of problem gambling such as substance use to obscure the link between gambling participation and academic performance”. As a result the researcher sought to find whether there is link between gambling participation and student’s study habit in his study.

Difference in Problem Gambling Correlates among PGSI Gambler Subtypes (Problem Gambling Severity)

Shen, Kairouz, Nadeau and Robillard (2015), established that problem gamblers massively engage in varied locations and more diversely in gambling activities, than moderate-risk or even non-problem gamblers. It was also observed that in relation to gambling, moderate-risk has low expenditures and accumulated debts than problem gamblers. In regards to the associated problems, compared to moderate-risk gamblers, problem gamblers had an

increased reported psychological distress, daily smoking, and possible alcohol dependence. “The severity of gambling and associated problems found in problem gamblers was significantly different from moderate-risk gamblers” (Shen, Kairouz, Nadeau, & Robillard, 2015). Momper et al (2010), found that “the more a person gambles, the greater the likelihood of having at least two symptoms of depression or of having been arrested”. Currie, Hodgins, Casey (2013), also found that “compared to other gambling categories, problem gamblers reported significantly lower psychological wellbeing and higher self-perceived stress than moderate-risk gamblers”.

Caldeira et al (2017), also found a “highly significant differences between problem gamblers and the remaining groups and also between non-problem gamblers and any other at-risk group in terms of problem gambling correlates”. However, “emerging research on adolescents has reported that suicide attempts, suicide ideation and suicide proneness are more common among adolescent problem gamblers than among other lower risk gamblers of adolescents (Nower, Gupta, Blaszczynski, & Derevensky, 2004; Langhinrichsen-Rohling, Rohde, Seeley, & Rohling, 2004). Likewise, Delfabbro, Lahn and Grabosky (2006), compared “problem gamblers and non-problem gamblers in terms of their scores on five measures of psychological wellbeing”. They found that “problem gamblers experienced significantly poorer mood states, had lower self-esteem, poorer general health, felt more alienated from society and were more likely to feel that they did not have sufficient money to satisfy their needs”. The effect sizes for all of these analyses were moderate, with the strongest effect being observed for social alienation. Also, problem gamblers as compared to non-problem gambler

reported having as many close friends, but appeared to have a poorer relationship with other peers in their class. Research indicates that “problem gamblers tend to show higher rates of substance use than non-problem gamblers” (Winters, Stinchfield, Botzet, & Slutske, 2005). Huang et al (2007) found that “problem gamblers had substantially greater drug/alcohol issues than non-gamblers and social gamblers. Additional psychological studies show several gambling-related disorders”.

According to psychcentral.com/news, high prevalence of gambling is associated with substance use. Lee, Martins, Pas, and Bradshaw (2014) and Yip et al., (2011), found that “male using substances have been linked to gambling and problem gambling severity in high-school students”. Carbonneau et al. (2015) opined that “high gambling participation has been found to predict later problem gambling correlates”. Delfabbro et al. (2006) stipulated that “problem gamblers are also at a higher risk of developing many psychological issues, namely, depression, anxiety, alcoholism and antisocial personality disorder”. Consequently, “suicidal tendencies were also noted to accompany problem gambling, along with experiencing depression and reporting daily tobacco smoking” (Potenza et al, as cited in Gibbs Van Brunschot, 2009). Rossen, et al, (2016), affirmed that “unhealthy gambling was associated with suicidal attempts”.

Problematic gambling was similarly identified by Giralt et al. (2018) to be “associated with the increased psychopathological strain and that problematic gambling has been strongly linked to a variety of health-related problems”. In addition, “surveys on comorbid substance abuse in adolescents with problematic gambling have shown strong relationships” (Forrest &

McHale, 2012; Lorains, Cowlshaw, & Thomas, 2011). Thus, “those at risk of problem gambling were more likely to consume alcohol”. (Momper et al., 2010). According to Lopez-Gonzalez, Griffiths, and Estévez (2020), “alcoholic beverages and consumption of junk food were found to be significantly highly associated with problem gambling severity”. In addition, Griffiths (2009) reported that “there are significant comorbidities with problem gambling, including depression, alcoholism, and obsessive compulsive behaviours”. These co-morbidities may worsen, or be worsened by problem gambling. The prevalence of drug use, together with unprotected sex, also increased with increased gambling problems with college students receiving higher scores (Huang, Jacobs, Derevensky, Gupta & Paskus, 2007). Lastly, Williams, Belanger and Prusak (2016), in their study of Canadian indigenes living in 15 cities in Alberta, Saskatchewan, and Manitoba also found that problem gambling severity could be linked with increase in other problem gambling correlates.

Chapter Summary

This chapter covered the theoretical framework, conceptual review and review of related empirical studies. From the review of literature, theoretically, it was concluded that attitudes of students which is formed by a series of beliefs could results in students’ gambling behaviour. However, Glasser pinpoints that a student who engages in sport betting can at any moment in time stop or change his behaviour towards gambling if it does not help him to meet his needs. But if a student sport bettor cannot estimate the financial and social cost that comes with weekly bets in the long-term, then the gambling behaviour of the student becomes difficult to self-regulate. It was

realised from the review that affect heuristic is typically used by student gamblers in judging the risks and benefits of sport betting. If the student's feelings towards sport betting is positive, then the student is more likely to judge the risks as low and the benefits high and the vice versa is true.

With the issues of motivation and its implications, students' sports bettors viewed betting as a means to an end, a chance to improve their financial circumstances. It was concluded that students continually gamble because they want to gain full knowledge of the system and also want to be socially recognised among their peers. It was also established that gambling among university students was very prevalence and that incidence of problem gambling was inevitable. The review also concluded that problem gambling can negatively affect significant areas of a student's life (i.e. their health, finances, interpersonal relationships and study habits). Also, most students were found to have satisfactory study habits. In terms of problem gambling correlates, it was predominantly found that there were significant differences between students who were non-problem gamblers and other at-risk groups like moderate-risk and problem gamblers. The above issues provided the rationale behind which this study sought to examine the problem gambling correlates and their effects on study habits of students' sport bettors in the University of Cape Coast.

CHAPTER THREE

RESEARCH METHODS

Introduction

This section deals with how data was collected and the discussion of procedures and techniques used in the study. It includes the research design, the target population, sample size and sampling procedures, the research instrument, data collection procedures and data analysis procedure.

Research Design

Descriptive survey design was used in this study. In descriptive design research, the nature of a certain phenomenon is defined and events are determined and reported the way they exist. According to Amedahe and Asamoah Gyimah (2012), “descriptive survey design involves collecting data in order to test hypothesis or answer research questions concerning the current status of the subject of the study. Similarly, the research design was descriptive in nature, because the researcher aims to generalize the sample to a population so that the conclusions on some features, attitudes or behaviour of the population can be made (Wiersma & Jures, 2009). The adoption of descriptive survey design was to ensure high objective standard in the analysis and answering of the research hypothesis and the research questions respectively. However, Fraenkel and Wallen (2012), assert that “descriptive studies are characterized by two fold difficulties which consist of how to ensure clarity and unambiguity in the questions that are to be answered, and getting return of the completed questionnaires so that meaningful analysis can

make of the data.” The researcher concentrated on quantifying the data to numerical values in a quantitative research approach.

Study area

The University of Cape Coast is five kilometres west of Cape Coast, is on a hill overlooking the Atlantic Ocean. It operates on two campuses: the Southern Campus (Old Site) and the Northern Campus (New Site) [UCC admission brochure, 2018]. Areas of specialization range from humanities to social sciences to the sciences. University of Cape Coast is located in Cape Coast the central region of Ghana, one of the most intellectually dynamic and culturally diverse areas of the nation” (www.ucc.edu.gh/uccatglance).

Population

The targeted population was all undergraduate students from level 100 to level 400 of the four Colleges of the University of Cape Coast (UCC). However, the accessible population was the level 400 students from the four colleges in UCC.

Table 1: The total number of undergraduate students of the University of Cape Coast

Level	Number of students in a Colleges
100	6, 489
200	5, 065
300	4, 881
400	4, 172
Total	20,607

Source: Student Record Section of UCC, 2019.

The accessible population for the study were all level 400 (4,172). This was because only the level 400’s were present on campus during the time of

the study, and aside that the level 400s had spent 4 years on the university's campus and are well acquainted with the university's environment, hence have varied ways of handling their studies on campus, that is, time allocated for learning, formation of group studies, the number of assignment and quizzes in a semester to expect, etc. For the purpose of this study, demographic characteristics such as, hall of affiliation, place of residence and the college a student belongs were considered.

Sampling Procedure

“A fair representative sample size was determined through the Krejcie and Morgan (1970) minimum sample size determinant. According to Krejcie and Morgan a fair representation of a population of 4,172 is 351. However, the researcher added 10 more participants to cater for the loss in the return rate of the questionnaires.

The researcher further used disproportionate stratified sampling technique to draw from each college the number required for the study. With disproportionate sampling, different strata (colleges) have different sampling characteristics and hence difference percentage to be surveyed. And for this study, colleges with larger number of students had relatively large sampled size to form the total sample of 351. However, from the college of Agriculture and Natural Science, the sample drawn was lower because most of their level 400 students were engaged in fieldworks outside the university.

Disproportionate stratified sampling is a stratified sampling procedure in which the number of elements sampled from each stratum is not proportional to their representation in the total population. Population elements are not given an equal chance to be included in the sample. The same

sampling fraction is not applied to each stratum. On the other hand, the strata have different sampling fractions, and as such, this sampling procedure is not an Equal Probability Selection Method (EPSEM) sampling procedure. In order to estimate population parameters, the population composition must be used as weights to compensate for the disproportionality in the sample. However, for some research works like this study, disproportionate stratified sampling is more appropriate than proportionate stratified sampling.

Table 2: The total number of level 400s sampled for the study

Colleges	No. of level 400 student in a college/ Per (%) sampled.	Expected no. of sample from each college
College of Education Studies	1064 (11.8%)	126
College of Health and Allied Sciences	666 (6.3%)	42
College of Humanities and Legal Studies	1704 (8.8%)	150
College of Agric. and Natural Science	738 (4.5%)	33
Total		351

Source: Student Record Section of UCC, (2019); Field survey (2020)

The precision of the design was highly dependent on the sampling percentage/fraction allocation of the researcher. The disadvantage of this technique is that some sample will be overrepresented or underrepresented which will result in skewed results. Nonetheless, this has a merit of increasing the likelihood of fair representation and virtually ensures that any key characteristics of individuals in the population are included in the same population in the sample (Fraenkel & Wallen, 2012). Lastly, individual participant from the sample were randomly selected.

Data Collection Instrument

A questionnaire was used to conduct the study. A questionnaire is a research tool for self-reports on general and personal issues (Gravetter & Forzano, 2009). The questionnaire's proper construction is essential to its success, according to Powell and Connaway (2004), and more broadly, the researcher should take into account his or her information needs and the participants' characteristics.

The questionnaires; CPGI, and the Modified Gambling Motivation Scale were adopted while the Study Habit Inventory was adapted. The Canadian Problem Gambling Index (CPGI) was used in determining prevalence of problem gambling and measuring problem gambling correlates, the Modified Gambling Motivation Scale was for measuring student motivation of gambling and the Study Habits Inventory (SHI) (Essuman, 2006) for determining the students study habits.

Canadian Problem Gambling Index (CPGI)

The aim of the Canadian version of CPGI development was to produce a new and meaningful gambling tool that reflected a "more holistic perspective of gambling within social and community context". The Canadian version of CPGI was adopted for this study because it is more theory based, and better to discriminate between problem gambler sub-types in general population surveys.

As part of the development of the CPGI, Ferris and Wynne (2001) carried out pilot-testing in a population sample (n=143), followed by a general population sample of 3,120 respondents, of which 417 were retested, and a further 143 interviewed for clinical diagnosis. These tests revealed good

internal reliability ($\alpha=.84$) and an acceptable test-retest reliability correlation coefficient ($r=.78$) (Ferris and Wynne, 2001).

The Canadian Problem Gambling Index, was administered to a random sample of 3,120 adults for fine-tuning the instrument. The instrument was pre-tested to sure; (1) a random, general population sample unlikely to have gambling problems (non-problem gamblers); (2) a group of regular gamblers who may be at risk because of higher participation frequency and expenditure on gambling (at-risk gamblers); and (3) those who felt that they have a gambling problem at the severe end of the continuum (problem gamblers). A re-test of a small sub-sample (of 417 respondents) from the general population survey was made to ensure the rigor and credibility of the validation process. Clinical psychologists conducted telephone interviews with a sub-sample of 148 respondents from the general population survey to further test the validity and to provide confirmation of the classification scoring accuracy of the instrument.

Williams, Connolly, Wood, and Nowatzki (2006), using the CPGI, 1.4% of the total sample met criteria for severe problem gambling (CPGI 8+; roughly equivalent to pathological gambling) and another 6.2% met criteria for moderate-risk gambling (CPGI 3–7; equivalent to problem gambling). A further 16.9% were low-risk gamblers (CPGI 1–2), 47.4% were non-problem gamblers (CPGI 0), and 27.9% were non-gamblers.

The CPGI version reviews 18 variables in 4 domains and specific measurable indicators (including 33 items). The domains are “gambling involvement”, “problem gambling assessment”, and “problem gambling correlates”. For each of the items in the CPGI questionnaire, respondents are

asked to respond in relation to “the past twelve (12) months”. However, the past time frame does not apply to all the items in the CPGI instrument.

The CPGI version questionnaire is described as follows: *1st question* – “yes / no”, *2nd question* – “indicate actual day, week or month”, *3rd question* – “record actual minutes and/or hours”, *4th & 5th questions* – “record actual amount”, *5th to 17th questions* – “never; sometimes; most of the time; almost always”, *18th & 19th questions* – “strongly agree”; “agree”; “disagree”; “strongly disagree”, *20th to 33rd questions* – “yes / no”.

Gambling involvement

“The first CPGI dimension explored gambling involvement, with questions about 4 variables; (a) type of gambling activity, (b) the frequency of play, (c) duration of play, and (d) expenditure. 5-items in all were used to assess the above 4 variables.” The following are some of the sample items: “Have you bet or spent money on sport betting?” “How often did you bet or spend money on sport betting?” “When spending money on sport betting, how many minutes/hours do you normally spend each time?” etc.

Problem gambling assessment

The second dimension of the “CPGI assesses two domains of problem gambling, namely; “problem gambling behaviour”, and “consequences of that behaviour for the individual or others”. With this, 9-items out of the 12-items in the domains were scored to determine the “problem gambling severity” of students’ participants.

This 9-items index is referred to as the “Problem Gambling Severity Index (PGSI)”, and these items come along with the scoring algorithm. The alpha coefficient for the PGSI was .84. In terms of re-test reliability, the PGSI

had an index of .78. (Ferris & Wynne, 2001). The following are some of the sample items: “How often have you lied to family members or others to hide your gambling?” “How often have you felt that you might have a problem with gambling?” “How often have you felt like you would like to stop betting money or gambling, but you didn’t think you could?”, “How often has gambling caused you any health problems, including stress or anxiety?” etc.

The PGSI 9 - items are scored between 0-27. The 9 items below are scored as; 0 for each response of “Never”, 1 for each “sometimes,” 2 for each “most of the time,” and 3 for each “almost always.” “A score of between 0 and 27 points is possible. There are four classification categories based on the following cut-points for PGSI scores: 0 = non-problem gambler, 1-2 = low risk gambler, 3-7 = moderate risk gambler 8+ = problem gambler.

Depending on a respondent’s score on these nine PGSI items, he or she may be classified as being in one of four gambler sub-types, namely: (a) non-problem gambler, (b) low risk gambler, (c) moderate risk gambler, and (4) problem gambler. Scoring the 9-item PGSI is key hence no item was altered in anyway.

Problem gambling correlates

Finally, the problem gambling correlates domain includes variables that assess the behaviours of gambling. These variables included; “faulty cognition”, “first experiences”, “family problems”, “co-morbidity”, “problem recognition”, “relieve pain”, “stress”, “depression”, and “suicide”. 16-items were assigned to measuring these variables. The following are some sample items: “Has anyone in your family EVER had a gambling problem?” “Has anyone in your family EVER had an alcohol or drug problem?” “Have you

used alcohol or drugs while gambling?” “Have you gambled while drunk or high?” “If something painful happened in your life did you have the urge to use drugs or medication?” etc.

The Modified Gambling Motivation Scale (MGMS)

The Gambling Motivation Scale (GMS), a scale based on self-determination theory (Chantal, Vallerand, & Vallieres, 1994), was tested with confirmatory factor analysis to determine the appropriate structure of gambling motivation. From that the Modified Gambling Motivation Scale (MGMS) was developed to improve the reading comprehension and psychometrics of the GMS (Shinaprayoon, Carter & Goodie, 2017).

The Modified Gambling Motivation Scale was adopted for this study to measure the motivation of students towards sports gambling. Shinaprayoon, Carter and Goodie (2017) discovered six broad motivations for gambling. The scale is a six-factor structured scale of 28 items, which sought to measure motivation for gambling. “The internal consistencies of the MGMS total scores” ($a = .92$) (Shinaprayoon, Carter & Goodie, 2017). The instrument consists of dimensions with items that measure the individual’s motivation for gambling. These variables are: Intellectual challenge (8), Excitement (4), Socialization (4), Monetary gain (4), Social recognition (4) and Amotivation (4). The scale is a 4-point Likert-type scale (1=strongly disagree, 2=disagree, 3=agree, 4=strongly agree). The following are sample items: “It is exciting to sport bet.”, “Sport bet allows me to test my control.” “It allows me to enjoy myself enormously. “I want to be envied by others.” “It gives me a feeling of control.” “It makes me a lot of money.”

Scores on each subscale is the average of the items. Higher scores indicate greater motivation to gamble for a specific reason or greater motivation to gamble in general. Each subscale score ranges from 0 to 4. A mean of 0.00 to 2.49 was regarded as low and those statements that scored a mean from 2.50 to 4.00 was regarded as high. The criterion value of 2.50 was calculated for the scale. To obtain the criterion value ($CV=2.50$), the scores were added together and divided by the number of scales ($4+3+2+1=10/4=2.50$). This allowed the researcher to assess specific motivations or general motivations of gambling.”

Habits Study Inventory (SHI)

There are several self-reported methods developed to quantify or to evaluate the study habits, but the “Study Habit Inventory (SHI) Form B was adapted for the study. The inventory was developed by Essuman (2006) and is commonly used at the university level in Ghana. It is used for “diagnostic and research purposes” in Ghana. It is made up of two sections (A and B) which contains 80-items. “The first section elicits information of student’s demography, and the B section is to measure the study habit of university students . “The inventory contains 10 scales: “Time Allotment”, “Concentration”, “Consultation”, “Correction”, “Note-taking”, “Procedures in Studying”, “Reading and Library Use”, “Written Work” and “Taking Examinations”. Each scale consists of 8 items. However, the researcher intends to adapt five of these scales for the research because they were sufficient necessary for the study. These are: “Allotment of Time”, “Concentration”, “Consultation”, “Procedure in Studying”, and “Reading and Library Use”. All the items in the SHI are rated on a 5-point Likert Scale:

“Very True (5)”, “True (4)”, “Somewhat True (3)”, “Not True (2)” and “Not at all True (1)”

The interpretation of the SHI scores is indicated below:

The interpretation of the SHI scores could be based on the entire instrument or on each dimension of the scale. For each dimension of a study habit, “the greater the score on a particular dimension the weaker, and the smaller the score, the stronger that particular dimension”. The interpretation of scores the on scale basis (that is, a dimension) as follows:

8 – 12 = Very Good

13 – 20 = Good

21- 28 = Fair/Satisfactory

29- 36 = Poor

37- 40 = Very Poor

Thus, the greater the score, the weaker the study habit and the smaller the score, the stronger the study habit.” Thus, the range is 8 - 40.

