Sports Betting and Depression among Youths in the South-South Region of Nigeria

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BACKGROUND: It has been noted that those addicted to gambling are at a high risk of developing mental health problems such as depression. **AIMS:** This study was designed to determine the effect of participating in sports betting on depression of young people in Nigeria. **METHODS:** This study adopted a cross-sectional respondent-driven approach to study 286 youths who have engaged in sports betting in Nigeria, using Yenagoa city in Bayelsa State as a case study from September to November 2020. Primary data for this study was sourced mainly through the use of a questionnaire, while data collected from the field was analysed using descriptive and bivariate statistics. **RESULTS:** Findings from the study indicated that the mean age of the respondents was 23 years. Also, the two main types of sports betting were live football and virtual football matches. The study again, revealed that majority of the respondents patronised Betking and Bet9ja as their major sports betting centre. It was also found that there is a significant association between sport betting and depression among youths (X^2 = 71.188); estimated amount placed per gamble and depression (X^2 = 168.338); length of time of engagement in sport betting and depression (X^2 = 165.553); number of time engaged in sport betting per month and depression (X^2 = 41.875); football leagues bet on and depression (X^2 = 41.223); device used in sports betting and depression (X^2 = 71.188); and gambling firms used and depression (X^2 = 71.188). **CONCLUSIONS:** The study concluded that there is a need for proper sensitisation of youths on the best practices of engaging in sports betting, while more emphasis is laid on initiating youth empowerment programmes in the South-South region.

Keywords | Betking – Bet9ja – Depression – Sports Betting – Youths

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1 INTRODUCTION

With the growing economic crises and the unemployment rate in most countries, many youths are now involved in one form of gambling or the other. Thus, gambling is fast taking shape into the mainstream society we find ourselves in through entertainment, sports and other leisure culture. Gambling comes in different forms ranging from, sports betting, lottery, pool, casinos, video games, etc. Nevertheless, the harm that this might have on the health (especially psychological health) of the youth could be devastating. According to Winters et al. (2017), the process of betting or wagering anything of worth on an activity with an unknown conclusion with the purpose of winning additional money or valuable items than was wagered. The also added that gambling entails putting something valuable, such as money, at risk in the expectation of receiving more than you put up.

Welte et al. (2011) stated that approximately 64–73% of those aged 18–24 participate in gambling activity globally. Also, Afifi et al. (2010) estimated that, 2.7% of women and 4.9% of men in the adult population have mild to severe addiction to gambling problems. Among adolescents and young people, studies have noted that gambling related-problems increased in adolescence, peaking in the early twenties before declining in the late twenties (Gambling Commission, 2022). Specifically, it was found out that in the United States, about 60% of 14–15-year-olds were reported as gamblers in the previous year, while this number increased to 72% for those aged between 20–21 years. They also found that previous year gambling peaked in people aged between 22 to 30, while problem gambling peaked between ages 31 and 41.

In fact, studies during the coronavirus outbreak estimated that those involved in online gambling may have been at increased risk for gambling-related depression, as blocking can exacerbate established risk factors for gambling disorder, including lack of social support, social withdrawal, financial insecurity, and boredom (van Schalkwyk, 2020; Sharman et al., 2021).

It is reported that the result of gambling is often a disorder related to a range of both intrinsic and extrinsic morbidities such as anxiety, mood disorder and substance use (Masaba et al., 2016). In confirmation of this, Cook et al. (2014) stated that various disorders associated with gambling problems included anxiety disorder, depression, attention-deficit hyperactivity disorder, substance abuse, and suicide. Additionally, it is estimated that more than half of those who indulged in gambling exhibit poor degree or fair physical and emotional health related problems (Masaba et al., 2016). Furthermore, some studies have noted those participating in betting related gambling have a higher probability of developing mental health related problems like depression (Chou & Afifi 2011; Pilver et al., 2013). Gambling problem refers to gambling behaviour that hurts the gambler, friends, family and the community (Dowling et al., 2019). Also, Shand (2019) noted that adolescent gambling can lead to other psychological-related issues later in their lives. Gambling has been noted to be symptomatic and is associated with risky behaviour in general (Lowry, 2020).

Though studies like those of Oyebisi et al. (2012), Gupta and Derevensky (2000), and others have explored and focused their attention on gambling, their finding lacks vital information on all forms of gambling, thus they have not established any association between sports betting and depression among youths, especially within the developing countries like Nigeria. Thus, there is a need for a paradigm shift in the study of gambling-related health behaviour and disorder. The closest empirical study on gambling behaviour and mental health problems includes those of Sagoe et al. (2017) on "mental health symptoms and gambling behaviour in the transition from adolescence to emerging adulthood", Eboh (2015) on the "prevalence and determinants of gambling behaviours among undergraduate students in Federal University, Oye Ekiti", and Bergamini et al. (2018), on "at-risk gambling in patients with severe mental illness".

