Journal of Education and Practice
ISSN 2222-1735 (Paper) ISSN 2222-288X (Online)
Vol.14, No.5, 2023

Student Gambling: Involvement and Prevalence of Problem Gambling among Sports Bettors of the University of Cape Coast, Ghana

Pious Jojo Adu-Akoh[1*] Eugene Kwarteng-Nantwi[2]
1. Department of Education and Psychology, University of Cape Coast, Ghana
2. Counselling Centre, University of Cape Coast, Ghana
* E-mail of the corresponding author: pious.aduakoh@stu.ucc.edu.gh

The research was financed by the authors but we also acknowledge the efforts of individuals who reviewed and helped in the data collection and participants who attended to our questionnaires.

Abstract
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. Hence, the purpose of this study was to investigate the involvement, prevalence and counselling implication of problem gambling among student sports bettors of the University of Cape Coast. The study explored the various sub-types of gambling that students are involved in and are prevalent in the University. The Pathways Model of Blaszczynski and Nower was used in identifying subtypes of problem gamblers. A descriptive survey design was adopted for the study. A sample size of 351 was used from four colleges of the University of Cape Coast. The researchers further used disproportionate stratified sampling technique to draw from each college the number required for the study. The Canadian Problem Gambling Index on a whole recorded Cronbach alpha value of .81. Means, standard deviation and percentages were used in the data analysis. It was found that non-problem gamblers and problem gamblers were most prevalent among the sub-types. Also, students were found to involve in gambling mostly twice or more in a week. On timely basis, 25mins or more were spent on sports betting. It was recommended among other things that a proposed 'Gaming Research Unit' under the auspices of the Department of Education and Psychology, should be set up to ensure the screening of students who are low-risk, moderate-risk or problem gambler and referred them for guidance and counselling and also organise gambling educational programmes and awareness seminars in the University of Cape Coast.
Keywords: Problem Gambling, Sports bettors, Prevalence, Student gambling, Involvement
DOI: 10.7176/JEP/14-5-01
Publication date: February 28th 2023

1. Introduction

In the manufacturing sector today, human capital is still essential for most factories to carry out a variety of 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. 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).

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) 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 stated by 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 " the 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 universities. 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 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 Mawejje (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 belief 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, 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. 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".

From literature, the researchers sought to investigate the involvement, prevalence and implication for counselling of student problem gambling in the University of Cape Coast.

1.1 Research Question

What is the prevalent rate of problem gambling among UCC students?

2. William Glasser Choice Theory (1999)

Though this theory is heavily criticised (White, 2005). For the purpose of this research, 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).

2.1 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.

2.2 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, month, 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."

2.3 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.

2.4 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 change 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.

3. Blaszczynski and Nower Problem and Pathological gambling Model

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.

3.1 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).

3.2 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).

3.3 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 shows Problem and Pathological Gambling Model of Blaszczynski and Nower (2002).