The SHS (Form B) was validated both in the University of Cape Coast (UCC) and in the University of Education, Winneba (UEW). In UCC, the study habit scores of 300 UCC students were correlated with their Grade Point Averages using the Pearson’s Product Moment Correlation. The correlation coefficient (r) obtained was $r = .26$ at $P < 0.05$, $n = 300$ (Edusei, 2008, as cited in Essuman et al. 2010). The Cronbach’s Alpha correlation coefficient (r) obtained for the whole inventory at the UEW was $r = .88$ (Edusei, 2008, as cited in Awabil, 2013). Items on the scale are negatively stated. Sample of the items include: “I hate studying courses I find difficult.”, “Whenever I read, I am unable to bring all my attention on the subject.” “When I don’t understand

some aspect of a lecture, I find it difficult to ask the lecturer to explain.” “I usually do not answer questions at the end of a chapter or a section of a book I read.” “I tend to read a passage two or three times before understanding it somewhat.”

Reliability

The research instrument was subjected to a reliability test. According to Lincoln and Guba, (1999, as cited in Bashir, Afzal, & Azeem, 2008), reliability can also be referred to as dependability, stability, consistency, predictability, and accuracy of an instrument. Cronbach co-efficient alpha was used establish the reliability of items for each section of the instrument. An instrument of reliability co-efficient of .70 upwards is considered sufficiently reliable (Cohen, Manion & Morrison, 2007), hence adequate to be used for the collecting of data from participants.

Pilot Test

A pilot-test of the instrument was conducted within the Cape Coast Technical University. This area was chosen for the pilot-test because students bore similar demographic characteristics, as compared to the students in the University of Cape Coast.

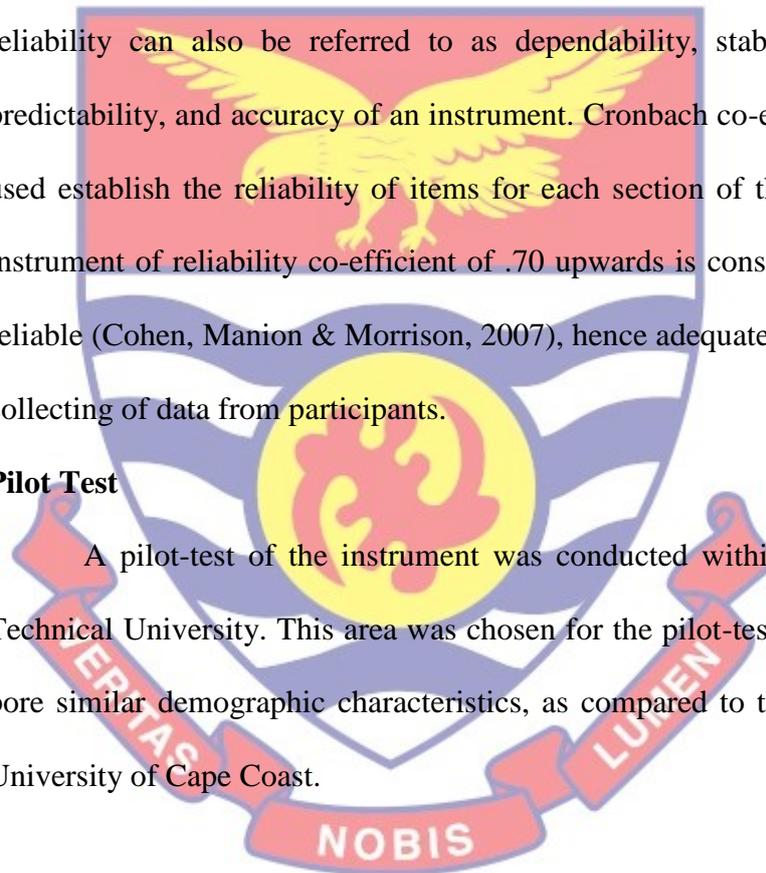


Table 3: Distribution scale of pilot-test results for the instrument

Scale	Sub-scale	No. of items	M	SD	Crobach's Alpha
"Canadian Problem Gambling Index" (CPGI)		33	57.21	7.16	.81
	"Problem Gambling Severity Index"	9	10.35	4.27	.79
	"Problem Gambling Correlates"	16	32.79	6.73	.76
Modified Gambling Motivation		28	78.55	11.10	.88
Study Habit Inventory (SHI)		40	116.70	32.64	.97
	Allotment of Time	8	22.95	6.46	.85
	Concentration	8	23.40	5.81	.82
	Consultation	8	22.45	7.43	.90
	Procedure in Studying	8	23.65	8.00	.92
	Reading and Library use	8	24.25	7.84	.92

Source: Field survey (2020)

Table 3 shows the various reliability coefficients of the sections on the questionnaire. In section B, 9 items out of the 33 items consist the Problem Gambling Severity Index (PGSI) recorded an alpha level of .79 and Problem Gambling correlates with 16 items recorded .76. In section C, the Modified Gambling Motivation Scale recorded alpha level of .88 and section D which is the Study Habit Inventory recorded .97 alpha level.

Ethical Considerations

An ethical clearance form was obtained from the Institutional Review Board of the University of Cape Coast to be able to carry out the study. The participants were informed of the study so that they know exactly what they will be asked to do. This was done by providing the consent information on the first page of the questionnaire. Participants' autonomy was ensured so the participants were not forced to answer the questionnaire in a way desired by the researcher. Consideration was given for anonymity and confidentiality on the questionnaire. With anonymity, the questionnaire did not require the names of participants and their ages. However, a brief demographic information such as hall of affiliation, college, and area of residence were required because they were needed to aid the analysis of the research questions and hypotheses. In the case of confidentiality, the privacy of the data collected was ensured. In addition, the information that was provided by the participants was not to be shared with other people but was used solely for the academic purpose.

Data Collection Procedure

The instrument was pilot-tested at the Cape Coast Technical University to ensure the questionnaire is free from any form of ambiguities, and that the respondents would understand the survey. The instrument was critically reviewed by my supervisors. The researcher used the Cronbach's Alpha Coefficient to test the reliability of the research instrument.

An ethical clearance form was obtained from the Institutional Review Board of the University of Cape Coast to be able to carry out the study. Following this, the questionnaire was administered to the sampled

participants. The data was collected personally and with the help of some few friends. Four weeks was used in collecting the data. To get a high rate of returns, enough time (1week) was given to enable some of the participants to complete the questionnaire. 351 questionnaires were retrieved from students which gave a return rate of 100%. However, because of the additional 10 participants, it made up for what would have been 10% loss to the return rate.

“There’s no magic figure on response rates. Higher is better: 60% would be marginal, 70% is reasonable, 80% would be good, and 90% would be excellent” (Davidoff, 1998, as cited in Gordon, 2002).

Data Processing and Analysis

“Data collected was processed using the Statistical Product and Services Solution (SPSS) version 22 software.” “Descriptive statistics (means standard deviation, frequency counts and percentages) and inferential statistics (ordinal logistic regression and MANOVA) was used in this study. The statistical significance for the constructs was determined at a probability value (p-value) of 0.05. P-value greater than 0.05 was considered as statistically insignificant, while P-value less than 0.05 was stated as statistically significant (95% confidence interval). The P-value was adjusted to 0.005 in the MANOVA test results.

The research questions 1, 2, 3 and 4 of the study were analysed using the descriptive statistical method such as frequency counts, percentages, percentile ranks means and standard deviations. Specifically, frequency count and percentages were used to determine the prevalence rate of problem gambling in research question 1 and means and standard deviations values were used to determine motivations towards gambling in research question 2.

Similarly, means and standard deviation were used to determine the problem gambling correlates in research question 3. With research question 4, the items were compounded and computed for each dimension of study habit. Afterwards, means, standard deviation and percentile ranks were used to analyse the various dimensions of study habits of all the students sampled.

In research hypothesis 1, the ordinal logistic regression was used to determine whether problem gambling severity had any relationship with any of the dimensions of study habit. Ordinal logistic regression analysis was used because problem gambling severity was ranked and the dimensions of study habit were scale variables. Research hypothesis 2 was analysed using the one-way multivariate analysis of variance (MANOVA). The tool was used because the researcher sought to compare the difference in the group means scores of problem gambling correlates and on the four various PGSI sub-types.

Chapter Summary

“The descriptive survey design was employed for the study. Undergraduate level 400 students of the university of Cape Coast formed the population for the study.” “Disproportionate stratified sampling techniques was adopted and a questionnaire was used to collect data from participants.

Also, the findings are limited to self-report instruments. On the collection of data, a clearance form was obtained from the Institutional Review Board (IRB). SPSS version 22 was used to enter the data quantitatively. The next chapter which is chapter four dealt with the presentation and discussion of the data obtained.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter dealt with the results and discussion on the data collected from the field. The analysis and discussion were based on the research questions and hypotheses that were raised to guide the study. The analysis and interpretation of data were carried out based on the results of the research questions and hypotheses established for the study.” The analysis was also based on the 100% return rate of data obtained from the 351 university students.” The data were analysed using descriptive statistics (means, standard deviations, frequency counts, percentages and percentile ranks and inferential statistics (Ordinal logistic regression and one-way MANOVA). The first part of this chapter was designated for the demographic characteristics of the students which were analysed using frequency counts and percentages. In the second part, the research findings are presented based on the research questions and hypotheses formulated for the study.

Demographic Information of students

This section reports the background information of the students in the university of Cape Coast who responded to the questionnaires. Demographic variables consisted with student’s sex, and affiliated college. A tabular representation of the demographic data of students was analysed using frequency counts and percentages.

Table 4: Distribution of participants on the basis of their sex

Variables	Freq.	Per (%)
Male	247	70.4
Female	104	29.6
Total	351	100.0

Source: Field survey (2020)

On the basis of sex, majority of the students who participated in the study were males (n=247, 74.5%) while the females were less (n=104, 29.6%). The difference in number of sex could be attributed to the fact that the colleges under studied were male-dominated.

Table 5: Distribution of participants base on their colleges

Colleges	Freq.	Per (%)
College of Education Studies	126	35.9
College of Health and Allied Sciences	42	12.0
College of Humanities and Legal Studies	150	42.4
College of Agric. and Natural Science	33	9.4
Total	351	100.0

Source: Field survey (2020)

As illustrated in Table 5, the results show that most of the students were from the College of Humanities and Legal Studies (n=150, 42.2%). Followed by students from the College of Education Studies (n=126, 35.9%). College of Health and Allied Sciences (n=42, 12.0%). The College of Agric. and Natural Science least represented in the study (n=33, 9.4%). A least fraction of strata was assigned to the College of Agricultural and Natural Sciences because at the time of the study, its students were undertaking their fieldwork outside the university.

Research Question One

1. How prevalent is problem gambling among UCC students?

Research question one was answered by using the nine items from the “Problem gambling behaviour” on the instrument which formed the Problem Gambling Severity Index, PGSI. The results of the 9-items from the four-point Likert scale were compounded (merged & coded) and computed in order to determine rate of prevalence for the various problem gambling severity or gambler sub-type.”

Table 6: Prevalence rate of PGSI gambler sub-type

Gambler sub-type	Freq.	Per (%)
“Non-Problem Gambler”	189	53.8
“Low risk Gambler”	10	2.8
“Moderate risk Gambler”	51	14.5
“Problem Gambler”	101	28.8
Total	351	100.0

Source: Field survey (2020)

From Table 6, it was realised that most of the participants were classified as non-problem gamblers (n=189, 53.8%). More than one-fourth of the participants were problem gamblers (n=101, 28.8%). Also, 14.5% (51) were found to be moderate risk gamblers with low risk gamblers recording the least (n=10, 2.8%) among the participants. The result showed that all the four levels of gambling classification was identified by the Canadian Problem Gambling Index instrument.

Table 7: Gambling involvement of students' sport bettors

Section	Items	Sub-scale	Freq.	Per (%)
Sect.1	No. of times you have bet on sport betting	"5-10 times/year"	14	4.0
		"2-3 times/month"	27	7.5
		"Once/month"	12	3.4
		"2-6 times/week"	52	14.8
		"Once/week"	44	12.5
		Daily	17	4.8
		No response	186	53.0
Sect.2	No. mins. /hrs. do you spend on sport betting	1 hour and more	37	10.5
		b/n 30mins - 60mins	49	14.0
		25mins and less	79	22.5
		No response	186	53.0
Sect.3	Money spent on sport betting in a month	more than GH¢1000	1	0.3
		GH¢600 - GH¢1000	6	1.7
		GH¢101 - GH¢500	23	6.6
		GH¢60-GH¢100	26	7.4
		GH¢30-GH¢50	44	12.5
		GH¢1-GH¢20	65	18.5
		No response	186	53.0

Source: Field survey (2020) (n=351, 100%)

Table 7 shows students involvement in sport betting in the **past 12 months**. From the first section of table 7, the results show that most of sports bettors bet on weekly bases; 2-6 times a week (n=52, 14.8%) and once a week (n=44, 12.5%). Those who bet 2-3times per month recorded the second highest number (n=27, 7.5%). Only Seventeen (4.8%) of the students sports' bettors bet daily and 53.0% of the participant did not respond to the question because they do not bet. The second section, revealed that 79(22.5%) spend 25minuts and less on sport betting. Those who used between 30-60minutes were (n=49, 14%) and 37(10.5%) used 1 hour and more hours to sports bet.

53.0% of the participant did not respond to the item. From the last section of table 6, the participants (n=65, 18.5%) were the highest to spend GHc1-GHc20 within a month on sport betting, followed by (n=44, 12.5%) who spend GHc30-GHc50, 26(7.4%) spend GHc60-GHc100, 23(6.6%) spend GHc101-GHc500 within a month. Only 6(1.7%) and 1(0.3%) participant spend between GHc600-GHc1000 and GHc1000 and more respectively within a month on sport bets. The results show the various gambling activities among students who engage in sport betting.

Research Question Two:

2. What motivates students to engage in sport betting in the UCC?

The researcher also assessed student's motivation of gambling. To derive evidence for students' motivations of gambling, they were made to rate their desire to gamble using four-point Likert type scale. Means of each item were computed and the various means of the each variables (i.e: Intellectual challenge, Excitement, Socialization, Monetary gain, Social recognition and Amotivation) were later compounded and computed in order to determine which variable highly motivate students to gamble. Table 8 presents the results.



Table 8: Means, standard deviations and ranks of motivation for sport gambling

Motivation towards Sport Gambling	M	SD	MR
“I play for money”.	2.16	1.097	1 st
“I play for money, but I sometimes worry if I should continue playing”	2.14	.994	2 nd
“It is quick and easy money”.	2.14	1.033	2 nd
“I play for money, but I sometimes wonder if it is good for me”.	2.12	1.012	4 th
“I feel important when I win”.	2.12	1.023	4 th
“It is exciting to sport bet”	2.09	1.019	6 th
“I play for money, but I sometimes feel I do not get a lot out of it”.	2.08	1.007	7 th
“I am curious to know what will happen in the game”.	2.07	1.011	8 th
“It makes me a lot of money”.	2.07	.996	8 th
“I play for money to buy what I desire”.	2.06	1.046	10 th
“I enjoy learning new strategies”.	2.06	.997	10 th
“It gives me a thrill or strong sensation”.	2.05	.955	12 th
“Sport bet allows me to test my control”.	2.00	.950	13 th
“I enjoy knowing my ability in this game”.	1.99	.937	14 th
“I like it when I can control the game”.	1.99	.938	14 th
“I play for money, but I sometimes wonder what I get out of sport bet”.	1.98	.980	16 th
“I enjoy improving my knowledge of the game”.	1.97	.966	17 th
“It gives me a feeling of control”.	1.97	.908	17 th
“It is the best way to spend time with friends”	1.95	.902	19 th
“It is the best way to relax”.	1.93	.890	20 th
“It allows me to enjoy myself enormously”.	1.93	.925	20 th
“It is my hobby to clear my mind”.	1.90	1.384	22 nd
“It makes me feel important”.	1.87	.874	23 rd
“I feel competent when I sport bet”.	1.87	.871	23 rd
“I experience strong sensations when I gamble”.	1.83	.859	25 th
“It is the best way I know to eliminate tension”.	1.82	.846	26 th
“To show others that I am a dynamic person”.	1.77	.795	27 th
“I want to be envied by others”.	1.77	.857	27 th
Mean of means/Standard Deviation	1.99	.748	

Source: Field survey (2020) (n=351)

Key-M= Mean, SD =Standard Deviation, MR=Mean Ranking, n=Sample

Size

The results of Table 8 shows that generally, majority of the student participants in the study were lowly motivated to engaged in sport betting in the university of Cape Coast. This was evident after the calculated means for all the items on the motivation scale scored a mean less than the test value of 2.50 ($MM=1.99, SD=.748$). From the results, though generally the majority were lowly motivated (because of the presence of non-gamblers (53.8% among the participants), but when ranked, those who gambled were highly motivated by the fact that they gamble for money ($M=2.16, SD=1.097$). Most of them expressed that, “they play for money”, but “they sometimes worry if they should continue playing” ($M=2.14, SD=.994$),. Others asserted that “it was a quick and easy means of getting money” ($M=2.14, SD=1.033$). In another evidence, it reported that “many play for money, but they sometimes wonder if it was good for them” ($M=2.12, SD=1.012$). The findings show that most of the students who gambled were motivated to gamble because of the money they earn.

From the above Table 8, it was evident that some of the items were ranked more than others.

Table 9: General motivation for sport gambling by students’ sport bettors

General motivation for sport gambling	M	SD	MR
Monetary gain	2.10	.922	1 st
Amotivation	2.08	.856	2 nd
Intellectual challenge	2.01	.823	3 rd
Excitement	1.97	.769	4 th
Socialization	1.89	.789	5 th
Social recognition	1.88	.716	6 th
Mean of means/Standard Deviation	1.99	.748	

Source: Field survey (2020) (n=351)

From Table 9, as stated earlier, majority were less motivated, because the calculated mean was less than the test value of 2.50 ($MM=1.99$, $SD=.748$). Generally, those who gambled were motivated because of the monetary gain ($M=2.10$, $SD=.922$). This was followed by the fact that majority experience amotivation for their gambling behaviour ($M=2.08$, $SD=.856$). Next on the rank was that good number of sport bettors were motivated by the fact that it was intellectually challenging to sport gamble ($M=2.01$, $SD=.823$). Again, excitement was the next motivational factor for gambling ($M=1.97$, $SD=.769$). Least on the ranks, socialization ($M=1.89$, $SD=.789$) and social recognition ($M=1.88$, $SD=.716$) were also motivational drives for student who sports bet in the University of Cape Coast.

Research Question Three:

3. What are the problem gambling correlates of UCC students' sports bettors?

Problem Gambling Correlates may be the experiences or behaviours exhibited prior to gambling or exhibited after some past months of gambling. To confirm these correlates from students, they were requested to respond to a “yes” or “no” items of problem gambling correlates on the CPGI instrument. The 16-items grouped under following variables: “faulty cognition”, “first experiences”, “family problems”, “co-morbidity”, “problem recognition”, “relieve pain”, “stress”, “depression”, and “suicide”. The results are presented in the tables below.