Though the studies highlighted above have made very valid contributions to the topic under discussion, they have failed to account for how sports betting might be related to the depression of gamblers, especially in a developing country like Nigeria. Given the gap identified in the above studies, this study has been designed to investigate sports betting and its impact on the depression of youths using Yenagoa metropolis in Bayelsa state of Nigeria as a case study.

1.1 Theoretical framework: the pathway model of gambling behaviour

This study is built on the pathway model of gambling behaviour which was developed by Alex Blaszczynski and Lia Nower (2002). The pathways model argues that trying to impose a single theoretical model to all gambling problems is not a feasible scientific venture. The central argument of the pathway model is that it is misleading to try to impose just one theoretical model on the problem of gambling. Thus, a more effective approach is to recognize the effect of specific subtypes of gamblers, each of which is affected by different factors but exhibits similar phenomenological characteristics. All pathway models are composed of certain processes and symptoms characteristics. These processes and symptoms characteristics are very similar but can be distinguished by verifiable factors. The common starting point for all three pathways should be available freely accessible to those who participate in gambling.

Pathway 1: Behaviourally conditioned problem gamblers

The first pathway believes that those that belong to the subgroup of behaviour-limited gamblers can sometimes meet the formal criteria for pathological gambling, but it is characterized by the absence of any pre-morbid characteristics specific to psychopathology. Essentially, these pathological gamblers fluctuate between the areas of regular/heavy and excessive betting due to the influence of conditioned reflexes, distorted perceptions around the probability of winning, and/or a series of wrong judgments or poor decisions, and not because of poor impaired judgment (Blaszczynski & Nower, 2002).

Pathway 2: Emotionally vulnerable problem gamblers

This subgroup has three factors that are likely to predispose them to the problem of gambling, namely, cognitive schemas, conditioning processes and identical ecological determinants. Those that fall into this sub-group exhibit signs of pre-morbid anxiety, depression, poor coping and problem-solving skills. Factors predisposing these sets of persons to the problem of gambling as noted by this pathway include negative family background experiences, life events and developmental variables. Each of these factors produces an "emotionally vulnerable gambler" whose motivation to participate in gambling is to adjust their emotional state and/or to satisfy specific psychological needs (Blaszczynski & Nower, 2002).

Pathway 3: Anti-social impulsivist problem gamblers

Those that fell into the third pathway of pathological gamblers can be described as highly disturbed individuals who are severely psychosocially disturbed by gambling and are characterized by signs suggesting neurological or neurochemical disorder. Like the second group of gamblers, those belonging to this group are predisposed to gambling by both psychosocial and biologically-based vulnerabilities. However, these subsets of gamblers are known for impulsive and antisocial personality disorders (Steel & Blaszczynski, 1996; Blaszczynski, 1999) and attention deficits (Rugle & Melamed, 1993), manifest multiple severe maladjustment problems. This maladjustment and impulsivity disorder affects many aspects of their general behaviour including the level of psychosocial functions of the gamblers.

This theory could be used to explain how gambling (sports betting) affects depression. Thus, we could infer from the theory that regular/heavy and excessive sports betting resulting from conditioning, distorted cognitions surrounding the probability of winning, and/or a series of bad judgements or poor decision-making propel the sports fans to engage in sustained sports betting. It could be inferred using this theory that engaging in sports betting could lead to an exhibition of high levels of depression and anxiety in response to the financial burden imposed on those who engage in sports betting. Furthermore, path one of this model explains how participants of sports betters could introduce the game. Thus, factors like chance, family members and peers could be deduced to be factors exposing sports gamblers to betting.

Path two of the model could be used to explain why certain psychological factors could be associated with gambling. Hence, in applying this theory we could deduce that psychological dispositions such as negative family background experiences, life events, developmental variables, depression, poor problem-solving skills etc could produce an 'emotionally vulnerable sport's better', whose motivation in participating in sports betting is to modulate and meet certain specific psychological needs.

