The examination of the relationship between mental health knowledge, personality traits and sexual attitude on gambling behaviour among psychiatric patients.

1. Ozougwu Augustine Obumneme, 2. Okoli Paul Chibuike, 3. Ofojebe Chukwuma Philip, 4. Onyebueke Godwin Chukwudi, 5. Akpoke Victor Okorieh, 6. Ogundu Amara Grace, 7. Aneke Jerome Chukwuma.

1. Department of Internal Medicine ESUT College of Medicine, Enugu State University of Science and Technology, Enugu-Nigeria.
2. Department of Internal Medicine ESUT College of Medicine, Enugu State University of Science and Technology, Enugu-Nigeria.
3. Department of Psychology, Nnamdi Azikiwe University Awka-Nigeria.
4. Department of Internal Medicine ESUT College of Medicine, Enugu State University of Science and Technology, Enugu-Nigeria.
5. Department of Psychology, Enugu State University of Science and Technology, Enugu-Nigeria.
6. Department of Psychology, Enugu State University of Science and Technology, Enugu-Nigeria.
7. Department of Psychology, Enugu State University of Science and Technology Enugu-Nigeria.

Corresponding Author: Okoli, Paul Chibuike, PhD.

Abstract

The study examined the relationship between mental health knowledge, personality traits and sexual attitude on gambling behaviour among psychiatric patients. One hundred and seventeen (117) patients (87 males and 30 females) aged between 20-50 years from who were treated in the ESUT Neuropsychiatric Hospital Emene, Enugu State participated in the study. The instruments employed in this study were: the Mental Health Knowledge Schedule, the Eysenck Personality Questionnaire and Brief Sexual Attitude Scale. The study is multi group cross sectional design and Multiple Linear Regression was used to analyze the data. Results showed that: mental health knowledge, personality traits and sexual attitude has no significant relationship with problem and non problem gambling. This study has established that one's personality trait of neuroticism, psychoticism, extraversion, and other variables like mental health knowledge and sexual permissive attitude has no significant effect on problem gambling among psychiatric patients. This shows that diversity of gambling activities facade is a challenge when seeking to understand the relation between personality and sexual attitude on gambling behaviour. The implications of this study is need to step further research on the clinical management of problem gamblers who are experiencing low level of problem with fewer or no identified negative consequences, moderate problem gamblers experiencing some negative consequences and problem gambling with negative consequences and a possible loss of control. It is recommended that the government, through the office of the

board of internal revenues, should ensure a proper check on the rapid increase of gambling homes in the country to mitigate gambling's involvement and harm. Besides, there is need for clinicians and media houses to engage the populace especially youths through sensitization workshops on the negative implications of gambling and awareness of mental disorders which will aid their recognition of the negative impacts of gambling, enhance their management and promote prevention; for prevention is better than cure.

Keywords: mental health knowledge, personality traits, sexual attitude, gambling behaviour, psychiatric patients.

Introduction

Gambling is considered as an emergent public health issue and it is a cross-cultural activity which typically involves the wagering of money or an item of monetary value on an outcome that is governed by chance. Some studies sometimes use terms such as problem gambling, pathological gambling, gambling interchangeably, but there are very few behavioural differences that distinguish one term from another (Ferris, Wynne, and Single (1998). Gambling is advertised widely and easily accessible to people in suburban areas, especially those with lower socioeconomic status (Livingstone and Woolley, 2007; Marshall and Baker, 2002). It is positioned as a legitimate recreational and leisure activity within sub-Saharan, for most individuals, gambling is an enjoyable and harmless activity (Calado and Griffiths, 2016). However, for a small minority of individuals it can become both addictive and problematic with severe negative consequences (Meyer, Hayer and Griffiths, 2009). There is widespread recognition among healthcare professionals and policy-makers that gambling has the capacity to become dysfunctional in a minority. Emerging knowledge suggests that problem gambling is rapidly evolving into a public health concern in Sub-sahara Africa, including Nigeria especially among youths GeoPoll; (2017). Gambling is generally divided into wagering and betting, gambling and lottering style games (Delfabbro and Le Couteur, 2009).

Gambling behaviour is addictive (Petry, 2006). Gambling behaviour especially pathological gambling has been associated with neuropsychological dysfunctions and impulsive personality traits (Ucheagwu, Ugokwe-Ossai, Okoli and Ossai, 2018). Pathological gambling is characterized by a persisting maladaptive and recurrent behaviour with severe social and psychological consequences (Kapsomenakis, Simos, Kostantakpoulos and Kasselimis, 2018). Persistent and recurrent maladaptive gambling is indicated by five or more of the following; preoccupation with gambling, gambling with larger amounts, repeated unsuccessful efforts to reduce or stop gambling, restlessness or irritability, cramming to finance gambling, gambling as a means of escape from problem, chasing loss, lying about the extent of gambling; lost a significant relationship, and dependent on others to finance gambling (APA-2013). Several researchers have suggested the importance of classifying gamblers into other factors including personality to adequately account for the variability seen in individuals with problem gambling (Blaszczynski and Nower, 2002). Given the pivotal role of arousal in

gambling, it is proposed that sensation seeking is a personality trait that attracts investigation with regard to its relationship with pathological gambling (Zuckerman, 1979). Zuckerman's theory predicted that high sensation seekers will perceive gambling situations to be less risky (Zuckerman, 1979).