Table 10: Means, standard deviations and ranks of problem gambling correlates of students' sport bettors

Problem Gambling Correlates	M	SD	MR
Faulty Cognition	2.34	1.00	1 st
First Experience	1.45	.498	2 nd
Family Problems	1.34	.475	3 rd
Depression	1.18	.384	4 th
Co-Morbidity	1.15	.356	5 th
Stress	1.14	.347	6 th
Relieve Pain	1.11	.318	7 th
Suicide	1.11	.315	7 th
Problem Recognition	1.09	.292	9 th
Mean of means/Standard Deviation	1.32	.267	

Source: Field Data, (2020) (n=351)

From the results in Table 10, as ranked, those who gambled faced some problem gambling correlates. Some of the major correlates experienced by the students who gambled included the fact that, they believe that there is a system of winning more bets and that one is likely to win after a number of loses in sport betting. This was captured as their faulty cognition ($M=2.34$, $SD=1.00$). Most of them expressed that, for the first time experiences ($M=1.45$, $SD=.498$), students who gamble still remember their first big win or loss. Similarly, most of them have their family members who engage in gambling, alcohol and drugs ($M=1.34$, $SD=.475$). Others affirmed that, there were times where they felt depressed for two weeks or more in a row ($M=1.18$, $SD=.384$). For co-morbidity ($M=1.15$, $SD=.356$); that is, the use of drugs and alcohol alongside gambling was also reported among students' sport bettors. Likewise, issues of stress ($M=1.14$, $SD=.347$) and self-medication (using gambling, drugs or alcohol) to relieve pains ($M=1.11$, $SD=.315$) were also recounted among students who gambles in the University of Cape

Coast. On the least side of the ranks in terms of means, some also reported that there were times where students who engages in sport betting could recognize that they have alcohol or drug problem ($M=1.09, SD=.292$). Also, suicidal thought and attempt is related to sport betting ($M=1.11, SD=.315$). These correlates domain further help to develop the profiles of gambler sub-types.

Research Question Four:

4. “What are the dimensions of study habits exhibited by UCC students?”

The study also sought to bring out the study habits of students who engage in sport bets “in the University of Cape Coast.” In gathering evidence from the students, they were made to rate their study habits under various dimensions by using a four-point Likert scale. Table 11 presents the results.

Table 11: Dimension of students Study Habits exhibited by UCC students

Dimension of students Study Habits	M	SD	MR	Percentile Rank	Interpretative Value
Reading and Library Use	2.92	.805	1 st	47.1 – 53.1	Average
Allotment of Time	2.83	.812	2 nd	47.1 – 53.1	Average
Consultation	2.77	.802	3 rd	47.1 – 53.1	Average
Procedure in Studying	2.76	.802	4 th	47.1 – 53.1	Average
Concentration	2.63	.778	5 th	47.1 – 53.1	Average
Mean of means/Standard Deviation	2.78	.654			

Source: Field survey (2020)

(n=351, 100%)

Analysis of the scores obtained from the Study Habit Inventory revealed that students did not have very effective approaches in studying. As reflected in the table, the students mean score is in the 47- 53rd percentile,

which means they scored at average level on all the dimensions of study habits. The result suggests that the five dimensions of students' study habit was not efficiently and effectively used by students. They were deemed to be satisfactory. From Table 11, the least of the Ranks of Means (MR) on the dimensions of students' study habit noted to be unfavorable were concentration ($M=2.63$, $SD=.778$), procedure in studying ($M=2.76$, $SD=.802$), and consultation ($M=2.77$, $SD=.802$). Reading and library use ($M=2.92$, $SD=.805$), and allotment of time ($M=2.63$, $SD=.778$), were reported to be encouraging as they ranked highest on the MR.

Research Hypothesis One

“There is significant relationship between problem gambling severity (PGSI gambler sub-types) and the dimensions of study habits of students' sports bettors.”

The researcher sought to examine the relationship between problem gambling severity (PGSI gambler sub-types) and the dimensions of study habits (Allotment of Time, Concentration, Consultation, Procedure in Studying, Reading and Library use) of students. To test the hypothesis, ordinal logistic regression was used. Ordinal logistic regression was utilized in the analysis based on the assumption that the data of the dependent/criterion was ordinal. To determine whether there is a statistically significant relationship between the dependent/criterion variable and the independent/predictor variables, the following assumptions were checked.

a. Normality of the variables

Using the Q-Q plot, the predictor variables showed a relatively normal distribution with a few outliers which were removed from the analysis. The

criterion variable was not normally distributed that instigated the use of ordinal regression (Tabachnick, & Fidell, 1996).

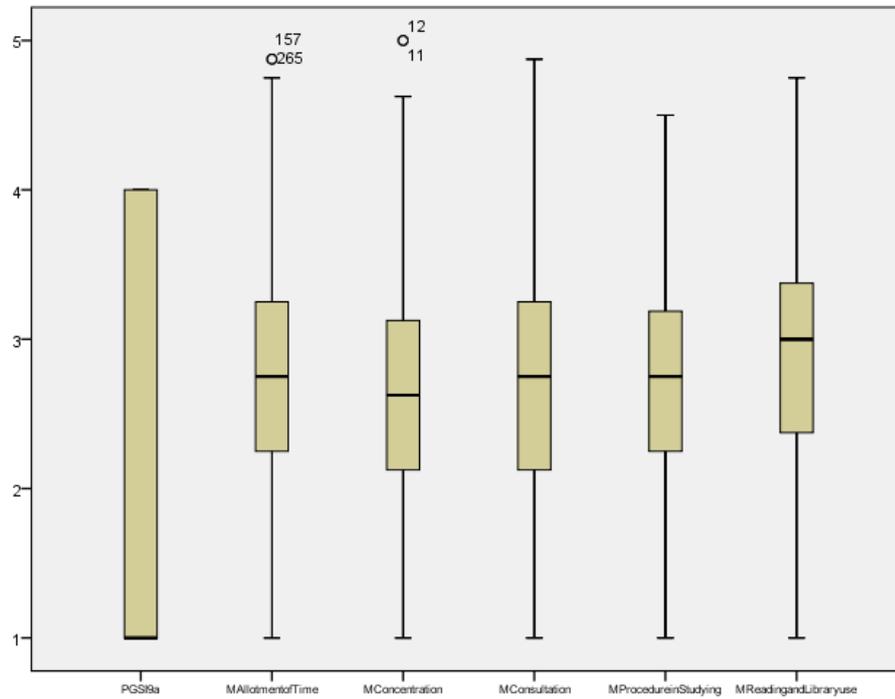


Figure 3: Normality boxplot of the criterion and predictor variables

b. Linear relationship between the criterion and the predictors

“The Matrix scatter plot shows a linear relationship between the criterion and the predictor variables.”

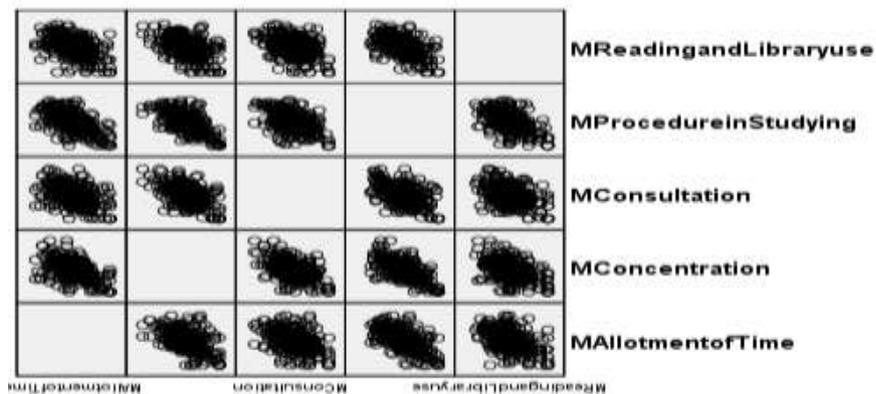


Figure 4: Matrix scatter plot showing a linear relationship between criterion and predictor variables.

c. Homoscedasticity

The assumptions was checked by a visual examination of plot of the standardized residuals by the regression standardized predicted value. The variance of errors differs at different values (between 3 to -3) of the predictor. This indicated a heteroscedasticity.

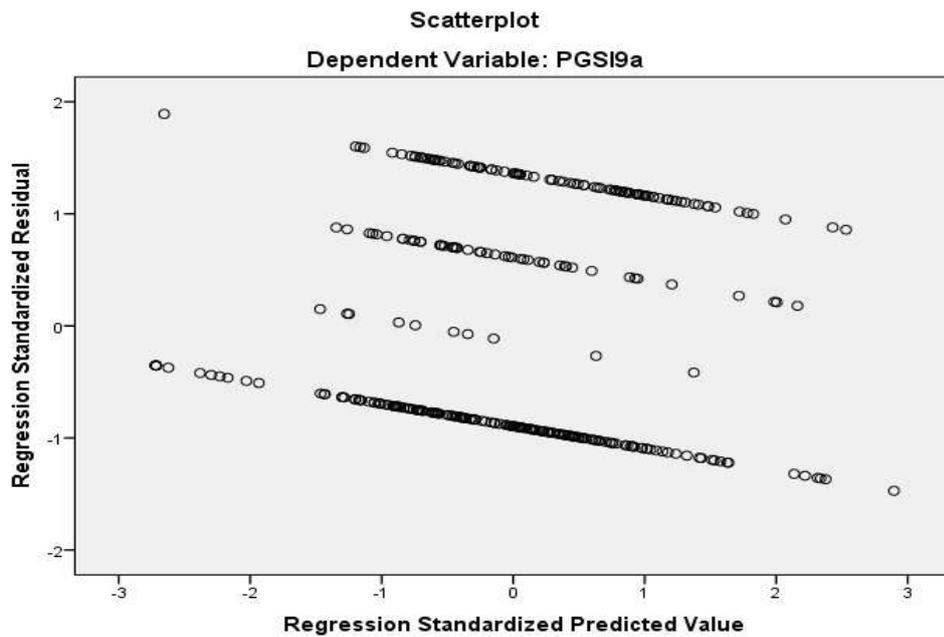


Figure 5: Scatter plot showing a regression standardized residuals

d. Multicollinearity

For low/moderate multicollinearity the Tolerance values must be greater than 0.2 and the VIF (Variance Inflation Factor) should be less 5 or 10.

**Table 12: Test for Multicollinearity of the independent variables
(Dimensions of study habits)**

Predictor Variables	Collinearity Statistics	
	Tolerance	VIF
Allotment of Time	.551	1.814
Concentration	.463	2.161
Consultation	.583	1.715
Procedure in Studying	.383	2.611
Reading and Library use	.603	1.659

Source: Field survey (2020)

The results in Table 12 show a low to moderate multicollinearity among the predictor variables. The Tolerance of each variable is greater 0.2 and the VIF less than 5 indicating low/moderate multicollinearity

e. Autocorrelation

Autocorrelation occurs when the residuals are not independent from each other. The Durbin-Watson's d test showed a no auto-correlation in the data, ($d = 1.667$). That is, ($1.5 < d > 2.5$) shows a no autocorrelation.

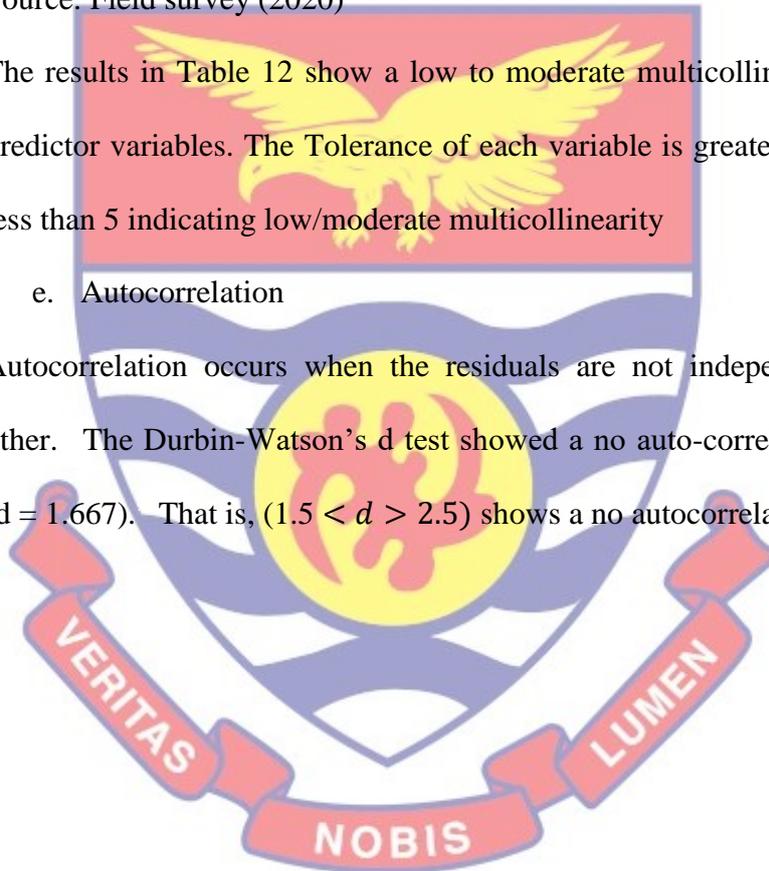
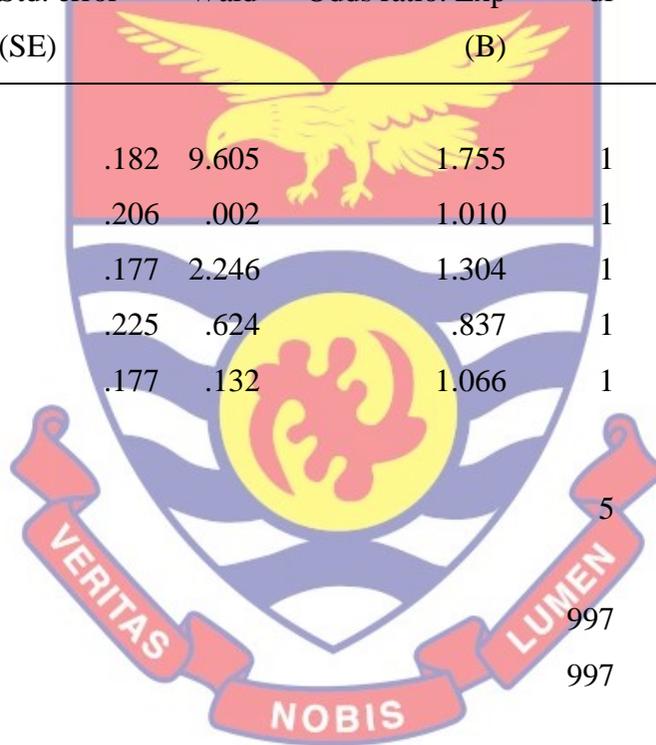


Table 13: Results of ordinal logistic regression analysis showing the relationship between problem gambling severity (PGSI gambler sub-types) and the dimensions of study habits of students' sports bettors.

	Estimate (B)	Std. error (SE)	Wald	Odds ratio. Exp (B)	df	Sig.	Chi-Square (χ^2)	Pseudo R ²
<i>Independent variables</i>								
Allotment of Time	.563	.182	9.605	1.755	1	.002		
Concentration	.010	.206	.002	1.010	1	.960		
Consultation	.265	.177	2.246	1.304	1	.134		
Procedure in Studying	-.178	.225	.624	.837	1	.430		
Reading and Library use	.064	.177	.132	1.066	1	.721		
<i>Model fitting</i>								
Final (-2 Log Likelihood)					5	.000	22.927	
<i>Goodness of fit</i>								
Pearson					997	.237	1028.577	
Deviance					997	1.000	714.176	
<i>Test of Parallel Lines</i>								
General					10	.833	5.781	
<i>Nagelkerke</i>								
								.073
Source: Field survey (2020)		n=343						



From Table 13, the model fitting had a significant improvement in fit of the final model over the null model [$\chi^2 (5) = 22.927, p < .05$]. The goodness of fit shows that both the Pearson chi-square test [$\chi^2 (997) = 1028.577, p = .237$] and Deviance test [$\chi^2 (997) = 714.176, p = 1.00$] are non-significant. Thus the model fit the data well. The Nagelkerke (Pseudo R^2) shows that 7.3% of the variance in the outcome is explained by the predictor/independent variables. The test of parallel lines show a non-significant results [$\chi^2 (10) = 5.781, p = .833$]. This means that the relationships between the independents variable are the same across all possible comparison of the dependent/outcome variables.”

“On the regression coefficients (B), Allotment of time was a significant predictor of problem gambling severity index (PGSI). That is, a predicted increase of .563 in the odds of being on a lower level of PGSI, results in per unit increase of Allotment of time. This indicates that a student scoring higher on allotment of time of his study habit is more likely to be on the lower levels of PGSI (i.e. either a non-problem gambler or a low-risk problem gambler). Thus, the odds ratio ($\exp. B = 1.755$) > 1 indicates an increasing probability of being on a lower PGSI as scores increase on allotment of time on his study habit. On Concentration, just like consultation, reading and library use was not a statistically significant predictor of PGSI. For concentration, a predicted increase of .010 in the odds of being on a lower level of PGSI results in a per unit increase of concentration of one’s study habit. Thus the odds ratio ($\exp. B = 1.010$) > 1 indicates an increasing probability of being on a lower PGSI as scores increase on concentration of the individual’s study habit. Similarly, procedure in studying was also not a

statistically significant predictor of PGSI. For every per unit increase of the procedure in studying, there is a predicted decrease of .178 in the odds of being on a lower level of PGSI. Given that the odds ratio is $(\exp. B = .837) < 1$, this indicates a decreasing probability of being on a lower level of the PGSI variable as scores increase on procedure in studying of one's study habit. All the variables of study habit have the potential of predicting the level on which a student gambler may fall on the gambler sub-type. However, some of the variables like 'procedure in studying' have low predicting strength.

Overall, the predictor variables were tested and were verified of no violation of the assumption of multicollinearity, linear relationship etc. The predictor variables; Allotment of Time ($B=.563$, $SE=.182$, $Wald=9.605$, $p<.05$); Concentration ($B=.010$, $SE=.206$, $Wald=.002$, $p. >.05$); Consultation ($B=.265$, $SE=.177$, $Wald=2.246$, $p>.05$), Procedure in Studying ($B= -.178$, $SE=.225$, $Wald=.624$, $p>.05$); Reading and Library use ($B=.064$, $SE=.177$, $Wald=1.32$, $p>.05$) were found to contribute to the model. The full model containing all predictors was statistically significant, [$\chi^2 (5, 343) = 22.927$, $p<.05$] indicating that the model was able to distinguish among the problem gambling severity index (problem gambler sub – types). Only one independent variables made a unique statistically significant positive contribution to the model, allotment of time ($B=.563$, $SE=.182$, $Wald=9.605$, $p<.05$). It was the strongest predictor with an odds ratio of 1.755. Concentration, consultation, reading and library use were not statistically significant predictor to the model but with an odds ratio greater than 1. Similarly, procedure in studying was not statistically significant predictor to the model. It was a negative contributor with an odds ratio less than 1. Since,

the full model containing all predictors was statistically significant, this shows that there is a significant relationship between gambling sub-type and students' dimensions of study habits. Thus the null hypothesis of the study was rejected.

Research Hypothesis Two:

There is a significant difference in the means of problem gambling correlates among the PGSI gambler sub-types of students' sports bettors in the University of Cape Coast.

The researcher further determined the difference between gambling correlates of the four various PGSI gambler sub-types. To determine differences, "Multivariate analysis of variance (MANOVA) was deemed appropriate for the analysis. MANOVA was utilized in the analysis because of the number of dependent variables (nine variables) and also to help the researcher maintain control over the experiment-wide error rate and also detect combined difference among group variables.