Path three of this model describes how pathological gamblers could end up with certain psychosocial and biologically-based problems. Therefore, this study in using this theory posits that sports betting could lead to mental health problems such as depression. Also, in applying this theory, it could be construed that sports betting can lead to the characteristics of impulsivity and antisocial personality disorder, as well as attention deficits, which are manifested in a variety of serious maladaptive behaviours and impulses that affect many aspects of the general functional level of those who participate in sports betting. Clinically, we could apply the pathway model to sports gambling disorder because gamblers with a history of impulsivity have been noted to be involved in a wider range of socially disapproved behaviours such as drug abuse, suicidal intention and ideation, low tolerance for boredom, irritability, criminal behaviour, poor interpersonal relations, alcohol abuse and experimentation with multiple drugs.

2 METHODS

This cross-sectional study was carried out among 286 youths aged 15–35 who have engaged in sports betting within the last 12 months. This study was conducted between September to November 2020. The sampling technique for this research was a multi-stage sampling utilising both probabilistic and non-probabilistic sampling techniques. In the first stage, the probabilistic ***single cluster technique*** was used to select 3 main areas within the city, namely: Down town Yenagoa which is made up of communities from Onopa to those across the Goodluck Jonathan bridge, Swali, Azikoro and Agbura, the city centre which consists of communities from Amarata to Edepie, and uptown consisting of communities from Akenpai to Igbogene. In the second stage, the ***simple random sampling*** technique was used to select three communities each in a cluster. Thus, in down town Yenagoa, Azikoro, Famgbe and Swali were randomly selected. In the city centre, Yenezue-Epie, Biogbolo, and Etegwe were randomly selected, while in uptown, Akenpai, Agudama and Igbogene were randomly selected respectively. At this stage, in selecting the respondents for the study, a ***respondent-driven sampling*** technique was used to recruit subjects for the study, where the study began with five participants from the target population in the sports betting centres. After the five selected participants completed their interview process, they were asked to recruit other people like them. The recruits of wave 1 then complete the interview process and recruit Wave 2. This referral chain continues until the desired sample size was reached. In the recruitment process, participants received two incentives: one for completing the interview, and one for each peer that they successfully recruited.

Primary data for this study was gathered through the use of the questionnaire, determined by the overall and specific study objectives. Each objective was represented in each section of the questionnaire design in a closed-ended format. This was designed in sections and in a closed-ended format comprising Sections 'A–E' to address the specific objectives of the study. For example, Section 'A' is designed to elicit information about the demographic profiles of the respondents ranging from the actual age (continues), relationship status (nominal), religious affiliation (nominal), ethnic group (nominal), educational attainment (ordinal), occupational categories (nominal), average income (interval), and current relationship status of parents

(nominal). Section 'B' of the questionnaire captures information on the patterns of sports betting with a focus on the major sporting events respondents bet on, including the duration, frequency and average amount spent on sports betting. Section 'C' of the research instrument concentrated on associated factors relating to sports betting. Hence, information on family history of sports betting, major motivators on sports betting will be sort in this section.

The questions in section "D" are designed to provide answers to questions related to sports betting. In doing so, the Canadian Problem Gambling Index (CPGI) which has been previously used by experts was adopted to assess the patterns and prevalence of gambling over the last 12 months. The CPGI was created specifically to assess gambling problems in Canada. It was severally tested using psychometric techniques during its developmental stages. However, this was slightly modified in the form of the question in this study. In addition, respondents reported how often each of the above behaviours or problems occurred in the past 12 months. The response categories were changed to: never (0), sometimes (1), and, most times (2). Finally, section 'E' explored the depression status of youths involved in sports' betting using Kutcher depression scale with questions like; how often do you feel low mood, sadness or down; how often do you feel irritable or pissed off; how often do you feel worried, nervous, panicky, tense or being anxious etc.

In an attempt to validate the research instruments, a pilot study was conducted with 10% of the sample size in two communities in the city that were not part of the original sample communities where the instruments for the study were administered. Thereafter, adjustments were made, where necessary, before proceeding with the actual study in addition to the suggestions that were made by very senior colleagues. Specifically, the reliability of the quantitative data was determined using Cronbach's alpha coefficient which yielded a value of $\alpha = 0.7$.

The method of analysis was carried out at two levels: univariate and bivariate analysis level. At the univariate level, the simple percentage, distribution tables, charts and mean were used for the analysis of socio-demographic variables of respondents as well as all other variables considered suitable for univariate analysis. The mean was used to analysed construct from Kutcher's Depression Scale (11 items). The mean threshold for acceptance was therefore pegged at 2.50. In other words, any item below 2.50 was rejected and deem not significant. The use of bivariate analysis involves the simultaneous examination of the relationship between two variables. This entailed the use of cross-tabulations with a confidence level of 95% ($p < .05$) as well as graphs to show the relationship between two or more variables. The expected count and proportion in row and column were represented in the analysis.