Psychoticism is a dimension on Eysenck personality traits, which is characterized by sensation seeking, being irresponsible, risk takers and impulsive behaviours (Eysenck and Eysenck, 1985). The next important step in identifying the personality dimension and underlying difficulty in sexual behaviour involved the recognition that individuals acts in rash, and impulsive ways when experiencing intensely positive affective states (Cyders, Smith... and Peterson, et al. 2007). They have frequent intrusive thoughts about sex and repeatedly engage in sexual behaviour that can become out of control. Estimated rates of co-occuring compulsive sexual behaviour (CSB) and gambling disorder range from 4% to 20% (Grant and Steinberg, 2005). These occur with other psychotic disorders like anxiety, personality disorder, impulse control, etc (Scanavino, Ventuneac, Messina et, al. 2013). A number of epidemiological studies have been carried out to investigate the prevalence of comorbid psychiatric disorders among pathological gamblers and it showed a high psychiatric comorbidity among pathological gamblers (Petry, Stinson and Grant, 2005). The impact of the stigmatizing attitude and poor knowledge of mental illness and psychotic disorders among Nigerians have shown to be a major hurdle to improving mental health in Nigeria (Abasiubong, Ekott and Bassey, 2007).

Jorm, Korten, Jacomb, Christensen, Rodgers and Pollitt, (1997) introduced the term "mental health knowledge" and it was defined as literacy and beliefs about mental disorders which aid their recognition, management and prevention. Mental health knowledge as it entails knowledge of developing disorder, knowledge of professional help, self help and prevention could be addressed in relation to gambling. For instance, Moore et. al., (2012) reported findings from a study of self regulation of gambling that covered a range of self-help strategies such as "set a time limit on how long I will l spend at a gambling venue, avoid gambling alone, or have myself voluntarily excluded from a gambling venue. Participants rated how often they had used each of 20 strategies and the findings are nonetheless important for indicating what people do to regulate their gambling behaviour. There is already sufficient evidence to indicate that many individuals with significant levels of problem gambling do not self-identify as having a problem, do not seek professional help or only do so after problems are severe (Caroll, et al., 2011). In a study on New Zealand using 1774 adults d 199 adolescents aged 15-19 years. They were assessed on their knowledge and belief about signs and consequences of harmful gambling at individual, household and community levels. The result showed that they have limited knowledge, with most responses focusing on financial harm and addiction.

Much of the research literature supports the notion that gambling problems often coexist with other conditions, such as substance abuse or mental health problems. For example, a study of 40 inpatient problem gamblers in Minnesota showed that 92.0% had lifetime co-morbidity of

a psychiatric condition, with 54.0% listing the psychiatric condition as being current (Specker, Carlson, Edmonson, Johnson, and Marcotte, 1996). In addition, most of the data presented cannot adequately describe whether mental health issues occur prior to or as a result of gambling problems. Few studies have investigated the issue; however, one study showed that depression preceded gambling in 86.0% of the cases (McCormick, Russo, Ramirez, and Taber, 1984). Beaudoin and Cox (1999) note that some pathological gamblers report that gambling is a tactic used to alleviate a depressed mood. Kessler, et al. (2008) attempted to determine whether problem gambling preceded mental health issues or arose after the development of a gambling disorder by using age-of-onset data. In their sample they found that 96.3% of people with a lifetime history of problem gambling also met the criteria for another psychological disorder within their lifetime. Anxiety disorders (with the exception of post-traumatic stress disorder), major depressive disorders, and substance abuse disorders all had an earlier age of onset than problem gambling. Among respondents who had problem gambling coupled with another lifetime disorder, in 74.3% of cases the other disorder preceded the onset of problem gambling. The authors suggest that this pattern of problem gambling indicates that some mental disorders may be risk factors for problem gambling, and at other times may arise as a consequence of problem gambling. Moreover, gamblers seeking treatment may represent only a small proportion of problem gamblers, as most do not seek treatment (Slutske, 2006).

Petry (2000) pioneering study examined the prevalence patterns of sexual risk-taking behaviors (i.e., unprotected sex and having multiple sex partners) in relation to levels of gambling problems among U.S. college athletes. Data from a representative national sample of 20,739 U.S. college athletes were derived from the first National Collegiate Athletic Association national survey of problem gambling and health risk behaviors. Among college athletes who were sexually active during the past year, males reported significantly higher prevalence of unprotected sex and multiple sex partners than females. Using the DSM-IV Gambling Screen classification, as the level of gambling severity increased, the prevalence of sexual risk taking behaviors also increased among female athletes, but decreased among male athletes. One of the earliest known studies to evaluate sexual risk behaviors in relation to problem gambling reported that, among a sample of substance abusers, those with gambling problems engaged in more HIV sexual risk behaviors than did those without gambling problems (Petry, 2000).Amore recent study (Martins, Tavares, da Silva Lobo, Galetti, and Gentil, 2004) also found increased sexual risk behaviors among pathological gamblers exhibiting elevated impulsivity. Another study examined the relationship between gambling behavior and other "vices" including paying for sex. The survey data was obtained from the National Longitudinal Study of Adolescent Health, a comprehensive survey of a representative sample of young adults in the US. Results indicated that individuals who exhibit signs of problem gambling behavior are significantly more likely to pay for sex (Petry, 2007). Only 2.4% of the individuals in the sample (147) report having paid someone to have sex with them in the last 12 months.

A variety of dimensional personality models have been utilized to study personality in pathological gambling. Steel and Blaszczynski (1996) employed Eysenck and Eysenck’s

three-factor model of personality (Eysenck and Eysenck, 1975), which incorporates the personality domains of psychoticism, extraversion, and neuroticism (PEN). Combining the PEN model with other psychological inventories, they identified four constructs-psychological distress, sensation-seeking, criminal liveliness, and impulsiveness-that explained 62% of the variance in gambling behavior. Nower, Derevensky, and Gupta (2004) similarly reported PEN impulsivity and intensity-seeking as highly predictive of pathological gambling behaviour in youth. Another study suggests that the overall personality profile of the pathological gambler is one that combines high impulsivity with emotional vulnerability. Importantly, the results also suggest that excitement-seeking, a personality construct akin to sensation-seeking, may not be a specific marker of pathological gambling but rather a characteristic common to all those who gamble. (Bagby, Vachon, Bulmash, Toneatto, Quilty, and Costa (2007)

In investigating the personality differences between non-treatment seeking pathological gamblers and non-pathological gamblers using the domain and facet traits of the five-factor model (FFM) of personality, as measured by the NEO PI-R. Using 292 participants from two separate investigations conducted at the Centre for Addiction and Mental Health were solicited via advertisement in local newspapers for a study on gambling behaviour with the general requirement that they had gambled some time in their lives, including the past year. Michael, David, Eric, Tony, Lena and Paul, (2007) found that compared to non pathological gamblers, pathological gamblers scored significantly higher on the neuroticism domain and significantly lower on the conscientiousness domain. Neuroticism represents a predisposition to develop psychopathology and to experience a wide range of negative affects (Costa and McCrae, 1992).