The dependent variable was the gambling correlates and the independent variable was the PGSI gambler sub-types. The following MANOVA assumptions were determined for the study;

a. Sample size and Normality

Both the univariate and multivariate normality was determined for the dependent variables. The univariate normality for all the dependent variables recorded a Shapiro-Wilk sig. value of .000. For the multivariate normality, the Mahalanobis distances was determined with a maximum value of 37.45 and Shapiro-Wilk sig. value of .000 was also recorded which was less than the p-value of 0.05.

Table 14: Test of multivariate normality of the dependent variables (gambling correlates)

	Shapiro-Wilk		Max. value	Skewness
	Statistic	Df	Sig.	
Mahalanobis Distance	.252	351	.0000	37.451 1.173

Source: Field survey, (2020)

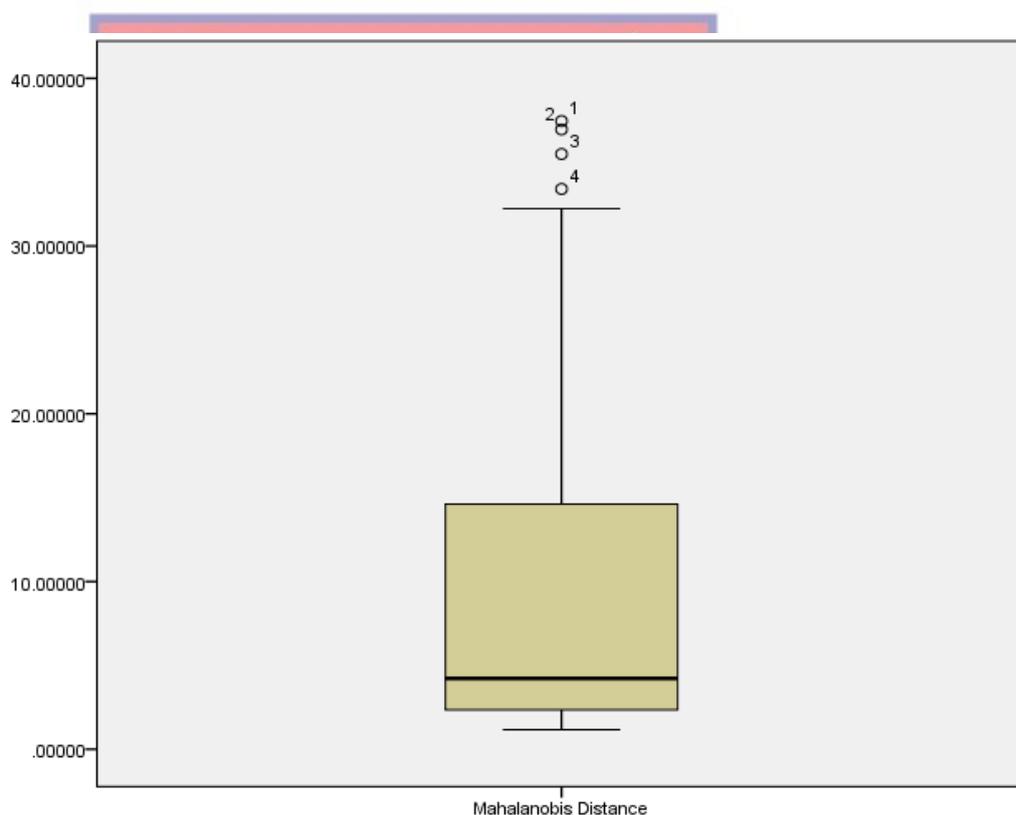


Figure 6: Multivariate normality boxplot of gambling correlates (dependent variables)

The results show that the data were not normally distributed. “The violations of the univariate and multivariate normality have little impact with larger or moderate sample sizes as long as the differences are due to skewness and not outliers” (Hair, Black, Babin, Anderson, & Tatham, 2014). “The impact will be on the Box’s M test which the researcher should make

adjustments for their effects in the interpretation of the significance levels of both main and interaction effects” (Hair et al., 2014).

b. Outliers

The univariate outliers of the various dependent variables were determined and transformed (winsorized). For the multivariate outliers as determined by the mahalanobis distance (shown in fig. 3), with cases of outliers were selected and excluded from the analysis. The multivariate outliers were determined using a $p < .001$ and the corresponding χ^2 value with the degrees of freedom equal to the number of variables.

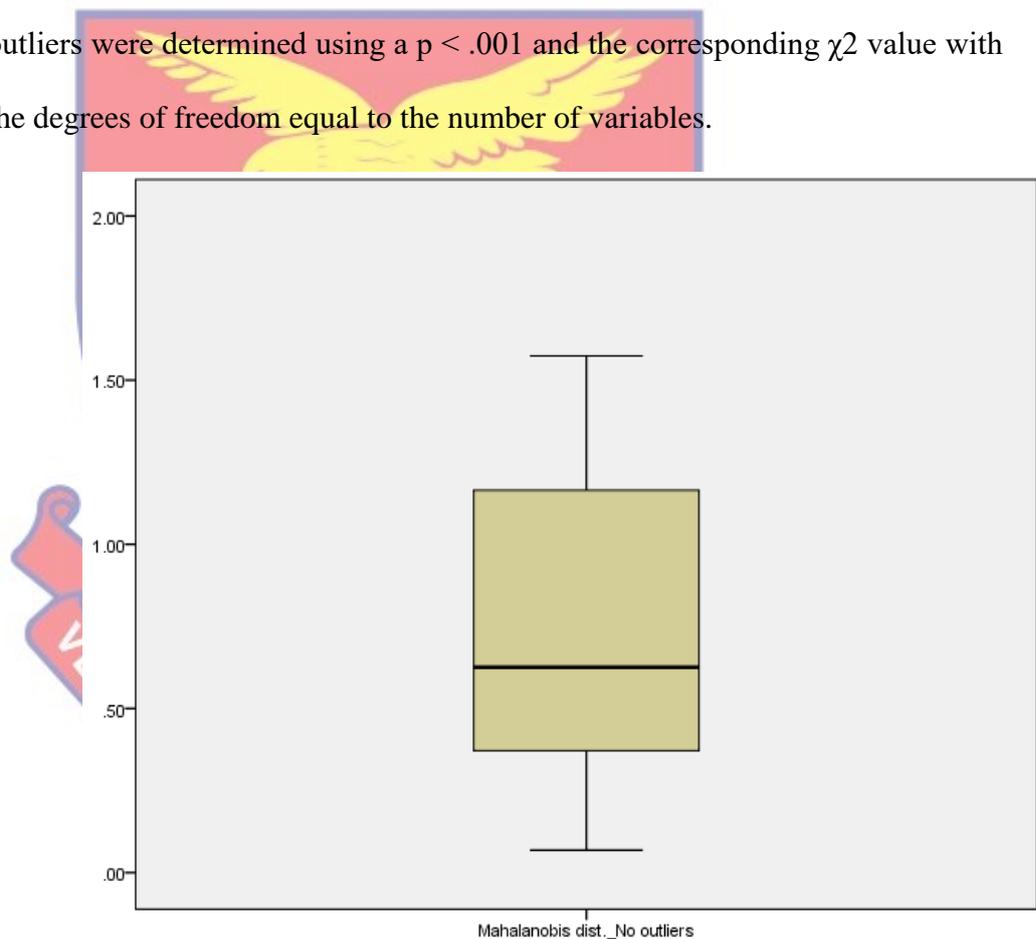


Figure 7: Multivariate normality boxplot of problem gambling correlates without outliers

Upon transforming the data and eliminating the multivariate outliers, the skewness recorded was .254 (less than 1/.8) which will be appropriate for Multivariate analysis of variance (Tabachnick, & Fidell, 1996).

c. Linearity and Multicollinearity

The above dependent variables have two level of responses, and according to Tabachnick., Fidell, and Ullman (2007), variables with two levels have a linear relationship and that one only has to check for low/moderate multicollinearity among the variables in order to run a Multivariate analysis of variance. For low/moderate multicollinearity the Tolerance values must be greater than 0.2 and the VIF (Variance Inflation Factor) should be less 5 or 10.

Table 15: Test for Multicollinearity of problem gambling correlates (dependent variables)

Dependent Variables	Collinearity Statistics	
	<u>Tolerance</u>	<u>VIF</u>
Faulty Cognition	.765	1.308
First Experience	.695	1.440
Family Problems	.802	1.246
Comorbidity	.532	1.881
Problem Recognition	.620	1.613
Relieve Pain	.673	1.487
Stress	.787	1.271
Depression	.743	1.346
Suicide	.559	1.789

Source: Field survey (2020)

The results show a low to moderate multicollinearity among the variables. The Tolerance of each variable is greater 0.2 and the VIF less than 5 indicating low/moderate multicollinearity.

- d. Homogeneity of variance-covariance matrices is determined by the Box’s M Test of Equality of Covariance Matrices which is part of the output of MANOVA. Violation of this assumption means the researcher has to make adjustments for their effects in the interpretation of the significance levels of both main and interaction effects.

Results of Multivariate analysis of variance (MANOVA) comparing difference in problem gambling correlates among PGSI gambler sub-types (problem gambling severity) who engage in sport betting in the University of Cape Coast.”

Table 16: Test of Equality of Covariance and Variance of problem gambling correlates (dependent variable)

	F	df1	df2	Sig.
Box’s Test of Equality of Covariance Matrices	6.275	90	74214.430	.000
Levene’s Test of Equality of Error Variances				
Faulty Cognition	4.728	3	347	.003
First Experience	5.621	3	347	.001
Family Problems	12.696	3	347	.000
Comorbidity	63.808	3	347	.000
Problem Recognition	21.255	3	347	.000
Relieve Pain	48.791	3	347	.000
Stress	6.074	3	347	.000
Depression	29.163	3	347	.000
Suicide	79.846	3	347	.000

Source: Field survey (2020)

From Table 16, the test of equality of covariance show a non-significant value of .000 ($p < 0.001$). This shows a violation of equality of covariance of group variables in the Multivariate analysis of variance. Hence the Pillai's Trace had to be interpreted in the Multivariate test. Similarly, the equality/homogeneity of variance of the individual variables all showed a non-significant value, ($p < 0.05$). Thus, violating the homogeneity of individual variance in the univariate test. In this case the Welch statistic was further used in the univariate analysis and the p-value was further adjusted.

Table 17: Multivariate tests of the PGSI gambles sub-types (Independent variable)

		Value	F	Hyp. df	Error df	Sig.	Partial Eta Squared
PGSI gambler sub-types	Pillai's Trace	.808	13.966	27	1023.00	.000	.269
	Wilks'	.263	21.258	27	990.69	.000	.359
	Lambda					.000	

Source: Field survey (2020)

“From Table 17, the Pillai's Trace was interpreted because of the above violations. Pillai's Trace has a value of .808 and a sig value of .000 ($p < 0.05$). Since the sig value is less than 0.05, there is statistically significant difference between the PGSI gambler sub-types (Non-Problem Gambler, Low risk Gambler, Moderate risk Gambler, Problem Gambler) in terms of the overall problem gambling correlates.

Since there is statistically significant difference between the PGSI gambler sub-types (Non-Problem Gambler, Low risk Gambler, Moderate risk Gambler, Problem Gambler) in terms of the overall problem gambling correlates, the univariate test has to be examined to see if the difference in the

PGSI gambler sub-types exist in all the individual problem gambling correlates or the difference only existed in some of the variables of problem gambling correlates.

To do this, a Bonferroni adjustment of the p-value has to be adjusted to prevent a type I error (Tabachnick & Fidell 2013). Therefore the Bonferroni adjustment p-value was calculated by dividing the previous p-value, 0.05 by the number of dependent variables which is 9 in this case. Thus; the Bonferroni adjusted p-value = $(0.05 \div 9 = 0.005)$ was used in the univariate F-test.



Table 18: Univariate tests of problem gambling correlates (dependent variable)

Univariate Test					Dependent Variables	Non-Problem Gambler		Low risk Gambler		Moderate Gambler		Problem Gambler	
F	df	Error df	Sig.	Partial Eta Squared		M	SD	M	SD	M	SD	M	SD
44.73	3	347	.000	.279	Faulty Cognition	1.86	.914	2.80	.919	3.00	.800	2.88	.752
226.11	3	347	.000	.662	First Experience	1.07	.263	1.70	.483	1.88	.325	1.90	.300
5.66	3	347	.001	.047	Family Problems	1.30	.460	1.20	.422	1.22	.415	1.50	.502
14.89	3	347	.000	.114	Comorbidity	1.06	.235	1.00	.000	1.14	.348	1.33	.471
5.20	3	347	.002	.043	Problem Recognition	1.06	.235	1.00	.000	1.06	.238	1.19	.393
10.42	3	347	.000	.083	Relieve Pain	1.04	.202	1.00	.000	1.14	.348	1.25	.434
1.51	3	347	.211	.013	Stress	1.11	.308	1.10	.316	1.20	.401	1.18	.385
6.80	3	347	.000	.056	Depression	1.10	.302	1.10	.316	1.27	.451	1.29	.455
16.94	3	347	.000	.128	Suicide	1.04	.189	1.00	.000	1.06	.238	1.29	.455

Source: Field survey (2020)

Bonferroni adjusted p-value = 0.005

In Table 18, the sig values of all the variables recorded a sig. value of less than the adjusted p-value of 0.005 with the exception of stress which recorded a sig. value of .211 greater than the adjusted p-value ($p > 0.005$). Hence, the results show a statistically significance difference between PGSI gambler sub-types (Non-Problem Gambler, Low risk Gambler, Moderate risk Gambler, Problem Gambler) and all the dependent variables except on stress. A post hoc test had to be run on the dependent variables that recorded a statistically significant difference in relation to independent variable.

“From the results, the effect size as showed by the Partial Eta Squared, represents the proportion of the variance in the dependent variable (problem gambling correlate) that can be explained by the independent variable (PGSI gambler sub-types). All the variables recorded a small effect size (Cohen, 1988) with the exception of “First Experiences” which recorded 66% of variance explained by the PGSI gambler sub-types.

Post hoc/Follow up Tests

Since the univariate Levene’s equality of variance was violated, and there was statistically significance difference among some of the dependent and independents variables on the univariate test, a Welch and Games Howell in a one-way ANOVA with an adjusted p-value of 0.005 was carried out.

Table 19: Robust Tests of Equality of Means of problem gambling correlates (dependent variable)

<u>Welch</u>	Statistic ^a	df1	df2	Sig.
Dependent variables				
Faulty Cognition	44.527	3	39.797	.000
First Experience	221.184	3	38.142	.000
Family Problems	5.302	3	40.344	.004
Comorbidity	--	--	--	--
Problem Recognition	--	--	--	--
Relieve Pain	--	--	--	--
Depression	5.927	3	39.152	.002
Suicide	--	--	--	--

a. Asymptotically F distributed. Source: Field survey (2020)

-- at least one group has 0 variance.

From Table 19, the Welch statistic for the variables produced a sig. values which were less than 0.05. This means that there is significant difference among the means. A follow-up test of Games Howell analysis was performed to find out which pairs of means are statistically different.

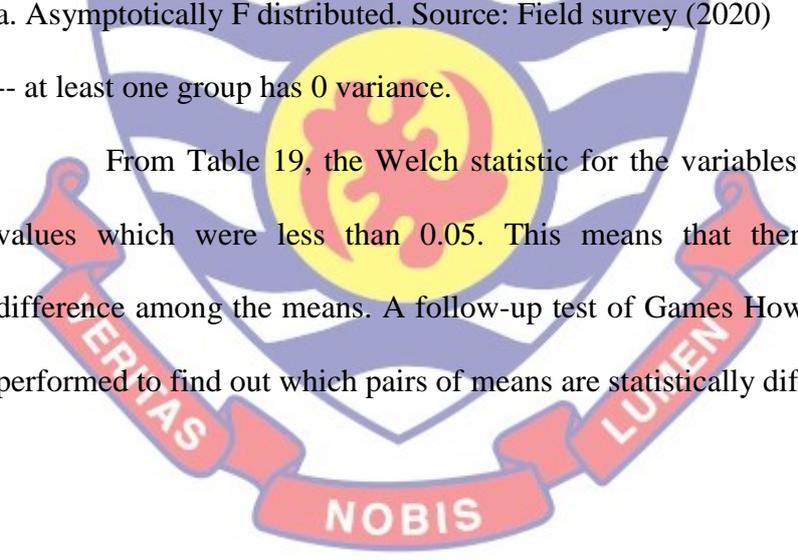


Table 20: Post Hoc of Games Howell analysis of means of problem gambling correlates (dependent variable)

Dependent Variable	(I) PGSI9a	(J) PGSI9a	Sig. values							
			1	2	3	4	5	6	7	8
1. Faulty Cognition	Non-Problem	Low risk Gambler	.043	.012	.879	.004	.004	.023	1.000	.039
2. First Experience	Gambler	Moderate Gambler	.000	.000	.578	.424	1.000	.253	.054	.930
3. Family Problems		Problem Gambler	.000	.000	.008	.000	.015	.000	.002	.000
4. Co-morbidity	Low risk	Non-Problem Gambler	.043	.012	.879	.004	.004	.023	1.000	.039
5. Problem Recognition	Gambler	Moderate Gambler	.916	.672	1.000	.034	.301	.034	.473	.301
6. Relieve Pain		Problem Gambler	.993	.589	.218	.000	.000	.000	.360	.000
7. Depression	Moderate	Non-Problem Gambler	.000	.000	.578	.424	1.000	.253	.054	.930
8. Suicide	Gambler	Low risk Gambler	.916	.672	1.000	.034	.301	.034	.473	.301
		Problem Gambler	.814	.986	.002	.029	.061	.331	.998	.000

Source: Field survey, (2020). The mean difference is significant at the 0.005 level.

In Table 20, a sig. value of less than the adjusted p-value of 0.005 implies a statistically significant difference between the means. In the results above, considering Faulty Cognition, there was significant difference between the means of non-problem gambler ($M=1.86$) and moderate gambler ($M=3.00$); non-problem gamblers ($M=1.86$) and problem gamblers ($M=2.88$). With First Experiences, there was significant difference between Non-problem gamblers ($M=1.07$) and moderate gamblers ($M=1.70$); non-problem gambler ($M=1.07$) and problem gambler ($M=1.90$). Under Family Problem; there was significant difference between non-problem gambler ($M=1.30$) and problem gambler ($M=1.50$); moderate gambler ($M=1.22$) and problem gambler ($M=1.50$). Co-morbidity recorded a significant difference between non-problem gambler ($M=1.06$) and low risk gambler ($M=1.00$); non-problem gambler ($M=1.06$) and problem gambler ($M=1.33$); low risk gambler ($M=1.00$) and problem gambler ($M=1.33$). Problem Recognition recorded a significant difference between non-problem gambler ($M=1.06$) and low risk gambler ($M=1.00$). Under the mode of relieve pains, there was significant difference between non-problem gambler ($M=1.04$) and problem gambler ($M=1.25$); low risk gambler ($M=1.00$) and problem gambler ($M=1.25$). With depression there was significant difference between non-problem gambler ($M=1.10$) and problem gambler ($M=1.29$). Lastly on suicide, there was significant difference between non-problem gamblers ($M=1.04$) and problem gamblers ($M=1.29$); low risk gamblers ($M=1.00$) and problem gamblers ($M=1.29$), moderate gamblers ($M=1.06$) and problem gamblers ($M=1.29$). Hence, the research hypothesis for the study was retained.

In sum, the one-way between-groups multivariate analysis of variance was performed to examine the differences in problem gambling correlates among PGSI gambler sub-types (problem gambling severity). Nine dependent variables were used: Faulty Cognition, First Experience, Family Problems, Co-morbidity, Problem Recognition, Relieve Pain, Stress, Depression and Suicide. The independent variable was PGSI gambler sub-types (Non-Problem Gambler, Low risk Gambler, Moderate Gambler, Problem Gambler). Preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity, with some violations noted.