There are two dependent variables in this study: associated problems with sports' betting and depression. The measurements for associated problems with sports' betting and depression are stated below with the codes showing categorical variables of low experience (0), high experience (1), low depression (0) and high depression (1) respectively. Similarly, the measurements for the main independent and socio-demographic variables are also described with the codes respectively. In assessing the prevalence of depression among the youths who participate in sports betting Kutcher's Depression Scale (11 items) was adopted. In doing this the 4-point Likert scale of 'hardly ever', 'much of the time', 'most of the time' and 'all of the time' were used.

In fulfilling ethical responsibility in this research, ethical clearance was obtained from the Research Ethics Department of the Bayelsa State Ministry of Health, Nigeria with approval number: BSHREC/vol.1/16/110/20. Also, the study followed the outline of the Nigerian National Health Research Ethics Code (NHREC).

3 RESULTS

3.1 Socio-demographic characteristics of the respondents

Table 1 reveals the socio-demographic variables of the respondents which ranged from the age of respondents, marital status, religion, educational level, and average monthly income to occupation. The mean age of the respondents was 23 years while the highest percentage of the age group was 40.2% (20–24). Additionally, an overwhelming number of the respondents were male (94.4%). Still, the majority of the respondents were single (89.9%), while all respondents were affiliated with the Christian religion.

With regards to the ethnic group membership of the respondents, the result revealed that more than half of the respondents were from the Ijo ethnic group (69.9%) (the Ijo ethnic group is the major linguistic group in the south-south part of Nigeria). Educationally, at least one in two of the respondents have tertiary education (50.0%), this is followed by those with secondary education (40.2%). The income distribution indicated that the majority of the respondents earned an average income below N20,000 (80.1%) (approximately $45.70 for the official exchange rate). Finally, the occupation categories of the respondents revealed that more than half of the respondents were students (59.8%).

3.2 Patterns of sports betting

Table 2 shows the distribution of respondents by the association between socio-demographic characteristics and the types of sports engaged in. The result in *Table 2* shows that two major types of sports activities were commonly bet on by the respondents (football and virtual football).

Regarding the association between age group, relationship status, ethnic groups, education, average income, occupation and the type of sports betting engaged in, ***Table 3*** revealed that all socio-demographic variables were significantly associated with types of sports betting among the respondents. Additionally, Table 3 revealed that more than half of the respondents (70.3%), paid less than N500 (about $1.14) for sports betting, while only 30% of the respondents paid about

Table 1 | Socio-demographic characteristics of the respondents

Variables	Frequency (n = 286)	Percentage (%)
Mean age (mean, SD)	22.72	4.85
Age groups		
Less than 15	28	9.8
15 – 19	57	19.9
20 – 24	115	40.2
25 – 29	57	19.9
30 – 34	29	10.1
Gender		
Male	270	94.4
Female	16	5.6
Relationship status		
Single	257	89.9
Married	29	10.1
Religion		
Christianity	286	100
Islam	-	-
Traditionalists	-	-
Ethnic groups		
Igbo/Ikwere	86	30.1
Ijo (Ijaw, Ogbia, Epie, Atisa, Nembe, etc.)	200	69.9
Others	-	-
Educational level		
No formal education	28	9.8
Primary	-	-
Secondary	115	40.2
Tertiary	143	50
Mean monthly income (mean, SD)	N22671.33	N29425.02
Monthly income		
Low income (N 20000)	229	80.1
Medium income (N20000–N49999)	-	-
High income (N50000 and above)	57	19.9
Occupation		
Civil service	29	10.1
Studentship	171	59.8
Trading	29	10.1
Unemployed	57	19.9

Table 2 | Distribution of the respondents by the association between socio-demographic characteristics and the type of sport engaged in