Significant differences between pathological gamblers and non-pathological gamblers also emerged for three of four five-factor model facet traits associated with impulsivity, with pathological gamblers scoring higher on impulsiveness and lower on self-discipline and deliberation facets. Both pathological gamblers and non pathological gamblers had equally high scores (relative to the norm) on excitement-seeking, the fourth facet associated with impulsivity, suggesting that excitement-seeking characterizes gambling behavior rather than pathological gambling. A mixed pattern of results has been found using community and student samples when all five factor model domains have been entered as simultaneous predictors of gambling outcomes. Buckle, Dwyer, Duffy, Brown, and Pickett (2013) found that openness and agreeableness were negatively correlated with problem gambling in university students' sample. In a sample of undergraduates, MacLaren, Best, Dixon, and Harrigan (2011) found that the facets of agreeableness and conscientiousness were negatively associated with gam bling problems. In a community sample study, when all five personality domain scores are entered simultaneously to predict gambling outcomes in community and student sample. The pattern of results appears less clear than in designs comparing treatment-seeking problem gamblers to healthy controls (MacLaren et al., 2011).

Gambling is an activity which has an increased involvement in the general population. Gamblers have reported to engage in gambling activity for the sake of fun, excitement, to

make money and also to deal with some life challenges like stress, anxiety, depression and anger. It has been argued whether success in gambling could be linked with individual skill or genetic dispositions. Gambling has caused a lot of harm to children, adolescents and adults even though it has been restricted to an under- age individuals and has also caused its own disorder to many who engage in it. Although majority of the people who have gambling problems always deny having them because of their limited knowledge and therefore will most likely refuse therapy. Apart from classifying gambling as an addiction disorder, it is also a risky behavior which is likely to be associated with sexual promiscuity or careless sexual involvement that can cause one several distress through the Std's, Sti's, Hiv and many more. However, as there is no academic research examining the role of mental health knowledge, personality traits and sexual attitude on gambling behaviour, the present study will address the three following hypotheses:

- Mental health knowledge will not significantly predict gambling behavior.
- Personality traits will not significantly predict gambling behavour.
- Sexual attitude will not significantly predict gambling behaviour

Statement of the problem

Much of the approach in mental health knowledge and the associated mental health first aid program is oriented towards overtly labelled "disorders" or "illnesses". For example, the Guidelines for depression first Aid states that depression is a medical illness and person cannot help being affected by depression. The concept of "illness" can also be used to covey to those with depression that they are deserving of medical attention. If applied to gambling, the concept of pathological gambling and problem gambling would necessarily be central to a gambling "knowledge" perspective (Mental Health First Aid, Australia, 2008).

Apart from classifying gambling as an addiction disorder, it is also a risky behavior which is likely to be associated with other risky behaviours including sexual promiscuity or casual sexual involvement which has several consequences. Perhaps, personality traits play a very important role in determining ones understanding of mental health and why individuals act differently in varying situations.

Purpose of the study

The aim of this study is to examine of the relationship between mental health knowledge, personality traits and sexual attitude on gambling behavior among psychiatric patients.
Specifically, the study sought to determine whether;
1. Mental health knowledge will significantly predict gambling behaviour.
2. Personality traits will significantly predict gambling behaviour.
3. Sexual attitude will significantly predict gambling behaviour.

OPERATIONAL DEFINITION OF TERMS

Gambling: is an activity which has low level of problem with few or no identified negative consequences while moderate level of problems leading to some negative consequences and a possible loss of control as measured by Problem gambling Severity Index (Wynne, 2001).

Personality trait: refers to the three biological based traits of temperament; extraversion, neuroticism and psychoticism as measured by Eysenck Personality Questionnaire (Eysenck and Eysenck, 1985).

Sexual attitude: Is defined as an individual's disposition towards sexuality and Sits construct comprises of sexual permissiveness, sexual practice, communion and instrumentality as measured by Brief Sexual Attitude Scale (Hendrick and Hendrick, 1987).

Mental health knowledge: Is defined as literacy and belief about mental disorders which aid their recognition, management or prevention as measured by Mental Health Knowledge Schedule (Evans Lacko, 2010).

Mental health knowledge and Gambling

Pathological gambling is a serious problem which can lead to various consequences for individuals, their families and communities (Wardman, 2001). It has been associated with concurrent problems, such as other addictive behaviours and mental health problems like depression and anxiety (Abbott and Volberg 1999; Shaffer and Korn 2002), which renders the profile of the pathological gambler more complex.

Methods

Participants

A total number of one hundred and seventeen (117) psychiatric patients who indicated they gamble and voluntarily accepted to participate in the research were selected. The only restriction was on patients with psychosis. The participants consists of (87 males) and (30 females), ranging in age from 20 to 50 years old and with a mean of age of 46.13 and a standard deviation of 18.35. All the participants all Igbos of South-Eastern Nigeria and at the time of this study were all psychiatric patients of ESUT Neuropsychiatric hospital, Emene Enugu, Nigeria.