There was statistically significant difference between the PGSI gambler sub-types (Non-Problem Gambler, Low risk Gambler, Moderate risk Gambler, Problem Gambler) on the combined dependent variables of problem gambling correlates, $F(27, 1023) = 13.966, p = .000$; Pillai's Trace = .808; partial eta squared = .269." When the results for the dependent variables were considered separately, the difference reached statistical significance, using a Bonferroni adjusted alpha level of .005, were Faulty Cognition, $F(3, 347) = 44.73, p = .000$, partial eta squared = .279, First Experience, $F(3, 347) = 226.11, p = .000$, partial eta squared = .662, Family Problems, $F(3, 347) = 5.66, p = .001$, partial eta squared = .047, Co-morbidity, $F(3, 347) = 14.89, p = .000$, partial eta squared = .114, Problem Recognition, $F(3, 347) = 5.20, p = .002$, partial eta squared = .043, Relieve Pain, $F(3, 347) = 10.42, p = .000$, partial eta squared = .083, Depression $F(3, 347) = 6.80, p = .000$, partial eta squared = .056 and Suicide, $F(3, 347) = 16.94, p = .000$, partial eta squared = .128. A post hoc Games Howell analysis of means of problem gambling correlates was

run to indicate where the difference exist among the PGSI sub-types. An inspection of the mean scores indicated that problem gamblers reported significant difference in problem gambling correlates than non-problem, low-risk and moderate-risk gamblers.

Discussion

Prevalence of problem gambling among UCC students

The results from the study indicated that students who bet could be categorized into gambling sub-type. “In determining the gambling sub-type, the PGSI outlined items that surveyed the specific behavioural intention of student towards sports gambling in the University of Cape Coast. Theoretically, the results affirms the study’s underlying theory of Reasoned Action Approach (TPB & TRA); which states that people’s intention predicts their behaviour. It also states that behavioural intention is the tendency of individuals to pursue an act, which ends up categorising the individual into specific act (Fishbein & Ajzen, 1975). Also the TPB examines only the specific individual behaviour at specific time, within specific context and with specific objectives (such as sport betting on the university of Cape Coast in 2019/2020).” Although TPB is limited in scope and application, it proposed that people mostly intend to increase their outcomes positively and marginalised the negative ones. This was evident in the finding where most students were found to be non-problem gamblers. That is, the theory postulates that individuals have the tendency to rationally assess the probabilities, values of outcomes and their alternatives which informs their decisions and actions. The findings also confirm the Choice and the Affect Heuristic theory by Glasser (1999) and Slovic et al. (2002) respectively. The

main precept of the choice and the affective heuristic theory is based on the idea that people choose behaviours in attempt to meet their basic needs and as a result are highly tempted to make decision based on their current affective state. That also explains the reason why most students who bet falls in one of the problem gambling severity index (gambling sub-type) with an intent of meeting their needs. Also, the findings to the study could be associated to the Self-regulatory theory, where “gamblers have misleading beliefs, such as the belief in luck; superstitions; and the gambler’s fallacy” (Baumeister et al., 1994)

In relation to other studies, the findings were in line with the findings of Koross (2016), who reported that most students bet weekly at a varying frequency counts.” Similarly, Mwadime (2017), found that “more than one weekly bets were the most common frequency of betting followed by a weekly bets”. In support of the studies finding, Caldeira et al (2017), also reported that frequent or daily gambling was rare and that gambling weekly or gambling more than once within a week was relatively high. The results also had a connection with the findings of Koross (2016), who indicate that “majority of students very often make time for gambling”.

In another works, van der Maas et al (2018), discovered that “problem gambling was quite low in their sample as compared to non-problem gamblers based on the PGSI”. This was also similar to the findings of this study. For van der Maas et al, the percentage of problem gambling was very low in their study but comparing the percentages, though the percentage of problem gambling in this study was low, it was relatively higher than the findings of Maas et al. It was also found that a good number of students who bet, spend

some of their monthly income on sport betting. Confirming this, Ahaibwe, Lakuma, Katunze and Mawejje (2016), also revealed that “on average, those who gamble spend about 12 percent of their monthly income on gambling activities”. They noted that “expenditure on gambling by the gambler to some extent is impulsive and not budgeted for, and hence participants tend to underreport the facts”. The findings could be attributed to the unregulated gambling and gaming centres in and around the university communities.

Motivation of UCC students for sports betting in the University of Cape Coast.

Theoretically, the results found in the study were in line with the theory of self-determination. The self-determination theory (SDT) deals with how both intrinsic and extrinsic motivation influence one responses within a situation. SDT examines why people behave the way they do. To this, students who engaged in sport betting responded to gambling in relation to the factor(s) that drives them. SDT also states that “people tend to be amotivated for behaviour when they have no intentionality or motivation”.

Empirically, some findings validated the results of this study. McGrath et al. (2010) in their study reveal that “gambling for money and for charitable events were frequently endorsed reasons for gambling”. In support of the findings, Koross (2016), established that “money was the main and biggest motivator causing university students to gamble. He further stated that students rely on the money from the bets for their daily up keep and entertainment.” Similarly, in Ghana, Ofosu and Kotey (2020), revealed that “sports betting participants viewed betting as a means to an end, a chance to improve their financial circumstances”. They further reported that “for a return

of substantive payoff, the participants were willing to stop sports betting, thereby indicating that the financial payoffs were the main motivation for sports betting”. Also, they asserted that “participants were both risk-aware and risk-averse but engaged nevertheless in betting for a chance of winning a high payoff”. In the same line, Neighbors et al. (2002), from their comprehensive set of 16 gambling motives based on open-ended responses revealed that “most college students gamble to win money, for fun, for social reasons, and for excitement”. For social reasons, Aguocha et al (2020), found that “social acceptability (by parents and peers) is recognized as a very important motivation factor towards gambling”.

The results from this study also revealed that a good number of students who engages in sport betting were amotivated. This was also in line with Neighbors et al. (2002), who found that “students gamble for no reason than just to have something to do”. Also, Mwadime (2017), affirms the findings of the study when he found that “majority of the respondents perceived self-controlled when betting”. That is, most students believe that they were in control of their gambling behaviour and for that matter bet to challenge their intellect. This finding from the study contradicted the finding of Salonen, Hellman, and Castr (2018), among south-eastern university students who reported “that they feel angry about not controlling their gambling activities”. From the study, most of the students who bet are basically motivated to do so because of the monetary component of gambling.

Problem gambling correlates of university students’ sports bettors

The findings of the study could be aligned to the three pathway model of Blaszczynski and Nower (2002). The model asserts that all gamblers are

faced with different forms of problem gambling correlates depending on their psychological and other demographic orientation. The model elucidates that gamblers display different range of psychopathological behaviours depending the presence or absence of premorbid behavioural disorders. The theory further explains that variety of maladaptive behaviours and comorbid addictions in the life of a gambler can induce other gambling correlates.

Tallying the findings of this study to some studies, it was evident that some of the problem gambling correlates such as the; individual's obsession with gambling, depressions, stress, drug and alcohol usage, attempted suicides and suicidal thoughts, history of families engagement in drugs, gambling and alcohol intake reported by students who engaged in sport betting were also confirmed by some studies. To this, Apinuntavech, Viwatwongkasem, Tipayamongkholgul, Wichaidit and Sangthong (2012), also reported negative consequences of gambling to include the feeling of guilt, perception of poorer health and depression or insomnia after losing a bet. Similarly, though a bit detailed findings by Salonen, Hellman, and Castr (2018), recounted that “negative consequences of gambling include financial crisis; relationship disruption, conflict, or breakdown; emotional or psychological harm, and decrements in health; cultural harm; reduced performance at work or in study; and criminal activity”.

According to Salonen, Hellman, and Castr, financial crises involved was reduced savings, late payment of bills, indebtedness etc; experienced emotional or psychological harms were feelings of extreme distress, regrets towards some gambling activities, and feeling angry about not controlling their gambling activity. They further clarified that “the most common health-

related harm was loss of sleep due to time spent on gambling, increased use of tobacco products and increased experience of isolation and greater tension in relationships (suspicion, lying, resentment, etc.)”. Supporting the results in the African context, Anyanwu, Bajunirwe, and Tamwesigire (2020), in the Mbarara Municipality at Uganda reported that “gambling disorder was associated with substance use, risky sexual behaviour and psychological distress”. They opined that “the results could be due the increasing availability and accessibility to gambling activities in Uganda”. Some of these findings were also discovered by Koross (2016), in her study at the Kenyan university. Koross found that “when students were asked to give their responses on their behaviours after losing and after winning it was evident that majority of them return as soon as possible so as to win back or win more”. The results of the study also affirms Aguocha et al (2020)’s findings that “there was an increased rate of gambling among those with at least one parent, sibling or friend that gambled”. Wong (2010), earlier also reported that “many adolescents have been initiated into gambling at a very young age mostly by close in family members”.

Also in support to the findings, Delfabbro et al. (2006), stipulated that problem gamblers are also at a higher risk of developing many psychological issues, namely, depression, anxiety, alcoholism and antisocial personality disorder. Accordingly, suicidal tendencies were also noted to accompany problem gambling, along with experiencing depression and reporting daily tobacco smoking (Potenza et al, as cited in Gibbs Van Brunschot, 2009). Rossen,et al, (2016), affirmed that unhealthy gambling was associated with suicidal attempts. Also the study discovered that low-risk gamblers through to

problem gambler are prone to psychological, emotional and physiological disorders.

Identify the dimensions of study habits exhibited by UCC students

From the findings, it was evident the results agree with Essuman, et al (2010), who found that “most students had satisfactory study habits in Allotment of time, Concentration, Consultation, Procedure in studying and Reading and library use”. Their study also revealed that “most of the students had good study habits in relation to the five dimensions (Allotment of time, Concentration, Consultation, Procedure in studying and Reading and library use)”. The result is also similar to that of Essuman et al pilot study in 2006 in the University of Education, Winneba.”

A satisfactory result across all the dimensions of students’ study habits means students do not effectively and efficiently utilize their study skills, thus Essuman, et al (2010) recommended that “such students should be offered counselling to enable them to improve their study habit. The findings with reading and library use ranked high also agreed to the claim that today students have much to read because of the great demand inherent in the core curriculum (Osa-Edoh & Alutu, 2012). Similarly, concentration which was ranked very low from the findings could be aligned to the assertion by Awabil et al (2008) that students’ concentration lowers as a results of distractions within them (internal causes) and distractions outside them (external causes). According to Awabil et al, internal causes of poor concentration include: personal worries, tension and anxiety, stress and day dreaming. External causes of poor concentration include: noise, glaring light, desk temperature and posture.

Relationship between problem gambling severity (PGSI gambler sub-types) and the dimensions of study habits of student who participate in sports betting

In agreement to the findings of the relationship between problem gambling severity indexes and allotment of time and concentration, Koross (2016) asserts that “majority of students very often loose time from school and studying due to gambling”. According to Koross; “It is through such behaviour of losing school time that leads to truancy”, and that the “findings indicate students spend much of their time thinking about bets, how to match them so as to win at the expense of school work and assignments”. Koross affirmed that “Kenyan universities students spend more hours gambling than concentrating on school work”. In the same vein Oh, Ong, and Loo (2017), explained that “there is no doubt that an adolescent’s school performance would also be affected as their attention is being redirected to managing gambling-related problems”. In support to Oh, Ong, and Loo, the finding showed that consultation, reading and library use and concentration could contribute to the level of PGSI gambler sub-type.

Conversely, global research works (Credé & Kuncel, 2008; Nuthana & Yenagi, 2009; Nonis and Hudson 2010; Maiyo & Siah, 2015; Ebele & Olofu, 2017; Kyauta, Shariff & Garba, 2018) showed that “study habits are the most important predictor of academic performance”. Consequently, Vitaro, Brendgen, Girard, Dionne and Boivin (2018), showed that “there is significant concurrent correlations between gambling participation and academic performance of students”. However, Vitaro, et al (2018), cautioned that “there is the tendency for correlates of problem gambling such as substance use to

obscure the link between gambling participation and academic performance”. Inferring from these studies, the researcher speculates that the findings of his study (i.e. the existence of relationship between PGSI and students’ study habit) could also relate or have a perceived effect on students’ academic performance. This is because of the empirical evidence of relationship between student’s study habit and student’s academic performance. Notwithstanding, as Vitaro et al cautioned, the relationship may be mediated strongly by other correlates of problem gambling such as substance abuse. The study showed that study habit has a predictive relationship on gambler sub-type.

Difference in problem gambling correlates among PGSI gambler sub-types (problem gambling severity)

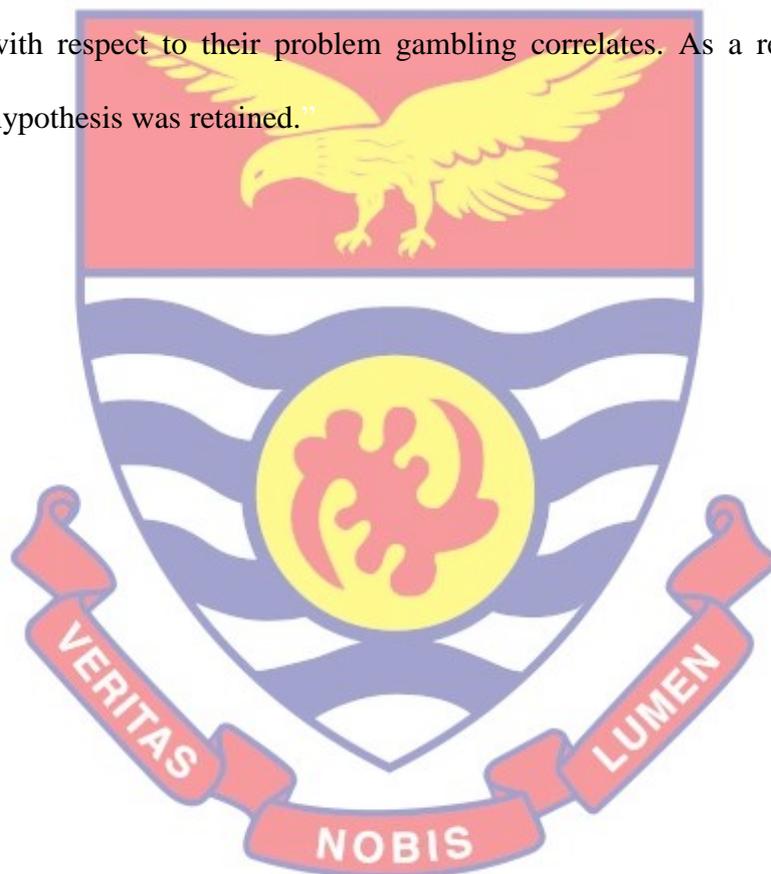
On the issue of the difference between problem gambling correlates of PGSI gambler sub-types, the results support the work of Shen, Kairouz, Nadeau and Robillard (2015). In their study, they established that “problem gamblers engage in varied locations massively and more diversely in gambling activities, than moderate-risk or even non-problem gamblers”. “The severity of gambling and its associated problem gambling correlates were found in problem gamblers to be significantly different from moderate-risk or non-problem gamblers” (Shen, Kairouz, Nadeau, & Robillard, 2015). Similarly, Caldeira et al (2017), also found “a highly significant differences between problem gamblers and the remaining groups of gamblers and they also revealed a highly significant differences between non-problem gamblers and any other at-risk group in terms of problem gambling correlates”. This was also reported by Anyanwu, Bajunirwe, and Tamwesigire (2020).

Lending the results to empirical reviews, Carbonneau et al. (2015) assert that “high gambling participation has been found to correlate to later problem gambling correlates”. Thus, generally, more problem gambling correlates are associated with higher frequency gambling (Glozah, Tolchard, & Pevalin, 2019). Problematic gambling was similarly identified by Giralt et al. (2018) to be positively associated with the increased psychopathological strain and that problematic gambling has been strongly linked to a variety of health-related problems. In addition, surveys on comorbid substance abuse in adolescents with problematic gambling have shown positively strong relationships (Forrest & McHale, 2012; Lorains, Cowlshaw, & Thomas, 2011). These studies supports the assertions that there is a relationship between problem gambling severity and problem gambling correlates of gamblers.” Thus, gambling correlates exhibited by students who were gamblers were higher as compared to the other gambler sub-types.

Chapter summary

Chapter Four presents and discusses the results of the study. The demographic data were analysed descriptively. Frequency counts and percentages were specifically used to present the demographic characteristics of participants. Descriptive and inferential statistics were used to analyse the research questions and hypotheses respectively. The findings revealed that betting was mostly done using an amount of money ranging from tens of cedis to hundreds of Ghana cedis. It was also discovered that betting for money was the main motivational factor for students who participate in sport betting. The results for problem gambling correlates exhibited by students’ sports bettors showed that most problem gamblers were obsessed with sports betting. It was

evident that most students had satisfactory study habit in all the five dimensions (Allotment of time, concentration, consultation, procedure in studying and reading and library use). From hypothesis one, it was observed that there was statistically significant relationship between problem gambling severity (PGSI gambler sub-type) and the one dimensions of students study habits (i.e. allotment of time). The second hypothesis revealed “a statistically significant” difference between some of the means of PGSI gambler sub-type with respect to their problem gambling correlates. As a result the research hypothesis was retained.”



CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presents a summary of the key findings, the conclusions drawn as well as recommendations made in the study. The chapter also presented suggestions for further research.”

Overview of the Study

The study investigated problem gambling correlates and their effects on the dimensions of study habits of students’ sport bettors in the University of Cape Coast. To accomplish this purpose, data were collected from level 400 students within the university. The main instrument used for the study was a questionnaire. The questionnaires involved in the study were an adopted form of the “Canadian Problem Gambling Index (CPGI)” version which was used in determining prevalence of problem gambling and measuring correlate behaviours of problem gamblers, the Modified Gambling Motivation Scale was for measuring student motivation towards gambling and an adapted Study Habits Inventories (SHI) [Essuman, 2006] for determining the students study habits. To determine the validity and reliability of the instrument, pilot-testing was conducted in the Cape Coast Technical University. The researcher used a sample size of three hundred and fifty-one (351) level 400 university students. Analysis of the data revealed that more than one-third (1/3) of the students engaged in gambling. This chapter presents a summary of the findings of the study as well as the conclusions, recommendations, and

directions for further research. The recommendations were made based on the key findings and major conclusions arising from the study.

Summary of the Study

The purpose of this study was to assess the prevalence of problem gambling, motivation and correlates of sport gambling and the effect on student's study habits in the University of Cape Coast. This study sought to provide answers to these aspects of students' life. Specifically, the study sought to look at the prevalence of problem gambling, motivation for gambling among students who gamble, problem gambling correlates exhibited as a result of sport bets and also identify the dimensions of study habits of students' sport bettors." "The study sought to establish the relationship between problem gambling severity and the dimensions of study habit of students' sport bettors, the difference in problem gambling correlates of PGSI gambler sub-types of students who bet on sports in the University of Cape Coast." The quantitative method was employed for this study. A sample size of three hundred and fifty-one (351) level 400 students were selected in the University of Cape Coast through a disproportionate stratified sampling procedure. The instruments used for the study were an adopted forms of the "Canadian Problem Gambling Index (CPGI)", the Modified Gambling Motivation Scale and an adapted Study Habits Inventories (SHI) [Essuman, 2006]. Research questions 1, 2, 3 and 4 of the study was analysed using the descriptive statistical tools such as frequency counts, percentages, percentile ranks means and standard deviations. In research hypothesis 1, the ordinal logistic regression was used and research hypothesis 2 was analysed using the one-way multivariate analysis of variance (MANOVA).