Variable	Sport engaged in		
	Football (%)	**Virtual football (%)**	**Total (%)**
Age group			
Less than 15	-	28 (19.6)	28 (9.8)
15–19	57 (39.9)	-	57 (19.9)
20–24	58 (40.6)	57 (39.9)	115 (40.2)
25–29	28 (19.6)	29 (20.3)	57 (19.9)
30–34	-	29 (20.3)	29 (10.1)
X^2 = 114.026; DF = 4; p < .000			
Relationship status			
Single	143 (100.0)	114 (79.7)	257 (89.9)
Married	-	29 (20.3)	29 (10.1)
X^2 = 32.272; DF = 1; p < .000			
Ethnic groups			
Igbo/Ikwere	58 (40.6)	28 (19.6)	86 (30.1)
Ijo (Ijaw, Ogbia, Epie, etc.)	85 (59.4)	115 (80.4)	200 (69.9)
X^2 = 14.965; DF = 1; p < .000			
Education			
No formal education	-	28 (19.6)	28 (9.8)
Primary	-	-	-
Secondary	58 (40.6)	57 (39.9)	115 (40.2)
Tertiary	85 (59.4)	58 (40.0)	143 (50.0)
X^2 = 33.107; DF = 2; p < .000			
Average income			
Low income	143 (100.0)	86 (60.1)	229 (80.1)
Medium income	-	-	-
High income	-	57 (39.9)	57 (19.9)
X^2 = 71.188; DF = 1; p < .000			
Occupation			
Civil service	-	29 (20.3)	29 (10.1)
Studentship	114 (79.7)	57 (39.9)	171 (59.8)
Trading	29 (20.3)	-	29 (10.1)
Unemployed	-	57 (39.9)	57 (19.9)
X^2 = 134.000; DF = 3; p < .000			

Significant at p < .05*

Table 3 | Distribution of respondents by the amount paid for betting, length of time engaged in sports betting, number of times engaged in betting per month, methods employed at engaging in sports betting and betting firms used

Variables	Frequency (n = 286)	Percentage (%)
Amount paid for betting		
Less than N500	201	70.3
N500 – N999	-	-
N1000 – N1499	-	-
N1500 – N1999	-	-
N2000 and above	85	29.7
Length of time engaged in sport betting		
Less than 5 months	57	19.9
5 – 9 months	56	19.6
10 – 14 months	58	20.3
15 – 19 months	29	10.1
20 months and above	86	30.1
Number of times engaged in betting per month		
Once	29	10.1
Twice	29	10.1
Thrice	57	19.9
More than four times	171	59.8
Leagues bet		
European League	201	70.3
Spanish League	57	19.9
Others	28	9.8
Methods of engaging in sport betting		
Internet technology	170	59.4
Third-party	58	20.3
One-on-one deal	29	10.1
All of the above	29	10.1
Betting firms		
Bet9ja	86	30.1
Merrybet	29	10.1
Betking	143	50
Others	28	9.8

Table 4 | Distribution of respondents by the associated problems of sports betting

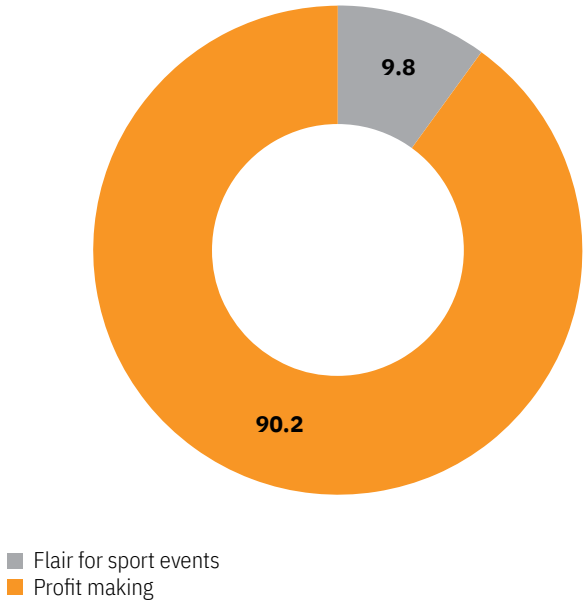
Construct of associated problems with sport betting	Responses		
	Never	Sometimes	Most of the times
Have you bet more than you could really afford to lose?	28 (9.8)	172 (60.1)	86 (30.1)
Have you needed to bet with larger amounts of money to get the same feeling of excitement?	171 (59.8)	87 (30.4)	28 (9.8)
Have you gone back another day to try and win back the money you lost?	86 (30.1)	200 (69.9)	-
Have you borrowed money or sold anything to get money to gamble?	143 (50.0)	115 (40.2)	28 (9.8)
Have you felt that you might have a problem with betting?	143 (50.0)	114 (39.9)	29 (9.8)
Have you felt that betting has caused your health problems, including stress and anxiety?	115 (40.2)	142 (49.7)	29 (10.1)
Have people criticized your betting or told you that you have a gambling problem, whether or not you thought it was true?	172 (60.1)	86 (30.1)	28 (9.8)
Have you felt that your sports betting has caused financial problems for you or your household?	86 (30.1)	172 (60.1)	28 (9.8)
Have you felt guilty about the way you bet or what happens when you gamble?	86 (30.1)	143 (50.0)	57 (19.9)

N2000 and above for betting. On the length of time engaged in sports betting, while 30.1% of the respondents indicated that they have spent more than 20 months in sports betting, 20.3% signified that they have only spent between 10–14 months in partaking in sports betting.