Procedure

For easy and effective administration of the questionnaire to the participants, permission was sort and granted by the hospital management and ethical Board. The researcher through the research assistants (psychiatric nurses) who work in the hospital were employed as research assistants. The researcher administered the instruments to the participants who were selected randomly amongst non psychotic psychiatric patients who indicated they gamble and freely and willing volunteered to participate in the research and signed the consent form. The research assistants assisted the participants to understand the instructions on the questionnaire adequately and clarifications regarding the academic motive of the study were made on the demand to the participants. Individuals who were not willing to complete the instruments returned them on the arena, some made away with it while those who accepted to complete the instrument either completed them on the spot. In spite of the 150 questionnaires

distributed, 117 was successfully completed and returned. Some token economy like soaps and biscuits were given to the participants by through the research assistants after they completed the instruments.

Instruments

Four instruments will be used for this study. They are Mental Health Knowledge Schedule (MAKS) (Evans-Lacko, Kirsty, Howard, Diana Rose, Danielle, Claire, Graham, 2010), Eyesenck Personality Questionnaire (EPQ), Brief Sexual Attitude Scale (BSAS) and Problem Gambling Severity Index (PGSI**)**.

Mental Health Knowledge Schedule (MAKS) Evans-Lacko et al., 2010).

MAKS was used to assess the mental health knowledge of respondents. The items are scored on an ordinal scale (1 to 5). Items in which the respondent strongly agrees with a correct statement have a value of 5 points while 1 point reflects a response in which the respondent strongly disagrees with a correct statement. "Don't know" is coded as neutral (that is, 3) for the purposes of determining a total score. The total score for each participant was calculated by adding together the response values of each item. Items 1-6 were used to determine the total score. Items 7 to 12 were used to establish levels of recognition and familiarity with various conditions and also to help contextualize the responses to other items. Based on literature review and expert consultation, the MAKS comprises 6 stigma-related mental health knowledge areas: help seeking, recognition, support, employment, treatment, and recovery, and 6 items that inquire about knowledge of mental illness conditions. According to MAKS; Evans-Lacko et al., 2010).Overall test–retest reliability was 0.71 using Lin's concordance statistic. Item retest reliability, based on a weighted kappa, ranged from 0.57 to 0.87, suggesting moderate to substantial agreement between the 2 time points. Additionally, we tested the hypothesis that responses may be more likely to shift in the positive (that is, become more accurate) or negative direction during retest; however, the data from Study 2 did not support this (On average, the shift from pre- to post-response was +0.37, but this was not significantly different from 0 df = 36, P = 0.8]). The item stability ranged from 0.54 to 0.69. The researcher in a pilot study administered the MAKS to 124 youths from Enugu North Local Government Area, Enugu State. The item analysis yielded Cronbach's alpha = .80; split-reliability = .90.

Brief Sexual Attitude Scale (Hendrick, Hendrick and Reich (2006).

Brief sexual attitude scale is designed to measure sexual attitudes in four different subscales which are Permissiveness, Birth Control (formerly called sexual practices), Communion and Instrumentality. The scale was developed by Hendrick and Hendrick, (2006) to replace the previous Sexual Attitude Scale. It consists of 23 items with the response options in likert-pattern ranging from strongly agree, moderately agree, Neutral (Neither agree nor disagree), moderately disagree, and strongly agree. It is effective and efficient for both research and clinical uses. Brief sexual attitude scales Permissiveness (10 items, alpha = .95), Birth control (3 items, alpha= .88), Communion (5 items, alpha = .73) and instrumentality (5 items, apha = .77). Test- retest correlations for the subscales were Permissiveness= .92, Birth Control = .57, Communion = .86; and Instrumentality = .75. Brief Sexual attitude scale (BSAS) had a

general, relatively high internal consistency reliability estimate of Cronbach's alpha of .82 Its sub dimensions also showed an alpha of .82 for Permissiveness, Birth control .70, Communion .73 and Instrumentality .63. Kaiser-Meyer-Olkin Measure of Sampling Adequacy was .69, and Barlett's Test of Sphericity was 803.027 ($p<.001$), indicating the adequacy of the data for test of factorial validity. Problem Gambling Severity Index had a relatively high internal consistency reliability estimate of Cronbach's alpha of .78, and the items had more than .30 item-total correlation. Kaiser-Meyer-Olkin Measure of Sampling Adequacy was .80, and Bartlett's Test of Sphericity was 275.157 ($p<.001$), indicating the adequacy of the data for test of factorial validity. The researcher in a pilot study administered the BSAS to 124 youths from Enugu North Local Government Area, Enugu State. The item analysis yielded Cronbach's alpha = .82; split-reliability = .89.

Problem Gambling Severity Index (PGSI) (Wynne, 2001)

PGSI is a measure for individual with gambling problems. It utilizes convenient labels to categorize individuals who have some severity of gambling problem (e.g., low risk, moderate risk, and problem gambler). It has 9 items with response options as Never (1), Sometimes (2), Most of the time (3) and Almost always (4). It was developed as part of the Canadian Problem

First, the Cronbach alpha reliability coefficient was computed, which provided an indication of the internal consistency of the PGSI measure. The alpha coefficient for the PGSI (0.84). The reliability of three sub-components of the PGSI was also examined (i.e., the two items retained from the SOGS, the two from the DSM-IV, and the five "new" PGSI items). The two SOGS items (0.71), two DSM-IV items (0.79), and five PGSI items (0.80) correlated relatively highly with their parent measures, respectively, although they did not perform reliably as two or five-item stand-alone measures. The second method for examining reliability was to repeat the survey by retesting the same people on the same three measures. To establish re-test reliability, 417 of the original 3,120 respondents were re-surveyed, and the Pearson Product-Moment correlation coefficient for the three measures included in the survey was calculated. In terms of re-test reliability, the DSM-IV (0.91) was strongest over time, followed by the PGSI (0.78) and SOGS (0.75). From these tests, it is apparent that the nine-item PGSI is a reliable measure of problem gambling. The validity of the PGSI was addressed in terms of content (face) validity, criterion-referenced validity, and construct validity. Content validity is the degree to which a test measures an intended content area. In this vein, the original PGSI went through several rounds of expert feedback, with twelve of the world's foremost gambling experts providing advice on the most appropriate "content" needed to discriminate problem gambling (i.e., domains, variables, measurable indicators and items). The expert consensus was that the five PGSI "problem gambling behaviour" and four "adverse consequence" items appeared to measure both the construct and operational definition of "problem gambling" very well. Subsequent statistical factor analysis of the PGSI confirmed that the nine items in the index load on one factor, which the researchers naturally labeled "problem gambling." Consequently, it may be concluded that the PGSI has very good content validity as a measure of problem gambling. The researcher in a pilot study administered the PGSI to 124 youths from Enugu North Local Government Area, Enugu State. The item analysis yielded Cronbach's alpha = .87; split-reliability = .91.