Major Findings

The findings revealed that more than one-third of students engaged in student sports betting at varying degree of intensity. It was realized that majority of students' sport bettors place their bets more than once within a week and they mostly use 30-60minutes whenever they place their bets. It was found that betting was mostly done using an amount of money ranging from tens of cedis to hundreds of Ghana cedis.

Ultimately, it was discovered that betting for money was the main motivational factor for students who participate in sport betting. A good number of students' sport bettors said it was a quick way to make money. Nonetheless, some of the students bet without any intentional factor. That is, they gamble for money, but sometimes worry if they should continue playing. It was discovered that some bet because they want to challenge themselves intellectually on the game of sports as to what would happen in the game and also learn the strategies of winning. Some also made it clear that the exciting factors push them to bet. The study also found that some bet because they want to socialise and also gain some level of social recognitions among their peers.

The results for problem gambling correlates exhibited by students' sports bettors showed that most of the problem gamblers were obsessed with sports betting. Thus, their cognition has been swayed by gambling fallacy, illusion of control, superstitions/beliefs in gambling. Most of the problem gamblers could remember their wins, losses and most of them also suffer from depressions, stress, drug and alcohol usage, attempted suicides and suicidal thoughts. It was discovered that most of the students' sport bettors

have a history of families' engagement in drugs, gambling or alcohol intake. Also most of the problem gamblers use sport betting, alcohol or drug intake to escape from life's painful situations. They used these acts as pain relievers. It was found that most of the students' sport bettors were aware of their gambling, alcohol and drug problems.

With research question four, it was evident that most students had satisfactory study habit in all the five dimensions (Allotment of time, concentration, consultation, procedure in studying and reading and library use). The study also revealed that most of the students had good study habits in all the five dimensions and some had poor study habits and few had very good and very poor study habits in relating to the five dimensions used in the work.

From hypothesis one, it was observed from the ordinal logistic regression analysis that the model fit had a statistically significant improvement of the final model over the null model thus the null hypothesis was rejected. Similarly, there was statistically significant relationship between problem gambling severity (PGSI gambler sub-type) and one of the dimensions of students study habits (i.e. allotment of time). Though the remaining four dimensions reported non-statistically significant relationships, they were significant determinants (of odds ratio of greater than 1) of PGSI gambler sub-type.

The second hypothesis revealed a statistically significant differences between some of the means of PGSI gambler sub-type with respect to their problem gambling correlates. As a result the research hypothesis was retained.

Conclusions

The study purposed to unearth the problem gambling correlates and their effects on dimensions of study habits of students' sport bettors in the University of Cape Coast. The purpose was duly met and the following conclusions were drawn base on the findings of the study:

Firstly, from the findings, a good number of students were found to be problem gamblers and as such it could be concluded that sport betting is very prevalent on the university's campus. This could be attributed to the fact that there are unregulated gambling centres in the university's communities. Likewise the easy access to Wi-Fi or internet connections on the university's campus could have resulted in most student's engaging in sport betting. Some of these bettors could indulge in the act secretly through the easy access of the Wi-Fi at their various halls or hostels in order to avoid any stigma that comes with one going to the game centres to place their bets.

It was also found that money was the leading motivational factor for students' sports bettors. It could be concluded that a good number of students on the university's campus is challenge financially or may have unmet financial needs. It could also be concluded from the findings that most students struggle with their self-identity as they were also in self-doubt as to their motivations of gambling.

Base on the findings, it could be concluded that students' sport bettors within the range of low-risk gamblers through to problem gambler are prone to psychological, emotional and physiological maladies. It can be established that these malfunctions in the lives of a gambler are inescapable.

Subsequently, drawing a conclusion on student's study habit, the study reveal that most of the students had satisfactory study habits because they do not have a very well planned and organized study time.

The study also showed a statistically significant relationship between problem gambling severity and allotment of time. The remaining four dimensions though statistically insignificant, could contribute to problem gambling severity. This could be concluded that problem gambling severity has a predictive relationship with one's study habit.”

“There was statistically significant difference in the problem gambling correlates of problem gambling severity in the University of Cape Coast. In other words, gambling correlates exhibited by students who were problem gamblers were very higher as compared to students of the other gambler sub-types. It could also be observed that problem gambling severity and problem gambling correlates were related. This was inferred that as ones problem gambling correlates increase, he moves higher along the problem gambling severity index.

Recommendations

The recommendation by the researcher is not to ban gambling but to ensure student player protection, harm-minimization, social responsibility, and responsible gambling. The following recommendations are made based on the findings of the study .

1. From the findings, the researcher recommends that gambling educational programmes and awareness seminars should be embarked by the University of Cape Coast. To effectively and consistently achieve and execute this in the university's campus, the university and

the department of Psychology and Education should consider creating a “Gaming Research Unit” which will focus on designing and evaluating of gambling products. This unit could also liaise with other universities in the country to work together with the gambling companies under the auspices of the Gaming Commission of Ghana to put in protective measures to minimise the harm from gambling. The leadership, stakeholders and parents of university communities could also be involved in the awareness of the problem gambling among students.

2. The researcher recommends that the university through its new initiative to establish Students’ Support Office (StuFSO) which will provide support to brilliant but needy students to also widen their scope in amassing resources to also provide for average students the opportunity to apply for a semester bursary which will cater for the students basic needs within a semester. Application of this bursary should come with a contract that students who apply will produce a budget of their basic expenses in the semester and also sign a bound to the fact that their semester’s GPA will significantly increase in every semester. This would be the baseline for obtaining another bursary for another academic semesters. This in a way could also reduce the red-tapes in the system.
3. Also, appropriate quarters of the University of Cape Coast; which the researcher recommends should be one of the responsibilities of the “Gaming Research Unit” under the auspices of the Department of Psychology and Education should ensure the screening of students

who are low risk, moderate-risk or problem gambler with problem gambling correlates and refer them for guidance and counselling. Thus, counsellors or psychotherapists in the faculty could suggest additional therapy by referring such students to the UCC hospital or any equipped institution around.

4. The researcher also recommends that the activities of the Study Habit Unit within the counselling centre in collaboration with the department academic counsellors, hall counsellors and the recommended “Gaming Research Unit” of the department of Psychology and Education should intermittently run open forum where students can test their study habit level.
5. Since one’s study habit has predictive relationship with problem gambling severity index, counsellors who come in contact with students’ sport bettors should adequately explain the various dimensions of their study habits in relations to their gambling activities, and help them to plan and organise their studies to ensure effective and efficient study skills.
6. Lastly, the University of Cape Coast with the help of researcher suggested “Gaming Research Unit” of Department of Psychology and Education, could put in place a clear policy decisions to regulate the activities of gambling especially sports betting. This will help curb the gambling correlates exhibited by students who engage in sport betting. For instance, the Gaming Research Unit in partnership with the Students’ Support Office (StuFSO) under the auspices of the university, could generate levies from these gambling centres sited on

the university's campuses to finance the bursaries of average but needy students of the university.

Suggestions for Further Research

The study investigated problem gambling correlates and their effects on the dimensions of study habits of students' sport bettors in the University of Cape Coast. The study looked at the prevalence of problem gambling, motivation for gambling among students who gamble, problem gambling correlates exhibited as a result of sport bets and also identified the dimensions of study habits of students' sport bettors. The study also established the relationship between problem gambling severity and the dimensions of study habit of students' sport bettors, the difference in problem gambling correlates of PGSI gambler sub-types of students who bet on sports in the University of Cape Coast

For further studies, I will suggest that a mixed method approach of a replication of the study could be done across other universities in Ghana so as to confirm or disconfirm the findings of this study.

Other researchers can also research into student's online gambling activities.

In addition, prospective researchers should consider a longitudinal research of student gambling clearly considering premorbid and comorbid disorders of the students in relation to their academic performance.

Summary of the chapter

This chapter covers the summary of the study, conclusions and recommendations. Lastly, suggestions for further research were provided.

REFERENCES

- Aguocha, C. M., Duru, C. B., Nwefoh, E. C., Amadi, K. U., Olose, E. O., Igwe, M. N., & Ndukuba, A. C. (2019). Determinants of gambling among male students in secondary schools in Imo State, Nigeria. *Journal of Substance Use, 24*(2), 199-205.
- Ahaibwe, G., Lakuma, C. P., Katunze, M., & Maweje, J. (2016). *Socio - economic effects of gambling: Evidence from Kampala City, Uganda*. Economic Policy Research Centre (126). <http://www.ageconsearch.umn.edu>
- Ajzen, I., & Fishbein, M. (2005). *The influence of attitudes on behaviour*. In: Albarracín, D., Johnson, B.T. and Zanna, M.P., Eds., the Handbook of Attitudes, Erlbaum, Mahwah, 173-221.
- Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes, 50*(2), 179-211.
- Ajzen, I. (2002). Perceived behavioural control, self-efficacy, locus of control, and the theory of planned behaviour. *Journal of Applied Social Psychology, 32*(4), 665-683.
- Aleven, V., McLaren, B., Roll, I., & Koedinger, K. (2006). Toward meta-cognitive tutoring: A model of help seeking with a Cognitive Tutor. *International Journal of Artificial Intelligence in Education, 16*(2), 101-128.
- Amedahe, F. K., & Gyimah, A. E. (2010). *Introduction to educational research*. Accra, Ghana: Mercury Press.
- American Gaming Association. (2003). About the AGA. Retrieved from <http://www.americangaming.org>

- American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (3rd ed.). <https://ci.nii.ac.jp/naid/10014525742/>
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). <https://ci.nii.ac.jp/naid/10014525742/>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Retrieved from https://www.amberton.edu/media/SyllabiGraduate/CSL6798_E1.pdf
- Andrews, B. R. (1903). Habit. *The American Journal of Psychology*. 14(2), 121–149.
- Anyanwu, M. U., Bajunirwe, F., & Tamwesigire, I. (2020). *Prevalence and correlates of gambling disorder among secondary school students in Mbarara Municipality, Uganda*. Research Square. <https://www.researchsquare.com/article/rs-25227/v1>
- Apinuntavech, S., Viwatwongkasem, C., Tipayamongkhogul, M., Wichaidit, W., & Sangthong, R. (2012). Consequences and associated factors of youth gambling. *Journal of the Medical Association of Thailand*, 95(6), 21-29.
- Awabil, G. (2013). *Effects of study and self-reward skills counselling on study behaviour of students in Ghanaian public universities*. (Unpublished doctoral dissertation). Department of Guidance and Counselling, University of Cape Coast, Cape Coast.
- Awabil, G., Essuman, J. K., Forde, L. D., Antiri, K. O., Nyarko-Sampson, E., Turkson, A. B., & Ocansey, F. (2008). Improving your concentration for studies. *Study Guide Monograph Series*. 8, 2-20.

- Bashir, M., Afzal, M. T., & Azeem, M. (2008). Reliability and validity of qualitative and operational research paradigm. *Pakistan Journal of Statistics and Operation Research*, 35-45.
- Baumeister, R. F., Gailliot, M., DeWall, C. N., & Oaten, M. (2006). Self-regulation and personality: How interventions increase regulatory success, and how depletion moderates the effects of traits on behaviour. *Journal of Personality*, 74(6), 1773-1802.
- Baumeister, R. F., Heatherton, T. F., & Tice, M. D. (1994). *Losing control: How and why people fail at self-regulation*. San Diego, CA Academic Press.
- Baumeister, R. F., Schmeichel, B. J., & Vohs, K. D. (2007). *Self-regulation and the executive function: The self as controlling agent*. Retrieved from <http://www.psycnet.apa.org>
- Binde, P. (2014). Exploring the impact of gambling advertising: An interview study of problem gamblers. *International Journal of Mental Health and Addiction*, 7(4), 541-554.
- Bischof, A., Meyer, C., Bischof, G., Kastirke, N., John, U., & Rumpf, H. J. (2013). Comorbid axis I-disorders among subjects with pathological, problem, or at-risk gambling recruited from the general population in Germany: Results of the PAGE study. *Psychiatry Research*, 210(3), 1065–1070.
- Blaszczynski, A., & Nower, L. (2002). A pathways model of problem and pathological gambling. *Addiction*, 97(5), 487-499.

- Blaszczynski, A., Steel, Z., & McConaghy, N. (1997). Impulsivity in pathological gambling: the antisocial impulsivist. *Addiction*, 92(1), 75-87.
- Bondolfi, G., Jermann, F., Ferrero, F., Zullino, D., & Osiek, C. H. (2008). Prevalence of pathological gambling in Switzerland after the opening of casinos and the introduction of new preventive legislation. *Acta Psychiatrica Scandinavica*, 117(3), 236-239.
- Bradley, B. J., & Greene, A. C. (2013). Do health and education agencies in the United States share responsibility for academic achievement and health? A review of 25 years of evidence about the relationship of adolescents' academic achievement and health behaviours. *Journal of Adolescent Health*, 52(5), 523–532.
- Brooks, C. F., & Young, S. L. (2011). Are choice-making opportunities needed in the classroom? Using Self-Determination Theory to consider student motivation and learner empowerment. *International Journal of Teaching and Learning in Higher Education*, 23(1), 48-59.
- Brown, D. (2006). Astral Divination in the Context of Mesopotamian Divination, Medicine, Religion, Magic, Society, and Scholarship. *East Asian Science, Technology, and Medicine*, 25, 69–126.
- Browne, M., Rockloff, M. J., Blaszczynski, A., Allcock, C., & Windross, A. (2015). Delusions of expertise: The high standard of proof needed to demonstrate skills at horserace handicapping. *Journal of Gambling Studies*, 31, 73–89.
- Brunschot, G. E. (2009). *Gambling and risk behaviour: A literature review*. Alberta Gaming Research Institute. <http://www.prism.ucalgary.ca>

- Calado, F., & Griffiths, M. D. (2016). Problem gambling worldwide: An update and systematic review of empirical research (2000–2015). *Journal of Behavioural Addictions, 5*(4), 592-613.
- Caldeira, K. M., Arria, A. M., O'Grady, K. E., Vincent, K. B., Robertson, C., & Welsh, C. J. (2017). Risk factors for gambling and substance use among recent college students. *Drug and Alcohol Dependence, 179*, 280-290.
- Carbonneau, R., Vitaro, F., Brendgen, M., & Tremblay, R. E. (2015). Variety of gambling activities from adolescence to age 30 and association with gambling problems: A 15-year longitudinal study of a general population sample. *Addiction, 110*(12), 1985–1993.
- Cassidy, R., Loussouarn, C., & Pisac, A. (2013). *Fair game: Producing gambling research*. Goldsmiths, University of London. Routledge.
- Chantal, Y., Vallerand, R. J., & Vallieres, E. F. (1995). Motivation and gambling involvement. *The Journal of Social Psychology, 135*(6), 755-763.
- Chen, J. H., Wu, A. M., & Tong, K. K. (2015). Evaluation of psychometric properties of the inventory of gambling motives, attitudes and behaviours among Chinese adolescents. *International Journal of Mental Health and Addiction, 13*(3), 361-375.
- Chóliz, M. (2010). Cognitive biases and decision making in gambling. *Psychological Reports, 107*(1), 15-24.
- Chu, S., & Clark, L. (2015). Cognitive and neurobiological aspects of problem gambling: relevance to treatment. *Canadian Journal of Addiction, 6*, (2), 62-71

- Clark, L. (2010). Decision-making during gambling: an integration of cognitive and psychobiological approaches. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 365(1538), 319-330.
- Cohen, L., Manion, L., & Morrison, K. (2007). Observation. *Research methods in education*, 6, 396-412.
- Colby, S. M., Swanton, D. N., & Colby, J. J. (2012). College students' evaluations of heavy drinking: The influence of gender, age, and college status. *Journal of College Student Development*, 53(6), 797-810.
- Conrad, M. (2008). *College student gambling: Examining the effects of gaming education within a college curriculum*. (Unpublished master's thesis). Department of Hospitality and Tourism, University of Massachusetts, Massachusetts.
- Credé, M., & Kuncel, N. R. (2008). Study habits, skills, and attitudes: The third pillar supporting collegiate academic performance. *Perspectives on Psychological Science*, 3(6), 425-453.
- Currie, S. R., Hodgins, D. C., & Casey, D. M. (2013). Validity of the problem gambling severity index interpretive categories. *Journal of Gambling Studies*, 29(2), 311-327.
- d'Astous, A., & Di Gaspero, M. (2015). Heuristic and analytic processing in online sports betting. *Journal of Gambling Studies*, 31(2), 455-470.
- Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality*, 19(2), 109-134.

- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behaviour. *Psychological inquiry*, 11(4), 227-268.
- Delfabbro, P. (2008). Evaluating the effectiveness of a limited reduction in electronic gaming machine availability on perceived gambling behaviour and objective expenditure. *International Gambling Studies*, 8(2), 151-165.
- Delfabbro, P., King, D., & Griffiths, M. D. (2014). From adolescent to adult gambling: An analysis of longitudinal gambling patterns in South Australia. *Journal of Gambling Studies*, 30(3), 547-563.
- Delfabbro, P., Lahn, J., & Grabosky, P. (2006). Psychosocial correlates of problem gambling in Australian students. *Australian & New Zealand Journal of Psychiatry*, 40(7), 587-595.
- Derevensky, J. L., & Gupta, R. (2004). Adolescents with gambling problems: A synopsis of our current knowledge. *Journal of Gambling Issues*, 10(10), 1-22.
- Derevensky, J. L., & Gupta, R. (2007). Internet gambling amongst adolescents: A growing concern. *International Journal of Mental Health and Addiction*, 5(2), 93-101.
- Derevensky, J., Sklar, A., Gupta, R., & Messerlian, C. (2010). An empirical study examining the impact of gambling advertisements on adolescent gambling attitudes and behaviours. *International Journal of Mental Health and Addiction*, 8(1), 21-34.

- Doll, J., & Ajzen, I. (1992). Accessibility and stability of predictors in the theory of planned behaviour. *Journal of Personality and Social Psychology*, 63(5), 754-765.
- Ebele, U. F., & Olofu, P. A. (2017). Study habit and its impact on secondary school students' academic performance in Biology in the Federal Capital Territory, Abuja. *Educational Research and Reviews*, 12(10), 583-588.
- Essuman, J. K. (2006). *Study Habit Survey (SHS): Form B*. (Unpublished inventory). Counselling Centre, University of Cape Coast, Ghana.
- Essuman, J. K., Ocansey, F., Forde, L.D., Awabil, G., Antiri, O.K., Nyarko-Sampson, E., & Turkson, A.B. (2010). Study habits of University of Cape Coast Students. *Journal of Counselling, Education and Psychology*, 2(1), 221-247.
- Ferris, J. A., & Wynne, H. J. (2001). *The Canadian problem gambling index*. Ottawa, ON: Canadian Centre on Substance Abuse.
- Finucane, M.L.; Alhakami, A.; Slovic, P.; Johnson, S.M. (2000). The Affect Heuristic in Judgment of Risks and Benefits. *Journal of Behavioural Decision Making*. 13(1), 1-17
- Fishbein, M. A., & Ajzen, I. (1975). *Belief, attitude, intention and behaviour: An introduction to theory and research*. Reading, UK: Addison-Wesley.
- Fishbein, M., & Ajzen, I. (2010). *Predicting and changing behaviour. An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Fishbein, M., Jaccard, J., Davidson, A. R., Ajzen, I., & Loken, B. (1980). Predicting and understanding family planning behaviours.

In *Understanding attitudes and predicting social behaviour*. London, England: Prentice Hall.

Forrest, D., & McHale, I. G. (2012) Gambling and problem gambling among young adolescents in Great Britain. *Journal of Gambling Studies*, 28(4), 607–622.