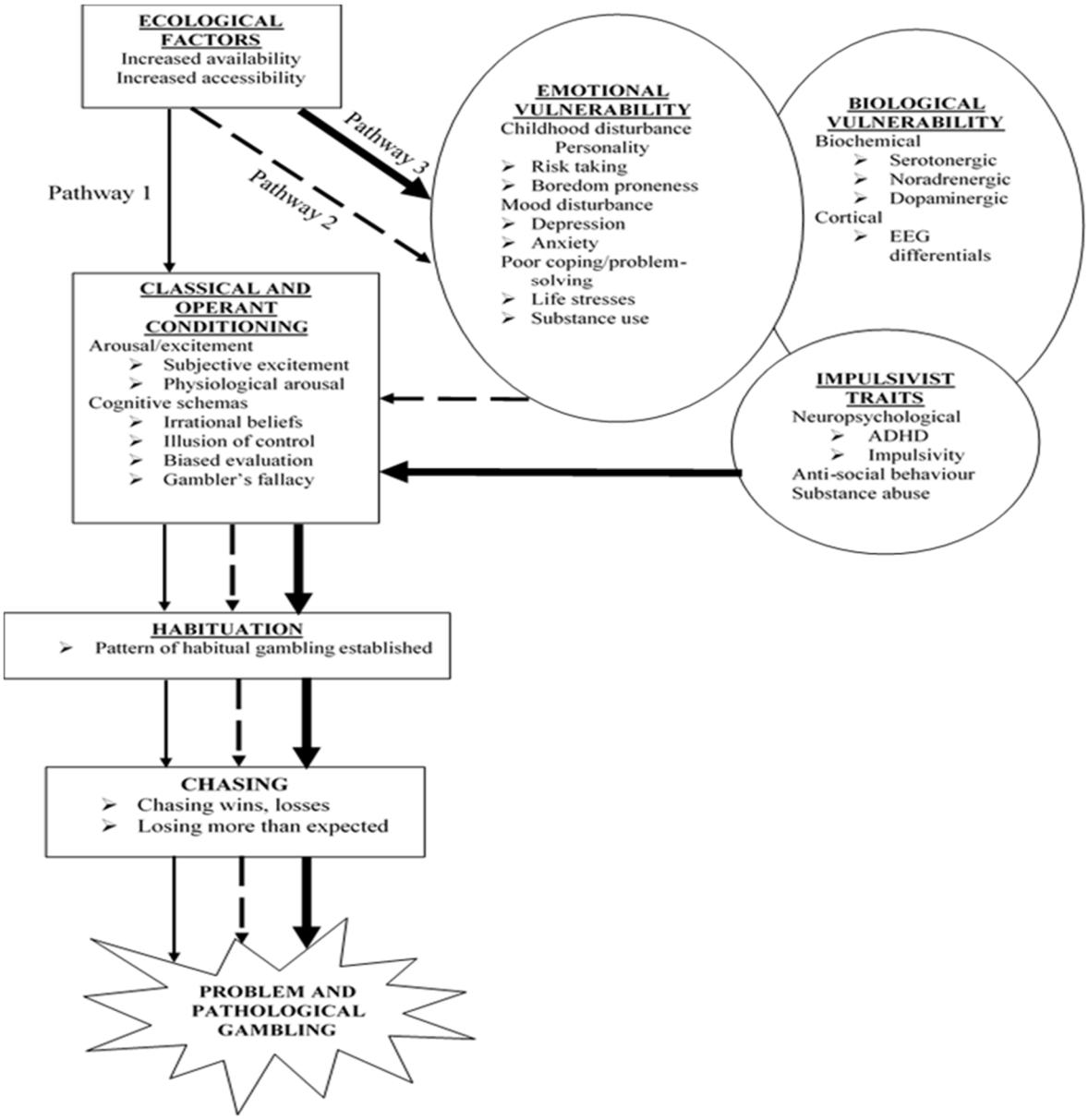

Figure 1: Problem and Pathological Gambling Model of Blaszczynski and Nower (2002)

4. Methodology

4.1 Research Design

Descriptive survey design was used in the study. In descriptive design research, the nature of a certain phenomenon is defined and events are determined and reported the way they exist. 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."

4.2 Population and Sampling Procedure

The accessible population for the study were all level 400 students (4,172) of the University of Cape Coast. This sample was selected because they have spent 4 years on the university's campus and are well acquainted with the university's environment. 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." The researchers 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 percentages were surveyed from each college.

4.3 Data Collection Instrument

Questionnaire was used to conduct the study. The Canadian Problem Gambling Index (CPGI) was used in determining the involvement and prevalence of problem gambling. 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.

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.

The Problem Gambling Subtype Index (PGSI) of the CPGI was also used to assess the prevalence rate of problem gambling. 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.