Eyesenck Personality Questionnaire (EPQ-R) (Eyesenck and Eyesenck, 1985)

Eysenck, Eysenck and Barrett (1985) devised a short form of the EPQR for use among adults. In this form the four indices of Extraversion, Neuroticism, Psychoticism and the Lie Scale each contain 12 items. Its response pattern is designed in a Yes or No format. They report reliabilities for males and females respectively of 0.84 and 0.80 for Neuroticism, 0.88 and 0.84 for Extraversion, 0.62 and 0.61 for Psychoticism, and 0.77 and 0.73 for the Lie Scale. This short EPQR has, as yet, received comparatively little use, apart from studies like those of Raine and Manders (1988), Francis and Pearson (1988) Pearson (1989, 1990a, 1990b), Heaven (1990) and Lester (1990). Although the short scale EPQR was explicitly developed 'for use when time is very limited', it could well be the case that researchers find a 48-item questionnaire still too long for convenience and consequently either omit personality variables from their questionnaire.

Reliability and validity was carried using one hundred and eleven (111) gamblers who volunteered to respond to the questionnaires. The scales were carefully analyzed using SPSS version 21.0. Results of item- total correlation of EPQ 48 items showed that each of the items had approximately .30 and above. The general scale internal consistency reliability estimate was Cronbach's alpha of .64, which is moderate. Also the Crombach alpha for Extraversion was .50, Psychoticism .68 and Neuroticism .63 respectively. The researcher conducted a convergent validity between EPQ 90 items Full version, which is represented as (EPQ -F) and EPQ 48 items short version represented as (EPQ -S) in this study. The result showed a positive significant relationship at; Neuroticism(S) versus Neuroticism (F) .42 ($p<.01$), Psychoticism(S) versus Psychoticism (F) .31 ($p<.05$), and Extraversion (S) versus Extraversion (F) .33 ($p<.005$).

Procedures

To effectively carry out this study, the researcher through convenient sampling method selected One hundred and seventeen (117) patients (87 males and 30 females) aged between 20-50 years from who were treated in the ESUT Neuropsychiatric Hospital Emene, Enugu State participated in the study who showed willingness to participate in the study. The researcher sought and obtained permission from ethical board of the hospital to do the study in their facility. On the scheduled days the researcher having obtained permission, recruited research assistants recruited for the study (3 master's students), through the help of research assistance goes to the clinic on ward round days to administer the questionnaires to both out-patients and in-patients on admission male and female that have been diagnosed of psychiatric disorder. The researcher through the help of nurses on duty gathers the patients for a brief introduction and signing of consent form by the willing participants and afterwards the questionnaire was administered. The filled questionnaires were collected at once each day after filling. Collection lasted for 6-weeks.

Design/Statistics

The design for this study was cross –sectional survey design. Multiple linear regression was used to analyze the data.

Results

Table1: Mean, Standard Deviation and Correlation of Mental Health Knowledge, Psychoticism, Extraversion, Neuroticism, sexual attitude (permissiveness) and Problem gambling scores.

Variables	Mean SD	1	2	3	4	5	6	7
1 PGSI	7.40 4.52	-						
2 Men. H. K	3. 40 1. 54	.35 .15	.33 .18	- .20	-			
3 Psychoti	1.86 1. 53	.01 .30	.19 -.06	.09 .10	-.06 .17	- .10	-	
5 Extravers	7.8 2.10	.15	-.04	.12	.14	.2	29	
6 Neurotici	5.76 2.53	-						
7 Sex_permi	9. 41 9.41							

Note; N=117 p< .05 (one tailed) p <.01 (one tailed)

Table 2: Model summary and coefficient table of hierarchical multiple regression predicting gambling problem from Mentah health knowledge, Extraversion, Psychoticism, Neuroticism and Sexual attitude (permissiveness).

Variables	**R**	**R^2**	**$R^{2\ (adj)}$**	**df**	β	**B**	**t**	**p**
Mental health knowledge	.11	.15	.14	118	-	-	-	-
Mental health knows.					.61	.20	3.81	.12
(Extraversion, Psychotic,								
Neuroticism)	.28	.23	.22	118	-.19	.30	-1.15	.09
Extraversion	.19	.16	.34	-	-.21	-.097	-1.86	.23
Psychoticism	.35	.28	.40	-	-.02	-.009	-0.16	.47
Sexual permissiveness	.49	.24	.22	118		-0.03	-.06	.33

Hierarchical multiple regression results in table above, however showed that the independent influence of the predictor variables, mental health knowledge negatively predicted problem

gambling (β=.61, t=3.81 and p>.05). Based on these results, the hypothesis is therefore rejected.
Extraversion, psychoticism and neuroticism negatively predicted problem gambling (β= -.02, -0.21., -.19; t= -0.16, -1.86, -1.15 p>.05). Based on these results, the hypotheses are therefore rejected. Table above also showed that, when permissiveness dimension was correlated along side with mental health knowledge, extraversion, neuroticism and psychoticism, the result shows that sexual permissiveness negatively predicted problem gambling among psychiatric outpatients (β= -0.03, and t= -0.16 p>.05).