Fraenkel, J. R., & Wallen, N. E. (2012). *How to design and evaluate research in education*. (6th ed.). New York, NY: Palgrave Macmillan.

Francis, K. L., Dowling, N. A., Jackson, A. C., Christensen, D. R., & Wardle, H. (2015). Gambling motives: Application of the reasons for gambling questionnaire in an Australian population survey. *Journal of Gambling Studies*, 31(3), 807-823.

GeoPoll (2017). GeoPoll. *Mobile gambling among youth in Sub-Saharan Africa*. <http://www.blog.geopoll.com/mobile-gambling-among-youth-in-sub-saharan-africa>.

Gibbs, V. B. E. (2009). *Gambling and risk behaviour: A literature review*. Alberta Gaming Research Institute. <http://www.dspace.ucalgary.ca>

Giralt, S., Müller, K. W., Beutel, M. E., Dreier, M., Duven, E., & Wölfling, K. (2018). Prevalence, risk factors, and psychosocial adjustment of problematic gambling in adolescents: Results from two representative German samples. *Journal of Behavioural Addictions*, 7(2), 339-347.

Glasser, W. (1999). *Choice theory: A new psychology of personal freedom*. New York, NY: HarperPerennial.

Glozah, F. N., Tolchard, B., & Pevalin, D. J. (2019). Participation and attitudes towards gambling in Ghanaian youth: An exploratory analysis

of risk and protective factors. *International Journal of Adolescent Medicine and Health*, 1 (3), 20-39.

Gordon, N. (2002). A question of response rate. *Science*, 25(1), 25-41.

Gravetter, F. J., & Forzano, L. B. (2009). *Research methods for the behavioural sciences* (3rd ed.). Beverly, MA: Wadsworth Publishing.

Griffiths, M. (2009). *Problem gambling in Europe: An overview*. England: Nottingham Trent University.

Griffiths, M. D., & Parke, J. (2010). Adolescent gambling on the Internet: A review. *International Journal of Adolescent Medicine and Health*, 22(1), 59-75.

Griffiths, M., & Barnes, A. (2008). Internet gambling: An online empirical study among student gamblers. *International Journal of Mental Health and Addiction*, 6(2), 194-204.

Griffiths, M., Wardle, H., Orford, J., Sproston, K., & Erens, B. (2009). Sociodemographic correlates of internet gambling: Findings from the 2007 British Gambling Prevalence Survey. *CyberPsychology & Behaviour*, 12(2), 199-202.

Griffiths, M., Wardle, H., Orford, J., Sproston, K., & Erens, B. (2011). Internet gambling, health, smoking and alcohol use: Findings from the 2007 British Gambling Prevalence Survey. *International Journal of Mental Health and Addiction*, 9(1), 1-11.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2014). *Multivariate data analysis* (Pearson New International Edition). Upper Saddle River, NJ: Prentice hall.

- Hanson, J. D., & Kysar, D. A. (1999). Taking behaviourism seriously: Some evidence of market manipulation. *Harvard Law Review*, *112* (7), 1420–1572.
- Hassan, U., Sadaf, S., Aly, S. M., & Baig, L. A. (2018). Study Habits. *The Professional Medical Journal*, *25*(03), 466-472.
- Heatheron, T., & Tice, D. M. (1994). *Losing control: How and why people fail at self-regulation*. San Diego, CA: Academic Press, Inc.
- Hing, N., Cherney, L., Blaszczynski, A., Gainsbury, S. M., & Lubman, D. I. (2014). Do advertising and promotions for online gambling increase gambling consumption? An exploratory study. *International Gambling Studies*, *14*(3), 394-409.
- Huang, J. H., Jacobs, D. F., Derevensky, J. L., Gupta, R., & Paskus, T. S. (2007). A national study on gambling among US college student-athletes. *Journal of American College Health*, *56*(2), 93-99.
- Hurlburt, R. T., Knapp, T. J., & Knowles, S. H. (1980). Simulated slot-machine play with concurrent variable ratio and random ratio schedules of reinforcement. *Psychological Reports*, *47*(2), 635-639.
- Ipaye, B. (2005). *Study guides and learning strategies in open and distance learning*. (2nd ed.). Lagos: Chayoobi Publishers.
- Irvine, J. (2015). Enacting Glasser's (1998) Choice Theory in a grade 3 classroom: A case study. *Journal of Case Studies in Education*, *7*, 1-14
- Jazaeri, S. A., & Habil, M. H. B. (2012). Reviewing two types of addiction—pathological gambling and substance use. *Indian Journal of Psychological Medicine*, *34*(1), 5-7.

- Kahneman, D., & Tversky, A. (1973). On the psychology of prediction. *Psychological Review*, 80(4), 207-232.
- Kam, S. M., Wong, I. L. K., So, E. M. T., Un, D. K. C., & Chan, C. H. W. (2017). Gambling behaviour among Macau College and university students. *Asian Journal of Gambling Issues and Public Health*, 7(1), 1-12.
- Karoly, P. (1993). Mechanisms of self-regulation: A systems view. *Annual review of psychology*, 44(1), 23-52.
- Kausch, O. (2003). Suicide attempts among veterans seeking treatment for pathological gambling. *The Journal of Clinical Psychiatry*. <https://www.ncbi.nlm.nih.gov/pubmed>
- Kaushar, M. (2013). Study of the impact of time management on the academic performance of college students. *Journal of Business and Management*, 9(6), 59-60.
- King, D., Delfabbro, P., & Griffiths, M. (2010). The convergence of gambling and digital media: Implications for gambling in young people. *Journal of Gambling Studies*, 26(2), 175–187.
- Knapp, T. J., & Crossman, E. W. (2006). Pathways to betting: childhood, adolescent, and underage gambling. In P. Ghezzi, C. A. Lyons, M. R. Dixon, & G. R. Wilson (Eds.), *Gambling: behaviour theory, research, and application* (p. 207–230). Context Press
- Koross, R. (2016). University students gambling: Examining the effects of betting on Kenyan university students' behaviour. *International Journal of Liberal Arts and Social Science*, 4(8), 57-66.

- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Journal of Educational and Psychological Measurement, 30*, 607-610.
- Kyauta, A. M. A., Shariff, Y. A., & Garba, H. S. (2018). The role of guidance and counselling service on academic performance among students of Umar Suleiman College of education, Gashua, Yobe State, Nigeria. *KIU Journal of Humanities, 2*(2), 59-66.
- Lally, P., van Jaarsveld, C. H. M., Potts, H. W. W., & Wardle, J. (2010). How are habits formed: Modelling habit formation in the real world? *European Journal of Social Psychology, 40*, 998–1009.
- Langhinrichsen-Rohling, J., Rohde, P., Seeley, J. R., & Rohling, M. L. (2004). Individual, family, and peer correlates of adolescent gambling. *Journal of Gambling Studies, 20*(1), 23-46.
- Lee, G. P., Martins, S. S., Pas, E. T., & Bradshaw, C. P. (2014). Examining potential school contextual influences on gambling among high school youth. *The American Journal on Addictions, 23*(5), 510-517.
- Lesieur, H. R., & Rosenthal, R. J. (1991). Pathological gambling: A review of the literature (prepared for the American Psychiatric Association task force on DSM-IV committee on disorders of impulse control not elsewhere classified). *Journal of Gambling Studies, 7*(1), 5-39.
- Lim, H., & Dubinsky, A. J. (2005). The theory of planned behaviour in e-commerce: Making a case for interdependencies between salient beliefs. *Psychology & Marketing, 22*(10), 833-855.

- Lopez-Gonzalez, H., Griffiths, M. D., & Estévez, A. (2020). In-play betting, sport broadcasts, and gambling severity: A survey study of Spanish sports bettors on the risks of betting on sport while watching it. *Communication & Sport*, 8(1), 50-71.
- Lorains, F. K., Cowlshaw, S., & Thomas, S. A. (2011). Prevalence of comorbid disorders in problem and pathological gambling: Systematic review and meta-analysis of population surveys. *Addiction*, 106(3), 490–498.
- Ly, C. (2010). *An exploratory investigation of online gambling amongst University students in Tasmania*. Gambling support program, Department of Health and Human Services, University of Tasmania, Australia.
- Maiyo, J., & Siah, E. A. (2015). Study of the relationship between study habits and academic achievement of students: A case of Spicer Higher Secondary School, India. *International Journal of Educational Administration and Policy Studies*, 7(7), 134-141.
- Majani, F. (2011). Sports Betting in Kenya. In Anderson, P. M., Blackshaw, I. S., Siekmann, R. C., & Soek, J. (Eds.). *Sports Betting: Law and Policy* (pp. 527-537). TMC Asser Press.
- Maranges, H. (2014). Ego Depletion and changes in the premenstrual phase: Impaired self- control as a common source. Retrieved from <https://diginole.lib.fsu.edu/islandora/object/fsu:204784/datastream/PDF/view>

- Martin, R. J., Usdan, S., Nelson, S., Umstatted, M. R., LaPlante, D., Perko, M., & Shaffer, H. (2010). Using the theory of planned behaviour to predict gambling behaviour. *Psychology of Addictive Behaviours*, 24(1), 89-120.
- Matric, M. (2018). Self-regulatory systems: Self-regulation and learning. *Journal of Process Management. New Technologies*, 6(4), 79-84.
- Mcbride, J., & Derevensky, J. (2012). Internet gambling and risk-taking among students: An exploratory study. *Journal of Behavioural Addictions*, 1(2), 50-58.
- McCormack, A., & Griffiths, M. (2011). The effects of problem gambling on quality of life and wellbeing: A qualitative comparison of online and offline problem gamblers. *Gambling Research: Journal of the National Association for Gambling Studies (Australia)*, 23(1), 63-64.
- McGrath, D. S., Stewart, S. H., Klein, R. M., & Barrett, S. P. (2010). Self-generated motives for gambling in two population-based samples of gamblers. *International Gambling Studies*, 10(2), 117-138.
- McWhorter, K. T. (2016). *Study and critical thinking skills in college*. Pearson.
- Messerlian, C., Gillespie, M., & Derevensky, J. L. (2007). Beyond drugs and alcohol: Including gambling in a high-risk behavioural framework. *Paediatrics & Child Health*, 12(3), 199-204.
- Meyer, G., Heyer, T., & Griffiths, M. (Eds.). (2009). *Problem gambling in Europe: Challenges, prevention, and interventions*. New York, NY Springer.

- Milner, L., Hing, N., Vitartas, P., & Lamont, M. (2013). Embedded gambling promotion in Australian football broadcasts: An exploratory study. *Communication, Politics & Culture, 46*(2), 177-198.
- Momper, S. L., Delva, J., Grogan-Kaylor, A., Sanchez, N. & Volberg, R. A. (2010). The association of at-risk, problem, and pathological gambling with substance use, depression, and arrest history. *Journal of Gambling Issues, 24*, 7–32.
- Moore, S. M., & Ohtsuka, K. (1999). The prediction of gambling behaviour and problem gambling from attitudes and perceived norms. *Social Behaviour and Personality: An International Journal, 27*(5), 455-466.
- Mwadime, A. (2017). *Implications of Sports Betting In Kenya: Impact of Robust Growth of the Sports Betting Industry*. (Unpublished doctoral dissertation). United States International University-Africa.
- National Research Council. (1999). *Pathological Gambling: A Critical Review*. Washington, D.C.: National Academy Press.
- Neighbors, C., & Larimer, M. E. (2004). Self-determination and problem gambling among college students. *Journal of Social and Clinical Psychology, 23*(4), 565-583.
- Neighbors, C., Lostutter, T. W., Crouce, J. M., & Larimer, M. E. (2002). Exploring college student gambling motivation. *Journal of Gambling studies, 18*(4), 361-370.
- Neighbors, C., Lostutter, T. W., Whiteside, U., Fossos, N., Walker, D. D., & Larimer, M. E. (2007). Injunctive norms and problem gambling among college students. *Journal of Gambling Studies, 23*(3), 259-273.

- New York Times (2018, June). *New Jersey legalizes sports betting*
<https://www.nytimes.com/2018/06/11/nyregion/sports-betting-legalized-nj.html>
- Nonis, S. A., & Hudson, G. I. (2010). Performance of college students: Impact of study time and study habits. *Journal of education for Business*, 85(4), 229-238.
- Nower, L., & Blaszczynski, A. (2016, December 12). Development and validation of the Gambling Pathways Questionnaire (GPQ). *Psychology of Addictive Behaviours*. Advance online publication. <http://dx.doi.org/10.1037/adb0000234>
- Nower, L., Gupta, R., Blaszczynski, A., & Derevensky, J. (2004). Suicidality and depression among youth gamblers: A preliminary examination of three studies. *International Gambling Studies*, 4(1), 69-80.
- Nuthana, P. G., & Yenagi, G. V. (2009). Influence of study habits, self-concept on academic achievement of boys and girls. *Karnataka Journal of Agricultural Sciences*, 22(5), 1135-1138.
- Nzimande, S., Louw, S., Mannya, C., Bodasing, A., & Ludin, A. (2010). *Review of the South African gambling industry and its regulation: A report prepared by the Gambling Review Commission. Final report submitted to the Minister of Trade and Industry.* <https://www.pmg.org.za>
- Ofosu, A., & Kotey, R. (2020). Does sports betting affect investment Behaviour? Evidence from Ghanaian sports betting participants. *Journal of Gambling Issues*, 43, 61-83

- Ogden, J. (2003). Some problems with social cognition models: a pragmatic and conceptual analysis. *Health psychology, 22*(4), 424-443.
- Oh, B. C., Ong, Y. J., & Loo, J. M. (2017). A review of educational-based gambling prevention programs for adolescents. *Asian Journal of Gambling Issues and Public Health, 7*(1), 1-16.
- Oh, H., & Hsu, C. H. (2001). Volitional degrees of gambling behaviours. *Annals of Tourism Research, 28*(3), 618-637.
- Ohene, J. (2010). *Achieving self-esteem: Guidelines for students* (2nd ed.). Cape Coast: University Press.
- Osa-Edoh, G. I., & Alutu, A. N. G. (2012). A survey of students study habits in selected secondary schools: Implication for counselling. *Current Research Journal of Social Sciences, 4*(3), 228-234.
- Patall, E. A., Cooper, H., & Robinson, J. C. (2008). The effects of choice on intrinsic motivation and related outcomes: A meta-analysis of research findings. *Psychological Bulletin, 134*(2), 270-300.
- Petry, N. M. (2005). *Pathological gambling: Etiology, comorbidity, and treatment* (Vol. 2). Washington, DC: American Psychological Association.
- Petry, N. M., & Weinstock, J. (2007). Internet gambling is common in college students and associated with poor mental health. *American Journal on Addictions, 16*(5), 325-330.
- Plant, M. A., & Plant, M. (2006). *Binge Britain: Alcohol and the national response*. Oxford, Britain: Oxford University Press.
- Powell, R. R., & Connaway, L. S. (2004). *Basic research methods for librarians* (4th ed.). London, Britain: Libraries Unlimited.

- Productivity Commission. (2010). *Gambling, Report no.50*. Productivity Australia, Canberra: Commission
- Rodriguez, L. M., Neighbors, C., Rinker, D. V., & Tackett, J. L. (2015). Motivational profiles of gambling behaviour: Self-determination theory, gambling motives, and gambling behaviour. *Journal of Gambling Studies*, 31(4), 1597-1615.
- Rossen, F. V., Clark, T., Denny, S. J., Fleming, T. M., Peiris-John, R., Robinson, E., & Lucassen, M. F. (2016). Unhealthy gambling amongst New Zealand secondary school students: An exploration of risk and protective factors. *International Journal of Mental Health and Addiction*, 14(1), 95-110.
- Ryan, R. M., & Deci, E. L. (2008). A self-determination theory approach to psychotherapy: The motivational basis for effective change. *Canadian Psychology/Psychologie Canadienne*, 49(3), 186-193.
- Ryan, R. M., & Deci, E. L. (2015). Self-determination theory. *Elsevier Ltd*, 11, 7886-7888.
- Salonen, A. H., Hellman, M., Latvala, T., & Castrén, S. (2018). Gambling participation, gambling habits, gambling-related harm, and opinions on gambling advertising in Finland in 2016. *Nordic Studies on Alcohol and drugs*, 35(3), 215-234.
- Sammut, M. (2010). *The Prevalence of Gambling among University Students: With a Focus on Internet Gambling*. (Unpublished thesis). Faculty of Education the University of Malta, Malta.
- Sayette, M. A. (2004). Self-regulatory failure and addiction. *Handbook of self-regulation*, 447-465.

- Schwartz, B. (2009). Incentives, choice, education and well-being. *Oxford Review of Education*, 35(3), 391-403.
- Schwartz, D. (2013). *Roll the bones: the history of gambling*. Winchester Books. <https://www.digitalscholarship.unlv.edu>
- Segerstrom, S. C., & Nes, L. S. (2006). When goals conflict but people prosper: The case of dispositional optimism. *Journal of Research in Personality*, 40(5), 675-693.
- Sewor, S. (2019). *The gaming industry in Ghana: casino employment and its direct benefit to residents of host communities: A study of casino employment in Osu*. (Unpublished doctoral dissertation). University of Ghana.
- Shaffer, H. J., & Bethune, W. (2000). Introduction: youth gambling. *Journal of Gambling Studies*, 16(2-3), 113-121.
- Shen, Y., Kairouz, S., Nadeau, L., & Robillard, C. (2015). Comparing problem gamblers with moderate-risk gamblers in a sample of university students. *Journal of Behavioural Addictions*, 4(2), 53-59.
- Shinaprayoon, T., Carter, N. T., & Goodie, A. S. (2017). The Modified Gambling Motivation Scale: Confirmatory factor analysis and links with problem gambling. *Journal of Gambling Issues*, 37, 108-135.
- Slovic, P., Finucane, M. L., Peters, E., & MacGregor, D. G. (2007). The affect heuristic. *European Journal of Operational Research*, 177(3), 1333-1352.

- Slovic, P., Finucane, M., Peters, E., & MacGregor, D. G. (2002). Rational actors or rational fools: Implications of the affect heuristic for behavioural economics. *The Journal of Socio-Economics*, 31(4), 329-342.
- Slovic, P.; Finucane, M.; Peters, E.; & MacGregor, D. (2004). Risk as analysis and risk as feelings: Some thoughts about affect, reason, risk, and rationality. *Risk Analysis*, 24(2), 311–322.
- Smith, G., Hodgins, D., & Williams, R. (2007). *Research and measurement issues in gambling studies*. Bingley, UK: Emerald Publishing Ltd.
- Sopon, D. (2017). Time management in universities-best practices and future developments. *Managerial Challenges of the Contemporary Society. Proceedings*, 10(1), 89-94.
- Ssewanyana, D., & Bitanihirwe, B. (2018). Problem gambling among young people in sub-Saharan Africa. *Frontiers in Public Health*, 6, 23-24.
- Sullo, R. (2007). *Activating the desire to learn*. Alexandria, VA: Association for Supervision and Curriculum.
- Sutton, S. (1998). Predicting and explaining intentions and behaviour: How well are we doing? *Journal of Applied Social Psychology*, 28(15), 1317-1338.
- Tabachnick, B. G., & Fidell, L. S. (1996). *Using multivariate statistics*. Northridge, CA: Harper Collins.
- Tabachnick, B. G., Fidell, L. S., & Ullman, J. B. (2007). *Using multivariate statistics*. Boston, MA: Pearson.
- University of Cape Coast (2018). *Admission brochure*. Cape Coast, UCC: University Printing Press.