4.4 Data Processing and Analysis

Data collected was processed using the Statistical Product and Services Solution (SPSS) version 22 software. Frequency count and percentages were used to determine the prevalence rate of problem gambling. The results of the 9-items from the four-point Likert scale type were compounded (merged & coded) and computed in order to determine rate of prevalence for the various problem gambling severity or gambler sub-type.

5. Result

The research question 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 type questions were merged and computed so as determine rate of prevalence for the various problem gambling severity or gambler sub-type."

Table 1: 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 1, 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 2: 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 2 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 2, 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 GH¢30-GH¢50, 26(7.4%) spend GH¢60-GH¢100, 23(6.6%) spend GH¢101-GH¢500 within a month. Only 6(1.7%) and 1(0.3%) participant spend between GHc600-GH¢1000 and GH¢1000 and more respectively within a month on sport bets. The results show the various gambling activities among students who engage in sport betting.

6. Discussion

The results from the study indicated that students who bet could be categorized into gambling sub-type. 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 the students very often make time for gambling".

In other 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.

7. Conclusion

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 can also be concluded from the findings that the Choice theory by Glasser was affirmative in the lives of students. The main precept of the choice 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.

8. Implications for Counselling Practice

Counsellors should be abreast that gambling can start from fun to an unhealthy obsession with various consequences. Problem gambling severity can ruin relationships, interfere with academic work, and lead to financial constraints. If counsellors lay this bare to beginners of gambling, it may serve as a deterrent or even preventive measures before it becomes a crisis situation.

There must be occasional outreach guidance programmes organised by the counselling centres/units of the various universities to sensitise the students about the addictive nature of gambling and how problem gambling severity can truncate their education if nothing is done to this phenomenon.

9. Recommendation

The following recommendations are made based on the findings of the study:

From the findings, the researchers recommend 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.

References

Ahaibwe, G., Lakuma, C. P., Katunze, M., & Mawejje, J. (2016). *Socio-economic effects of gambling: Evidence from Kampala City, Uganda*. Economic Policy Research Centre (126). http://www.ageconsearch.umn.edu

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5thed.) https://www.amberton.edu/media/SyllabiGraduate/CSL6798_E1.pdf

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.

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.

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.

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. *Drugand Alcohol Dependence*, *179*, 280-290.

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.

Ferris, J. A., & Wynne, H. J. (2001). *The Canadian problem gambling index*. Canadian Centre on Substance Abuse.

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

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.

Griffiths, M. (2009). *Problem gambling in Europe: An overview*. 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., 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.

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.

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.

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.

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.

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.

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.

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., & Weinstock, J. (2007). Internet gambling is common in college students and associated with poor mental health. *American Journal on Addictions*, *16*(5), 325-330.

Productivity Commission. (2010).*Gambling, Report no.50*. Productivity Australia, Canberra: Commission 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

Schwartz, B. (2009). Incentives, choice, education and well‐being. *Oxford Review of Education*, *35*(3), 391-403.

Sullo, R. (2007). *Activating the desire to learn*. Alexandria, VA: Association for Supervision and Curriculum.

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

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

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.

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.

Adu-Akoh, P. J., is a graduate student of the University of Cape Coast, department of Education and Psychology. He is a student speaker on topics ranging from human relationships to students study habits. He not a professional counsellor but is noted for giving para-counselling to students and individuals within his domain. His research interests are among the following: student's behaviours (student's gambling, study skills) and human relationships (psycho-social wellbeing etc.). Currently, he volunteer his time in assisting Dr. Eugene Kwarteng-Nantwi of the Counselling Centre, UCC.

Kwarteng-Nantwi, E., is a lecturer and a Counselling Psychologist in the Counselling Center of the University of Cape Coast. He had his PhD, M.Ed and B.Ed (Psychology) in 2019, 2012 and 2001 respectively all at the University of Cape Coast. Both PhD and masters are in Guidance and Counselling. His areas of research include stress management and adjustment needs of international students.