With regards to the average number of times respondents engaged in sports betting monthly, the result indicated that more than half (59.8%) of the respondents reported participating in at least four times every month. The type of Leagues respondents bet on was also ascertained among the study population. From Table 3, the study indicated that about seven out of every ten respondents bet on European League (70.3%). This is followed by the Spanish League (19.9%).

The methods of engaging in sports betting were also ascertained by the study. The finding indicated that more than half of the respondents (59.4%) used internet technology as a method of engaging in sports betting, followed by third-party sports betting (20.3%). The result from table 3 additionally revealed that half of the respondents patronised Betking (50.0%), followed by Bet9ja (30.1%) as their major sport betting firm.

Figure 1 | Reasons for sports betting



3.3 Reasons for sports betting

In ascertaining the reasons for sports betting among the study population, Figure 1, indicated one major factor namely, profit-making (90.2%). Nevertheless, a few of the respondents (9.8%) noted that they were motivated to participate in sports betting because of the flair for sports.

3.4 Associated problems with sport betting

This section presents the associated problems of sports betting which may inform mental health. *Table 4* shows the construct of associated problems with sports betting by response categories of never, sometimes and most of the time. These are reported in Table 4. While, problem gambling cannot be described as severe among the respondents, majority of them have an average gambling problem as indicated, with most stating that they have sometimes experienced the symptoms of gambling problems. Thus, about 61% of the respondents stated that they have sometimes bet more than they could really afford to lose,

Table 5 | Association between sport betting variables and mental disorder

Sport betting variables	Mental health disorder		
	Low (%)	High (%)	Total (%)
Sports events bet on*			
Football or soccer	143 (62.4)	-	143 (50.0)
Virtual football	86 (37.6)	57 (100.0)	143 (50.0)
X^2 = 71.188; DF = 1; p < .000			
Estimated amount placed per bet*			
Less than N500	201 (87.8)	-	201 (70.3)
2000 and above	28 (12.2)	57 (100.0)	85 (29.7)
X^2 = 168.338; DF = 1; p < .000			
Length of time of engagement in sports bet*			
Less than 5 months	57 (24.9)	-	57 (19.9)
5 – 9 months	56 (24.5)	-	56 (19.6)
10 – 14 months	58 (25.3)	-	58 (20.3)
20 months and above	29 (12.7)	57 (100.0)	29 (10.1)
X^2 = 165.553; DF = 4; p < .000			
Number of time engaged in sports bet per month*			
Once	29 (12.7)	-	29 (10.1)
Twice	29 (12.7)	-	29 (10.1)
Thrice	57 (24.9)	-	57 (19.9)
More than four times	114 (49.8)	57 (100.0)	171 (59.8)
X^2 = 47.875; DF = 3; p < .000			
Leagues mainly bet*			
European League	172 (75.1)	29 (50.9)	201 (70.3)
Spanish League	29 (12.7)	28 (49.1)	57 (19.9)
Other Leagues	28 (12.2)	-	28 (9.8)
X^2 = 41.223; DF = 2; p < .000			
Device used in betting*			
Internet technology	142 (62.0)	28 (49.1)	170 (59.4)
Third-party	29 (12.7)	29 (50.9)	58 (20.3)
One-on-one deal	29 (12.7)	-	29 (10.1)
All of the above	29 (12.7)	-	29 (10.1)
X^2 = 48.575; DF = 3; p < .000			
Betting firms used*			
Bet9ja	86 (37.6)	-	86 (30.1)
Merrybet	29 (12.7)	-	29 (10.1)
Betking	86 (37.6)	57 (100.0)	143 (50.0)
Others	28 (12.2)	-	28 (9.8)
X^2 = 71.188; DF = 3; p < .000			

Significant at p < .05*

about 50% stated that they have sometimes felt that betting has caused health problems, including stress and anxiety for them, about 61% have felt that sometimes sports betting has caused financial problems for them and their household etc.

3.5 Association between sports betting and depression

This section presents the association between sports betting and depression. As *Table 5* shows, all sports betting variables are statistically significantly associated with depression. For example, sport events bet on, (X^2 = 71.188, df = 1, p = .001); estimated amount placed per bet (X^2 = 168.338, df = 1, p = .001); length of time of engagement in sport betting (x^2 = 165.553, df = 4, p = .001); number of time engaged in sport betting per month (X^2 = 41.875, df = 3, p = .001); Leagues mainly bet on (X^2 = 41.223, df = 2, p = .001); device used in betting (X^2 = 71.188, df = 1, p = .001); and betting firms used (X^2 = 71.188, df = 3, p = .001), are all significantly related to depression.