- Vadillo, M. A., Gold, N., & Osman, M. (2016). The bitter truth about sugar and willpower: The limited evidential value of the glucose model of ego depletion. *Psychological Science*, 27(9), 1207-1214.
- van der Maas, M., Mann, R. E., Turner, N. E., Matheson, F. I., Hamilton, H. A., & McCready, J. (2018). The prevalence of problem gambling and gambling-related behaviours among older adults in Ontario. *Journal of Gambling Issues*, 39, 361-363.
- Verbeke, E. M., & Dittrick-Nathan, K. (2007). Student gambling. Principal Leadership. "How close is my state to legalizing sports betting?" <https://www.nefamilies4kids.org>
- Vitaro, F., Brendgen, M., Girard, A., Dionne, G., & Boivin, M. (2018). Longitudinal links between gambling participation and academic performance in youth: a test of four models. *Journal of Gambling Studies*, 34(3), 881-892.
- Vitaro, F., Marschall-Lévesque, S., Castellanos-Ryan, N., & Séguin, J. R. (2014). Moderators of the association between peer and target adolescent substance use. *Addictive Behaviours*, 39(1), 48-70.
- Wardle, H., Moody, A., Spence, S., Orford, J., Volberg, R., Jotangia, D., Griffiths, M., Hussey, D., & Dobbie, F. (2007). *British gambling prevalence survey 2007*. London, UK: The Stationery Office.
- Weinstock, J., Ledgerwood, D. M., & Petry, N. M. (2007). Association between post treatment gambling behaviour and harm in pathological gamblers. *Psychology of Addictive Behaviours*, 21(2), 185-187.

Weinstock, J., Whelan, J. P., Meyers, A. W., & McCausland, C. (2007). The performance of two pathological gambling screens in college students. *Assessment, 14*(4), 399-407.

White, J. C. (2005). Warning: Psychiatry can be hazardous to your mental health. Primary care companion. *Journal of Clinical Psychiatry, 7*(2), 76-78.

Wiersma, W., & Jurs, S. (2009). *Research methods in education: An introduction*. Boston, NY: Pearson.

Williams, R. J., Belanger, Y. D., & Prusak, S. Y. (2016). Gambling and problem gambling among Canadian urban aboriginals. *The Canadian Journal of Psychiatry, 61*(11), 724-731.

Williams, R. J., Connolly, D., Wood, R. T., & Nowatzki, N. R. (2006). Gambling and problem gambling in a sample of university students. <https://opus.uleth.ca/bitstream/handle/10133/377/>

Williams, R. J., Volberg, R. A., & Stevens, R. M. (2012). *The population prevalence of problem gambling: Methodological influences, standardized rates, jurisdictional differences, and worldwide trends*. Canada: Ontario Problem Gambling Research Centre.

Winters, K. C., Stinchfield, R. D., Botzet, A., & Anderson, N. (2002). A prospective study of youth gambling behaviours. *Psychology of Addictive Behaviours, 16*(1), 3-4.

Winters, K. C., Stinchfield, R. D., Botzet, A., & Slutske, W. S. (2005). Pathways of Youth Gambling Problem Severity. *Psychology of Addictive Behaviours, 19*(1), 104-105.

- Wohl, M. J., & Enzle, M. E. (2003). The effects of near wins and near losses on self-perceived personal luck and subsequent gambling behaviour. *Journal of Experimental Social Psychology, 39*(2), 184-191.
- Wong, I. L. K. (2010). Gambling behaviour among underage adolescents in Hong Kong. *Asian Journal of Gambling Issues and Public Health, 1*(1), 47-60.
- Wood, R. T., Griffiths, M. D., & Parke, A. (2007). Experiences of time loss among videogame players: An empirical study. *Cyberpsychology & behaviour, 10*(1), 38-44.
- Wood, W., & Neal, D. T. (2016). Healthy through habit: Interventions for initiating and maintaining health behaviour change. *Behavioural Science & Policy, 2*(1), 71-83.
- Wu, A. M., Tao, V. Y., Tong, K. K., & Cheung, S. F. (2012). Psychometric evaluation of the inventory of Gambling Motives, Attitudes and Behaviours (GMAB) among Chinese gamblers. *International Gambling Studies, 12*(3), 331-347.
- Yip, S. W., Desai, R. A., Steinberg, M. A., Rugle, L., Cavallo, D. A., Krishnan-Sarin, S., et al. (2011). Health/functioning characteristics, gambling behaviours, and gambling related motivations in adolescents stratified by gambling problem severity: Findings from a high school survey. *American Journal on Addictions, 20*(6), 495-508.
- Yip, S. W., Steinberg, M. A., Wampler, J., Hoff, R. A., Krishnan-Sarin, S., & Potenza, M. N. (2017). Relationships between perceived family gambling and peer gambling and adolescent problem gambling and binge-drinking. *Journal of Gambling Studies, 33*(4), 1169-1185.

Zajonc, R. B. (1980). Feeling and thinking: Preferences need no inferences.

American Psychologist, 35(2), 151–175.

Zhang, K. (2018). Theory of planned behaviour: Origins, development and

future direction. *International Journal of Humanities and Social*

Science Invention, 7(5), 76-83.

Internet Sources

<http://www.psychcentral.com/news/2016/02/05/teen-gambling-linked-to-risky-behaviours/98702.html>

<https://www.betting.companiesghana.com>

<https://www.en.wikipedia.org/gambling>

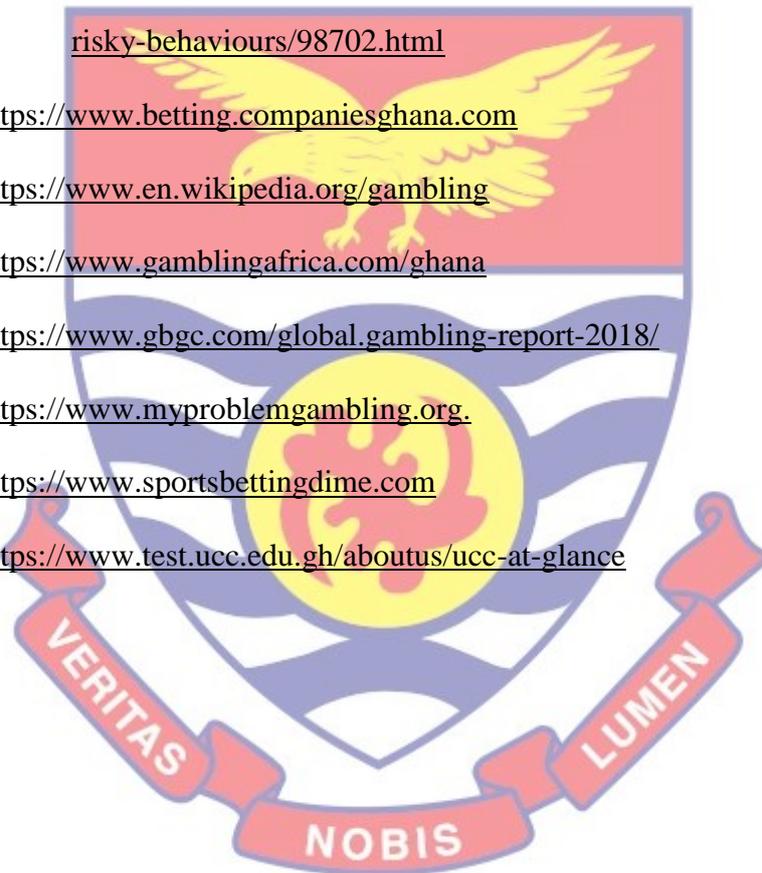
<https://www.gamblingafrica.com/ghana>

<https://www.gbgc.com/global-gambling-report-2018/>

<https://www.myproblemgambling.org>

<https://www.sportsbettingdime.com>

<https://www.test.ucc.edu.gh/aboutus/ucc-at-glance>



APPENDIX A

COLLEGE OF EDUCATION STUDIES

FAULTY OF EDUCATIONAL FOUNDATIONS

DEPARTMENT OF PSYCHOLOGY AND EDUCATION

QUESTIONNAIRE ON PROBLEM GAMBLING

Dear Respondent,

This questionnaire seeks your view on the topic: *Problem gambling correlates and their effects on study habits of students' sport bettors in the University of Cape Coast*. The purpose of this study is to examine problem gambling in relation to student study habits among university students' sports bettors in the University of Cape Coast. The study is purely for academic purpose. Hence the honest and sincere response you give will contribute a lot to the study.

Your identity will be held in confidence to the information given.

Tick (✓) an appropriate response where applicable.

SECTION A: Background Information

1. **Sex:** Male Female

2. **Affiliated Hall:**

Kwame Nkrumah Hall Oguaa Hall Adehye Hall

Atlantic Hall Casley Hayford Hall Valco Hall

Superannuation Hall

3. **College:**

"College of Education Studies"

"College of Health and Allied Sciences"

"College of Humanities and Legal Studies"

"College of Agriculture and Natural Science"

Section B: Prevalence of Problem Gambling, Non-Problem Gambling and Correlate Gambling behaviours.

For the following items, indicate the extent to which each item applies to **you** in the past 12 months by **ticking (√)** the appropriate box.

1. Have you bet or spent money on sport betting?

Yes No

2. How often did you bet or spend money on sport betting?

Daily 2-6 times/week
 About once/week 2-3 times/month
 About once/month between 6-11 times in a year
 “Between 1-5 times/year “ never in the past 12months

3. “When spending money on sport betting, how many minutes/hours do you normally spend each time?

4. How much money, not including winnings, did you spend on sport betting in a typical month?

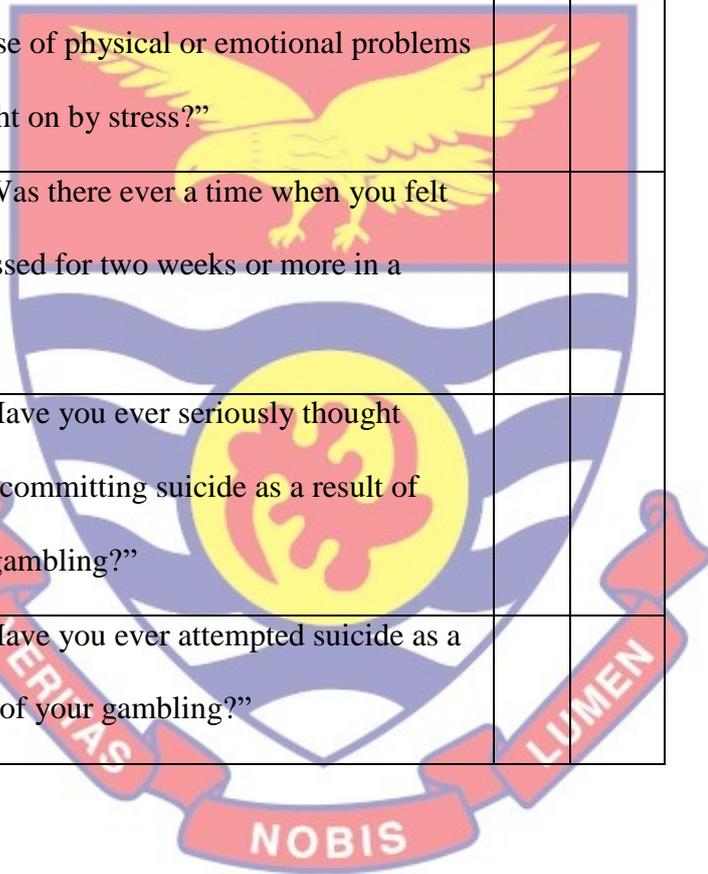
5. “What is the largest amount of money you ever spent on sport betting in any one day?

Preamble: Problem Gambling Behaviour	<i>Never</i>	<i>Sometimes</i>	<i>Most of the time</i>	<i>Almost always</i>
6. “How often have you bet more than you could really afford to lose?”				
7. “How often have you bet or spent more money than you wanted to on gambling?”				
8. “How often have you needed to gamble				

with larger amounts of money to get the same feeling of excitement?"				
9. "How often have you gone back another day to try to win back the money you lost?"				
10. "How often have you borrowed money or sold anything to get money to gamble?"				
11. "How often have you lied to family members or others to hide your gambling?"				
12. "How often have you felt that you might have a problem with gambling?"				
13. "How often have you felt like you would like to stop betting money or gambling, but you didn't think you could?"				
14. "How often have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?"				
15. "How often have you felt guilty about the way you gamble or what happens when you gamble?"				
16. "How often has gambling caused you any health problems, including stress or anxiety?"				
17. "How often has your gambling caused any financial problems for you or your household?"				

Preamble: Problem Gambling Correlates				
	<i>Strongly agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly disagree</i>
18. "After losing many times in a row, you are more likely to win."				
19. "You could win more if you use a certain system or strategy."				
	<i>Yes</i>	<i>No</i>		
20. "Do you remember a big WIN when you first started gambling?"				
21. "Do you remember a big LOSS when you first started gambling?"				
22. "Has anyone in your family EVER had a gambling problem?"				
23. "Has anyone in your family EVER had an alcohol or drug problem?"				
24. "Have you used alcohol or drugs while gambling?"				
25. "Have you gambled while drunk or high?"				
26. "Have you felt you might have an alcohol or drug problem?"				
27. "If something painful happened in your life, did you have the urge to gamble?"				

<p>28. “If something painful happened in your life, did you have the urge to have a drink?”</p>		
<p>29. “If something painful happened in your life did you have the urge to use drugs or medication?”</p>		
<p>30. “Have you been under any special care because of physical or emotional problems brought on by stress?”</p>		
<p>31. “Was there ever a time when you felt depressed for two weeks or more in a row?”</p>		
<p>32. “Have you ever seriously thought about committing suicide as a result of your gambling?”</p>		
<p>33. “Have you ever attempted suicide as a result of your gambling?”</p>		



Section C: Motivation for Sports Gambling

For the following items, please select the response which best expresses your reason about each statement by **ticking** (√) the appropriate box. Indicate the extent to which you agree or disagree to the statements in section using the guide below:

Preamble: Why do you sport bet?	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly agree</i>
1. "It is exciting to sport bet"				
2. "It makes me feel important."				
3. "I feel competent when I sport bet."				
4. "It is the best way to relax."				
5. "I play for money, but I sometimes worry if I should continue playing."				
6. "Sport bet allows me to test my control."				
7. "I play for money, but I sometimes wonder what I get out of sport bet."				
8. "I play for money."				
9. "To show others that I am a dynamic person."				
10. "I enjoy improving my knowledge of the game."				
11. "I play for money to buy what I desire."				
12. "It allows me to enjoy myself enormously."				

13. "It is the best way I know to eliminate tension."				
14. "I experience strong sensations when I gamble."				
15. "I enjoy learning new strategies."				
16. "I want to be envied by others."				
17. "It is my hobby to clear my mind."				
18. "I enjoy knowing my ability in this game."				
19. "I like it when I can control the game."				
20. "I am curious to know what will happen in the game."				
21. "I play for money, but I sometimes feel I do not get a lot out of it."				
22. "It is quick and easy money."				
23. "It is the best way to spend time with friends."				
24. "It gives me a feeling of control."				
25. "I play for money, but I sometimes wonder if it is good for me."				
26. "I feel important when I win."				
27. "It makes me a lot of money."				
28. "It gives me a thrill or strong sensation."				

Section D: Study Habit of students sports bettors.

Read and make sure you understand each item and tick (√) an item as it applies you.

Allotment of Time	<i>Very true</i>	<i>True</i>	<i>Some-what true</i>	<i>Not true</i>	<i>Not at all true</i>
1. "I spend much more time reading the course I like and very little time for other courses."					
2. "I hate studying courses I find difficult."					
3. "I do not give enough time to study my major courses."					
4. "I am not able to study up to three hours a day."					
5. "The courses I dislike, do not receive much of my study time."					
6. "I do not have a personal study timetable."					
7. "Even though my desire is to study on my own constantly, I find it difficult to do so."					
8. "Within a week, I spend far more time on extracurricular activities (e.g., Religious, sport activities) than my studies."					
Concentration					
9. "Whenever I read, I am unable to bring all my attention on the subject."					

10. "The place I do my private studies is most often noisy. This disturbs my concentration."					
11. "I am easily attracted to the TV and other activities whenever I sit to study."					
12. "When my mind begins to wander, while studying, I find it difficult to bring it back to the subject."					
13. "I am unable to read for more than thirty minutes at a time."					
14. "When I am studying, I tend to stop and worry about personal problems."					
15. "I am fond of day-dreaming during my studies."					
16. "Whenever I take a book to read, I doze off (fall asleep)."					
Consultation					
17. "When I don't understand some aspect of a lecture, I find it difficult to ask the lecturer to explain."					
18. "I am not used to calling my friends together to solve difficult academic problems."					
19. "I don't like asking lecturers questions."					
20. "I prefer finding answers from books to receiving them from friends."					

21. "I often rely on my lecture notes without consulting mates, lecturers or books for further ideas."					
22. "I don't have a study group."					
23. "I don't ask my friends to explain difficult points to me."					
24. "I do not feel comfortable asking friends to teach me something."					
Procedure in Studying					
25. "I tend to start my studies when all my books, pens, note books have not been put together"					
26. I do not keep away phones, magazines or newspapers from my table while studying					
27. "I do not plan whatever I want to study before I begin studying. This wastes my study time."					
28. "I usually do not answer questions at the end of a chapter or a section of a book I read."					
29. "When I do not understand a word I do not look it up from the dictionary"					
30. "When I meet graphs, pictures, charts and tables in my reading I tend to skip					

them.”					
31. “I don’t take my time to read through and understand material assigned to me.”					
32. “I do not exert myself to do any further readings or studies beyond what my lectures give.”					
Reading and Library Use					
33. “I find it difficult to remember what I read.”					
34. “I do not glance (look) through a chapter of a book before I begin to read it.”					
35. “I usually find it difficult to get the main ideas from a passage I read.”					
36. “I tend to read a passage two or three times before understanding it somewhat.”					
37. “I am not in the habit of looking for a book in the library to help me do my assignment.”					
38. “I am not used to going to the university library to read or borrow books.”					
39. “I do not like reading. It is boring to me”.					
40. “If I happen to borrow a book from the library I often do not read much of it”.					

APPENDIX B

ETHICAL CLEARANCE

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
ETHICAL REVIEW BOARD

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref: CES-ERB/ucc.edu/14/20-20
Your Ref:



Date: 12th March, 2020

Dear Sir/Madam,

ETHICAL REQUIREMENTS CLEARANCE FOR RESEARCH STUDY

Chairman, CES-ERB
Prof. J. A. Omatosho
jomatosho@ucc.edu.gh
0243784739

Vice-Chairman, CES-ERB
Prof. K. Edjah
kedjah@ucc.edu.gh
0244742357

Secretary, CES-ERB
Prof. Linda Dzama Forde
lforde@ucc.edu.gh
0244786680

The bearer, Pious Tojo Adu-Akoh, Reg. No EE/PPE/18/0010 is an M.Phil. / ~~Ph.D.~~ student in the Department of Education and Psychology in the College of Education Studies, University of Cape Coast, Cape Coast, Ghana. He / ~~She~~ wishes to undertake a research study on the topic:

Prevalence, motivation, correlate behaviours of problem gambling and its effects on study habits of student sports bettors of the University of Cape Coast.

The Ethical Review Board (ERB) of the College of Education Studies (CES) has assessed his/~~her~~ proposal and confirm that the proposal satisfies the College's ethical requirements for the conduct of the study.

In view of the above, the researcher has been cleared and given approval to commence his/~~her~~ study. The ERB would be grateful if you would give him/~~her~~ the necessary assistance to facilitate the conduct of the said research.

Thank you.
Yours faithfully,

Prof. Linda Dzama Forde
(Secretary, CES-ERB)