Discussion

This study was to investigate the roles of personality traits, sexual attitude and mental health knowledge on problem gambling among psychiatric outpatients. It has been well demonstrated that there is a strong association with neuroticism, as measured by the Eysenck personality questionnaire (EPQ) (Eysenck and Eysenck, 1975), in those with disordered gambling behaviour compared to a sample of non-gambling controls (Roy, Custer and Lorenz, 1989). Slutske, Caspi, Moffitt, and Poulton et al. (2005) also found positive relationship with negative emotionality and gambling. Some researchers also argued that personality traits help to understand ones level of involvement in gambling (Allcock and Grace, 1988; Blaszczynski, Wilson and McConaghy, 1986; Langewisch and Frisch, 1998).

The result of this research showed that the personality traits of Psychoticism, Extraversion and Neuroticism jointly had no significant positive relationship on gambling. This supports the previous findings by Buckle, Dwyer, Duffy, Brown, and Pickett (2013). They found that the personality traits of openness similar to Eysenck's extraversion and agreeableness which is also similar to Eysenck's neuroticism were negatively correlated with problem gambling in university students. MacLaren, Best, Dixon, and Harrigan (2011) also found that the facets of agreeableness and conscientiousness were negatively associated with gambling problems, although the pattern of results appears less clear than in designs comparing treatment-seeking problem gamblers to healthy controls (MacLaren et al., 2011). Ucheagwu, Ugokwe-Ossai, Okoli and Ossai (2018) noted in their study that the online gamblers had better healthy personality traits when compared with the non-gamblers. Mixed findings have trailed the literatures on personality patterns dominant among gamblers.

The subsequent hypothesis states that sexual attitude will significantly predict problem gambling which is in line with the findings of (Petry, 2007, 2000). Researchers like Martins, Tavares, da Silva Lobo, Galetti, and Gentil (2004), in their study found increased sexual risk behaviors among pathological gamblers exhibiting elevated impulsivity. These findings therefore are not in consonance with this present research result on sexual attitude and psychiatric outpatients gambling which showed no significant association between sexual permissiveness and problem gambling. The permissiveness was considered more important in the analysis because the items found to measure sexual permissiveness actually correlate with the risky and impulsive behaviors (Cross, Basten, and Hendrick, 1998). Perhaps, there is a dearth of empirical studies on risky sexual behaviour or sexual permissiveness and negative relationship with problem gambling.

On the other hand, the finding showed that mental health knowledge had no significant relationship with problem gambling among psychiatric outpatients. This result may support the findings of Caroll, et al., (2011). The result of their study showed that both adolescents and adults have limited knowledge about signs and consequences of harmful gambling, with most responses focusing on financial harm and addiction. There is scarcity of empirical supporting and contradicting the findings. Nevertheless, the result implies that the first hypothesis which states mental health knowledge will have significant relationship with problem gambling be rejected.

The implication of the study

This study has a lot of implications especially towards the clinical management of problem gamblers who are experiencing low level of problem with fewer or no identified negative consequences, moderate problem gamblers experiencing some negative consequences and problem gambling with negative consequences and a possible loss of control. The understanding of the negative relationships between neuroticism dimension of personality traits, sexual permissive attitude, and mental health knowledge in respect to problem gambling which is highly associated with psychiatric outpatients, will enable the clinicians and other mental health care workers, to know how best to choose their therapy and as well to know the area of concentration while designing a plan for management of these negative consequences and the problem itself. Having found the roles of personality trait and sexual attitude in problem gambling among psychiatric outpatients, and while considering the mental health knowledge of the patients, therapist should also ensure that they receive proper psycho-education on safe sex practices and the negative consequences of gambling behaviour. In as much as this study finds a negative relationship between the independent variables and dependent variable, it is very necessary for the problem gamblers to be assessed of their enduring personal characteristics that are revealed in a particular pattern in a variety of situations , including their sexual orientation during holistic treatment exercise.

This research is expected to stir the interest and attention of researchers towards making a comprehensive exploit in the mental health homes. It means that researchers should consider having studies conducted with psychiatric patients as its found that there are lots of addictive disorders that are cormbid.

The government, through the office of the board of internal revenues, should ensure a proper check on the rapid increase of gambling homes in the country which brings about a significant rise in gambling involvement. This research will therefore be made available for the governmental libraries to ensure proper awareness of this new classification of addictive disorders.

Limitations of the study/ Recommendations for further studies

The study has several demographic variables which were controlled in the statistical analysis and the duration of gambling were actually categorized by the researcher, but allowing the

respondent to give the actual duration would have given an atmosphere for more in- depth understanding of how much an individual have lost since he or she started gambling.

Another is the environment where the gamblers completed the questionnaire may have affected the responses by the respondents, since most people will not like to reveal to the knowledge of others their sexual orientation, and their perceived secret sex activities. The participants were dominated by males than females in the place used for the study, therefore other similar establishment should be considered in the next research to enable a broad range of participants. It is important to note that, because of difficulty in awareness of gambling problems individuals hardly seek therapy for problem gambling. It is therefore difficult to establish if gambling problem precipitated other psychiatric illnesses or other psychiatric conditions acted as a maintaining factor. Although the research was conducted in the south eastern part of the country, it may be necessary to extend further ones to the western and northern part of Nigeria, because of diversity in culture, religious practices and mental health orientation. There might be need to study other risky behaviours like alcohol abuse apart from risky sexuality with gambling. In another research using a clinical setting, there will be need for research on marital satisfaction, mental health perception, and motivation of gamblers to enable psychotherapists broaden their understanding on how to improve their skills.

Conclusion

Problem gambling has remained the fastest spreading psychological addiction found among psychiatric patients. Problem gambling has some negative consequences in different levels of harm on psychiatric patients which includes vocational, financial, social, legal and personal. These can eventually lead to some worst psychological and medical complications through engagement in some risky sexual behaviors.