3.6 Depression among youths with sports' betting problem (using Kutcher's Depression Scale [11-item])

In assessing the prevalence of depression among the youths who participate in sports betting, Kutcher's Depression Scale (11 items) was adopted. In doing this the 4-point Likert scale of *'hardly ever', 'much of the time', 'most of the time'* and *'all of the time'* were used. The threshold for acceptance was therefore pegged at 2.50. In other words, any item below 2.50 was rejected and deem not to be significant. Using Kutchers' adolescent depression scale of 11 items, Table 6 reveals the constructs of depression among the youths who participate in sports betting. 6 constructs out of the 11items were found to be significant. These include; low mood/sadness (X^2 = 2.79), Irritable/loosing temper (X^2 = 2.71), lack of concentration (x^2 = 2.71), loss of interest in having fun (X^2 = 2.86), nervous/tense/anxious (X^2 = 2.50), feeling sick (X^2 = 2.57).

4 DISCUSSION

Findings revealed that the mean age of the respondents was 23 years. This suggests that those who engaged in sport betting were the youths especially those who fall within the age bracket of 20–24 years. Findings on gender indicated that majority of them were males. These findings corroborate Masaba et al. (2016) that males participated more in gambling more than their female counterparts. On the relationship status, majority of the respondents were single while those who were married were few. This suggests that most of the people who engaged in sport betting were not married when compare to those who were married. This further explains that those who are single participated more than those who are marriage. This finding is found in tandem with Castren et al. (2013) who found that those who engaged in gambling and were married had no associated problem of gambling when compared to those who are not married.

On the educational attainment of the respondents, majority of the respondents have higher educational level compared to those who were secondary school leavers. On the monthly income, it was found that more than half of the respondents earned an average income below N20000 (80.1%), while 19.9% of them earned N50000 and above. This means that those who earned low income engaged more in sport betting than those of higher income category. Similarly, findings revealed that majority of those who engaged in sport betting were either students or unemployed. This finding is found in consonant with the work of Pletscher (2015) who discovered that the high level of unemployment among Uganda youths predisposed them to gambling. Bjorn (2014) identified that most gambling activities are connected to commercialisation as such it comes with different forms. This study only found two major types of sport activities were commonly bet by the respondents (football and virtual football); and these were significantly associated with age group, relationship status, ethnic groups, education, average income and occupation status of the respondents.

It was further found that a larger proportion of the respondents, paid less than N500 for sport betting, while only 30% of the respondents paid about N2000 and above for betting. This further suggests that there are a number of those who engaged in sport betting who were unemployed and could not have been able to afford the payment for higher odds in sport betting.

Findings also revealed that majority of the respondents prefer betting in European Leagues than Spanish League due to the frequency of matches being organized by the European Leagues when compared to other categories of Leagues including virtual football, they were engaging in. This may have accounted for the frequent use of internet technology by the majority of respondents compared to other media since European Leagues are global sport activities when compared to other Leagues.

Findings on the agency utilized by the respondents revealed that majority of the respondents used Betking more than Bet9ja for betting. This suggests that there are more preferences for Betking than other firms for betting which could be attributable to differences in the services rendered by different firms or the level of legality the firms offer their services as opined by Schwartz (2013) that compliance to regulatory principles may vary by gaming companies.

Findings on the factors associated with sport betting among the study population revealed that majority of the respondents who engaged in sport betting were driven by its profits rather than their flares for sport. This finding is in line with Bjorn (2013) gambling has become a major international commercial activity both for the firms and individual participating in it. Despite the fact that they were driven by profits, majority of the respondents were only able to earn less than N20000 as profits in the last 12 months, which also implies that less than one-third of the respondents were able to earn more than N50000 in the last 12 months that preceded this survey.