This study has established that one's personality trait of neuroticism, psychoticism, extraversion, and other variables like mental health knowledge and sexual permissive attitude has no significant effect on problem gambling among psychiatric patients. This implies that the health, mental wellbeing, good sexual adjustment and financial stability will depend largely on having a proper knowledge on an individual's mental health. In order to understand ones proneness to certain psychopathology and medical illnesses, there should be a proper sexual orientation, mental health knowledge/ awareness through academic conferences, seminars, workshops, advertisements, electronic media campaigns and teachings in tertially institutions to achieve fine adjustment and ability to deal with cognitive fallacy surrounding continuous and uncontrollable spending, risk sexual behaviours and individual differences. Notwithstanding, the proper applications of the psychological principles in the management of problem gambling among psychiatric patients will enhance the management of manifesting problems.

Conflict of interest: All authors declare that they have no conflicts of interest.

Ethical approval: Ethical was granted by the Ethical Board of ESUT Teaching Hospital Parklane Enugu-Nigeria. All procedure performed in this study involving human participants were in accordance with the ethical standards of the Teaching Hospital.

REFERENCES

Abasiubong, F., Ekoh, J.U., & Bassey, E. A., (2007). A comparative study of attitude to mental illness between journalists and nurses in Uyo, Nigeria. African Journal of Medicine and Medical sciences 36:345-351

Allcock, C & Grace (1988). DM Pathological gamblers are neither impulsive nor sensation-seekers. *Aust N Z J Psychiatry*1988; 22307- 311

American Psychiatric Association (2000) *Diagnostic and statistical manual of mental disorders (DSM-IV-TR).* Test Revision 4th Edn. American Psychiatric Association, Washington, DC, ISBN 0-8942-024-6.

American Psychiatric Association (2013). *Diagnostic and statistical manual of mental disorders (5th ed.).* Arlington, VA: American Psychiatric Publishing.

Bagby, R. M., Vachon, D. D., Bulmash, E. L., Toneatto, T., Quilty, L. C., & Costa, P. T. (2007). Pathological gambling and the five-factor model of personality. *Personality and Individual Differences*, *43*(4), 873-880.

Beaudion, C., & Cox, B., (1999). Characteristics of problem gambling in a Canadian context. Canadian Journal of Psychiatry, 44(5); 483- 7.

Blaszczynski, A., & Nower, L. (2002). A pathways model of gambling and problem gambling. Addiction, 97, 487–499.

Blaszczynski, A., Wilson, A & Mcconaghty (1986). Sensation Seeking and Pathological Gambling. *British Journal of Addiction 81,1*

Buckle, J. L., Dwyer, S. C., Duffy, J., Brown, K. L., & Pickett, N. D. (2013). Personality factors associated with problem gambling behavior in university students. Journal of Gambling Issues, 28, 1-17. doi:10.4309/jgi.2013.28.19

Calado, F and Griffiths, M (2016). Problem gambling worldwide: An update and systematic review of empirical research 2000-2015. *J. Behav Addit. 1; 5(4): 592-613*

Carrroll, A., Davidson, t., Marsh, D. & Rogers, B. (2011). Help seeking and uptake of services amongst people with gambling problems in the ACT. *Canberra: Australian National University.*

Costa PT, Jr, McCrae RR., (1992). Revised NEO personality inventory manual. Odessa: Psychol Assess Res.

Cross,M., Basten, J & Hendrick, E (1998). Student-athletes and gambling: An analysis of attitudes towards risk-taking. *Journal of Gambling Studies, 14, 431-439.*

Cyders MA, Smith GT, Spillane NS, Fischer S, Annus A zM, Peterson C., (2007). Integration of impulsivity and positive mood to predict risky behavior: Development and validation of a measure of positive urgency. Psychol Assess, 19:107–18.

Delfabbro, P.H., & LeCouteur, A.L., (2009). Australasian gambling review (4th Ed.). Adelaide: Independent Gambling Authority of South Australia.

Derevensky, J. L., & Gupta, R., (2004). Adolescents with gambling problems: A synopsis of our current knowledge. Gambling: The Electronic Journal of Gambling Issues, 10, 1–22.

Evans-Lacko, S,. Little, K., Meltzer, H., et al (2010). Development and PsychometricvProperties of the Mental Health Knowledge Schedule. Can J. Psychiatry, 55 (7):440-448

Eysenck, H. J., & Eysenck, MW (1985). Personality and individual differences. New York: Plenum Press.

Eysenck, H. J., & Eysenck, S. B. G., (1975). Manual of the EPQ (Eysenck personality questionnaire). San Diego, CA: Educational and Industrial Testing Service.

Ferris, J., Wynne, H. & Single, E., (1998) *Measuring Problem Gambling in Canada.* Draft Final Report for the Inter-Provincial Task Force on Problem Gambling. Canada: Canadian Centre for Substance Abuse.

Francis, L. J. & Pearson, P: R. (1988). Religiosity and the short-scale EPQ-R indices of E, N and L, compared with the JEPI, JEPQ and EPQ. Personality and Individual Differences, 9, 653657.

GeoPoll. Mobile Gambling Among Youth in Sub-Saharan Africa. Denver: GeoPoll; (2017). Available from: http://blog.geopoll.com/mobile-gambling-among-youth-in-sub-saharan-africa [Ref list].

Grant, J. E., & Steinberg, M. A,.(2005) Compulsive Sexual Behavior and Pathological Gambling. *Sexual Addiction & Compulsivity; 12: 335-224*

Hendrick, C., Hendrick, S. S., & Reich, D. A., (2006). The brief sexual attitudes scale. *Journal of Sexual Research*, 43, 76–86.

Heaven, P. C. (1990). Religious values and personality dimensions. Personality and Individual Differences, I I, 953-956.

Hendrick, C., Hendrick, S. S., & Reich, D. A., (2006). The brief sexual attitudes scale. *Journal of Sexual Research*, 43, 76–86.

Jorm, A. F., Korten, A. E., Jacomb, P. A., Christensen, H., Rodgers, B., & Pollitt, P. (1997). Mental Health Literacy: A survey of the public's ability to recognise mental health disorders and their beliefs about the effectiveness of treatment. Medical Journal of Australia, 166, 182–186.

Kapsomenakis, A., Simos, P.G., Konstantakopoulos, G., & Kasselimis, D.S. (2018). In search of executive impairment in pathological gambling: A neuropsychological study in nontreatment seeking gamblers. Journal of Gambling Studies,1–14; Doi.https://doi.org/10.1007/s/089

Kessler et al. (2006). DSM-IV Pathological Gambling in the National Comorbidity Survey Replication. Psychol Med. www.pubmed.ncbi.nlm.nih.gov/i8257941/

Langewisch, M. W. J., & Frisch, G. R., (1998). Gambling behaviour and pathology in relation to impulsivity, sensation seeking, and risky behaviour in male college students. Journal of Gambling Studies, 14, 245–262.

Lester, D. (1990). Maslow's hierarchy of needs and personality. *Personality and Individual Differences, 11, 1187-1188.*

Livingstone, C. & Woolley, R. (2007) 'Risky Business: a few Provocations on the Regulation of Electronic Gaming Machines. *International Gambling Studies, Vol 7, No 3: 343-358 (in press)*

Maclaren, V, Best, L, Dixon & Harrigan, K (2011).Problem gambaling and the five factor model in university students. Personality and Individual Differences. 50 (3): 336-338

Marshall, D. & Baker, R. (2002). 'The Evolving Market Structures of Gambling: Case Studies Modelling the Socioeconomic Assignment of Gaming Machines in Melbourne
and Sydney, Australia', Journal of Gambling Studies, Vol 18, No. 3

Martins, S. S., Lobo, D. S. S., Tavares, H., & Gentil, V. (2002). Pathological gambling in women: A review. Revista do Hospital das Clı´nicas, 57(5), 235 – 242

McCormick, RA., Russo, AM., Ramirez, LF & Taber, JI (1984) Affective disorders among pathological gamblers seeking treatment. *Am J Psychiatry*; 141215- 218

Mental Health First Aid Australia (2008). Depression: first aid guidelines. Melbourne: Mental Health First Aid.

Meyer, G., Hayer, T and Griffiths, M (2009). Problem gambling in Europe: Challenges, prevention, and interventions. New York, NY: Springer (Goeogle Scholar).

Moore, S. m., Thomas, A. C., Kyrios, M., & Bates, G. (2012). The self regulation of gambling. *Journal of Gambling studies* 28, 15.

Nower, L., Derevensky, J., & Gupta, R. (2004). The relationship of impulsivity, sensation seeking, coping, and substance use in youth gamblers. *Psychology of Addictive Behaviors, 18,* 49-55.

Pearson, P. R. (1989). Psychoticism and spiral maze performance in elderly psychiatric patients. Personality and Individual Differences, IO, 371-372.

Pearson, P. R. (1990a). Is personality related to behavioural disability in the elderly? Personality and Individual Differences, II, 1189-1190.

Pearson, P. R. (1990b). Impulsiveness and spiral maze performance in elderly psychiatric patients. Personality and Individual Differences, 11, 1309-1310.

Petry, N. M. (2000). Gambling problems in substance abusers are associated with increased sexual risk behaviors. Addiction, 95(7), 1089 – 1110

Petry, NM. (2007) Gambling and substance use disorders: Current status and future directions. Am J Addict. 16:1–9. [PubMed] [Google Scholar]

Petry, NM (2006). Internet gambling: an emerging concern in family practice medicine? Family Practice, 23, 4: 421-426.

Petry, N. M., Strinson, F. S., Grant, B. F. (2005) Cormobidity of DSM-IV pathological gambling and other psychiatric disorders: results from the national epidemiologic survey on alcohol and related conditions. Journal of Clinical Psychiatry; 66 (5) 564-574
(PubMed)

Raine. A. & Manders, D. (1988). Schizoid personality, inter-hemispheric transfer, and left hemisphere over-activation. British Journal of Clinical Psychology, 27, 333-347:

Roy, A., Custer, R., & Lorenz, V., (1989). Personality factors in pathological gambling. Acta Psychiatrica Scandinavica, 80, 37–39.

Scanavino, M. T., Ventuneac, A., Abdo CHN, Tavares, H., Amaral, MLSAd, Messina, B.,

et. al. (2013) Compulsive sexual behavior and psychopathology among treatment-seeking men in Sao Paulo, Brazil. Psychiatry research; 209: 518-524 (PubMed)

Slutske, W.S., (2006). Natural recovery and treatment seeking in pathological gambling: Results of two U.S. national surveys. American Journal of Psychiatry, 163, 297–302.

Slutske, W. S., Caspi, A., Moffitt, T. E., & Poulton, R. (2005). Personality and problem gambling: a prospective studyof a birth cohort of young adults. Archives of General Psychiatry, 62, 769–775.

Steel, Z., & Blaszczynski, A. (1996). The factorial structure of pathological gambling. *Journal of Gambling Studies*, 12, 3–20.

Specker, S. M., Carlson, G. A., Edmonson, K. M., Johnson, P. E., & Marcotte, M., (1996). Psychopathology in pathological gamblers seeking treatment. Journal of Gambling Studies, 12, 67–81.

Ucheagwu,V., Ugokwe-Ossai, R., Okoli, P and Ossai, J. (2018). Some neuropsychological profiles and personality traits of undergraduate regular online football gamblers (a new online gambling game) in Nigeria. African Journal of Biology and Medical Research Vol.1, No.1, pp.14-25, www.abjournals.org

Wynne, H. J., (2002). *Introducing the Canadian Problem Gambling Index*. Edmonton, AB: Wynne Resources.

Zuckerman, M (1979).Sensation seeking; beyond the optimal level of arousal. Hillsdale, NJ: Lawrence Erl baum.