This is by implication suggesting that the proportion of losses would be more than those who have been able to benefit or

Table 6 | Distribution of respondents by Kutcher's depression scale (11 scale)

Constructs of depression	Response Categories	Percentage (%)	Mean	Remarks
Low mood/sadness after sports betting	Hardly ever	21.4	2.79	sig.
	Much of the time	4.3		
	Most of the time	28.6		
	All of the time	35.7		
Irritable/loosing temper or pissed off after sports betting	Hardly ever	7.1	2.71	sig.
	Much of the time	35.7		
	Most of the time	35.7		
	All of the time	21.4		
Sleep difficulties after sports betting	Hardly ever	57.1	1.86	ns.
	Much of the time	14.3		
	Most of the time	14.3		
	All of the time	14.3		
Decreased interest in hanging out with friends, doing hobbies, sports or recreation after sports betting	Hardly ever	35.7	2	ns.
	Much of the time	28.6		
	Most of the time	35.7		
	All of the time	-		
Feelings of worthlessness/ hopelessness, after sports betting	Hardly ever	14.3	2.14	ns.
	Much of the time	57.1		
	Most of the time	28.6		
	All of the time	-		
Feeling tired/fatigued after sports betting	Hardly ever	42.9	1.71	ns.
	Much of the time	50		
	Most of the time	7.1		
	All of the time	-		
Trouble concentrating after sports betting	Hardly ever	14.3	2.71	sig.
	Much of the time	28.6		
	Most of the time	28.6		
	All of the time	28.6		
Loss of interest in having fun after sports betting	Hardly ever	-	2.86	sig.
	Much of the time	28.6		
	Most of the time	57.1		
	All of the time	14.3		
Nervous/tense, or anxious after sports betting	Hardly ever	21.4	2.5	sig.
	Much of the time	21.4		
	Most of the time	42.9		
	All of the time	14.3		
Feeling sick after sports betting	Hardly ever	21.4	2.57	sig.
	Much of the time	14.3		
	Most of the time	50		
	All of the time	14.3		
Thoughts, plans or actions about suicide or self-harm.	No thoughts or plans or actions	71.4	1.36	ns.
	Occasional thoughts, no plans/actions	21.4		
	Frequent thoughts, no plans or actions	7.1		
	Plans and/or actions that have hurt	-		

earn profit in the gambling as indicated in the findings. Given that majority of the respondents had lost, there are possibilities that it could bring or inflict negative consequences on their mental lives.

However, findings have indicated that besides the associated problems of sport betting which ranged from its effects on social relationship and loss of money to emotional instability, it has been discovered that in this study that there are significant association between sport bet events mental health disorder; estimated amount placed per bet and mental health disorder; length of time of engagement in sport bet and mental health disorder; number of time engaged in sport bet per month and mental health disorder; the types of Leagues mainly bet and mental disorder, device used in betting and mental health disorder; and betting firms used and mental health disorder. These findings suggest that sport betting significantly affect the mental live processes of the youths who engaged in it. These findings were found in consonant with the works of Pilver (2014) who posited that PG was associated with increased incidence of GAD and SUD, as well as Prhami (2014) who found that there was increased odds of incident of mental disorder in the US.

Limitations

Despite the findings in this study, certain limitations can be observed. Firstly, the study was conducted only in the urban centre of Bayelsa State since the majority of the sports betting centres are in the city. Thus, the situation in rural areas where not part of the scope of this study. Moreso, an overwhelming majority of the sampled population were male. Thus, it is difficult that ascertain the relationship between gender and sports betting behaviours with the very small female representative. Finally, findings in this study might not apply to other regions of the country as it was conducted in the south-south region of Nigeria, especially since the other regions of the country have a different socio-cultural background that might influence their sports betting behaviours.

5 CONCLUSIONS

It is therefore evident that although sports betting may be driven by the expected profit youths envisaged before engaging in it, there are negative consequences when the expected profits are not received or earned by the youths. It is in this view that proper orientation should be organized for the youths on betting by the stakeholders in the sports industry. The following recommendations are suggested for both individuals, policymakers and other stakeholders in sports:

a) Youth empowerment programmes such as vocational training skills, employment and soft loans should be organized for the youths so that when engaged in sports betting and lose, the negative consequences would not impact significantly their mental health status.

b) Proper sensitization of youths in sports betting should be put in place by social psychologists to counsel them on the proper way of engaging in sports betting so that when win or lose, it will not affect their mental health status negatively.

c) The regulatory bodies of sports betting should ensure that social psychologists are periodically mobilized to the lottery centres for sensitization, enlightenment and the amount to be invested into betting by the youths to help guide against the aftermath of loss.

Authors' contributions: EU and EFO conceptualised the study. EU and GATS designed the study and proposed the study's design including the instrument of data collection. GATS, BOMS and EFO performed the literature review and discussion of the study. EU, GATS and EFO wrote the methods section of the study. EFO and BOM collected the data for study. EU and BOM analysed the collected data for the study. EU, GATS, BOMS, EFO interpreted the study and prepared the manuscript. All authors contributed in developing and approving the final version of the manuscript.

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