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COGNITIVE DISTORTIONS, OPTIMISM AND PATHOLOGICAL GAMBLING AMONG UNDERGRADUATE STUDENTS OF BENUE STATE UNIVERSITY MAKURDI

BY

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Abstract

This study investigated cognitive distortions, optimism and pathological gambling among undergraduate students of Benue State University Makurdi. The cross-sectional survey design was employed where 422 undergraduate students consisting of 179 (42.4%) male and 243 (57.6%) female students were used. Their ages ranged from 18-53years with a mean age of 36.23years (SD=4.36). Accidental Sampling was used to draw samples for the study. Three instruments were used for data collection; Self-Debasing Cognitive Distortions Scale, Optimism Bias General Scale and Pathological Gambling Diagnostic Form. Three hypotheses were tested using Simple Linear Regression and Standard Multiple Regression. Findings indicated that there was a significant influence of cognitive distortion on pathological gambling among undergraduate students of Benue State University Makurdi. Secondly, there was a significant influence of optimism on pathological gambling among undergraduate students of Benue State University Makurdi. Lastly, there was a significant joint influence of cognitive distortion and optimism on pathological gambling among undergraduate students of Benue State University Makurdi. It was recommended that, the management of Benue State University should initiate school clubs centred on advocacies against gambling, to sensitize newly admitted students on its detriments. Secondly, periodic campaign and sensitization programmes should be organized for students with the target of educating them on the impact of gambling on their resources and wellbeing.

Key Words: Cognitive Distortions, Optimism, Pathological Gambling, Students

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Introduction

Pathological gambling is a significant problem among youths especially undergraduate students. Gambling is a common behaviour observed at bet shops or online via smart devices. There are multiple risk factors and comorbidities for undergraduate students that increase their likelihood of gambling such as; being male gendered; substance use, having behavioural disorders, low socioeconomic status and participation in athletics (Atkinson et al., 2022; Shead et al., 2022; Slutske et al., 2022). The prevalence of gambling among students is nearly three times higher than among non-student adults. It is estimated that 2.6 million students may be classified as problem gamblers, with severe negative consequences by 20230 (Lostutter et al., 2022). Across studies, the rate of problem gambling in the general adult population tends to fall between 1% and 5% (Jackson et al., 2020; MacLarenet al., 2021; Odlaug et al., 2023; Orford et al., 2023). Barnes et al. (2020) found that 6% of students were at-risk or problem gamblers. Similarly, Nowak and Aloe (2023) found in Scotland, Nigeria, Singapore, Japan, and China that, the prevalence of pathological gambling was 10.23%.Research also suggests that students may be motivated to gamble for a number of reasons including to win money, excitement, enjoyment, boredom, and socialization (Shead et al., 2022). Therefore, identifying motivations for gambling behaviour among students is important to improve understanding of how problem and non-problem gamblers differ. Many factors are thus implicated in the determination of pathological gambling behaviour. Some of these factors include cognitive distortions, optimism and depression.

A notable factor that is likely to predict pathological gambling is cognitive distortion. One of the defining features of gamblers' cognitions is the tendency to overestimate the likelihood of winning due to a variety of cognitive distortions in the processing of chance, skill, and probability (Clark, 2024). Researchers have noted that problem gambling is sustained by distorted gambling cognitions (Lund, 2021; Myrseth et al., 2020). In line with this, Emond and Marmurek (2020) found that those gambling related cognitions mediate the influence of irrational thinking styles on gambling severity. Therefore, all gamblers including non-pathological gamblers, are susceptible to develop cognitive distortions. Furthermore, pathological gamblers exhibit more cognitive distortions than recreational gamblers (Michalczuk et al., 2021; Miller & Currie, 2018). As noted by Michalczuk et al. (2021), the links between impulsivity, immediate reward, and the level of cognitive distortions could largely explain the severity of a gambling disorder. Hence, an impulsive nature could lead to an unquestioned acceptance of cognitive distortions during gambling.

Another factor also implicated in the prediction of pathological gambling is optimism. Optimism covers a person's beliefs that his/her desired outcomes will easily be attainable. These statements have a positive effect in psychological and physical health (Gomez & Londono, 2023). Broekens and Baarslag (2014) found that overly optimistic risk perception (outcome optimism) results in risk taking and in persistent gambling behaviour in addition to high intensity of sensations. Similarly, Gibson and Sanbonmatsu (2024) reported that optimists were more likely than pessimists to have positive gambling expectations and report maintaining these expectations following losses.

In line with the foregoing, cognitive theories of pathological gambling assume that the acquisition of wealth (winning) is the primary motive for gambling. According to this perspective, pathological gamblers continue to engage in gambling activities, hoping or expecting to win money despite the adverse odds. The persistence of gambling behaviour is explained through cognitive distortions contributing to erroneous perceptions of the links

between random events. The gambler develops an illusion of control, and typically assumes greater winning chances that he or she objectively has (Ladouceur et al., 2002). Gambling has become widely viewed as a socially acceptable form of recreation. For many individuals, gambling is an enjoyable and harmless activity but for other individuals it can become both addictive and problematic with severe negative consequences. These consequences include bankruptcy, withdrawal from school, broken home, substance use and abuse, depression and addiction. It is therefore essential that pathological gambling be well understood and its predictors well outlined. Therefore, this study investigated cognitive distortions, optimism, depression and pathological gambling among undergraduate students of Benue State University Makurdi.

Cognitive Distortions and Pathological Gambling

Ndukaihe et al. (2023) investigated parental monitoring and age as pathways to understanding association between cognitive distortions and gambling problems among adolescents drawn from betting centers in Abakaliki, South-east Nigeria. The moderated-mediation analysis results showed that age was positively associated with problem gambling and mediated the association between inability to stop gambling and gambling problems and this mediation was further moderated by parental monitoring. Specifically, the inability to stop gambling was linked to higher gambling problems through age for youths with low parental monitoring but not for those with high parental monitoring. Finally, there was a significant link between cognitive distortions and pathological gambling. This study has the strength of using high order analysis to unveil the mediators of the cognitive distortion and gambling relationship, but the study failed to reveal the actual relationship between cognitive distortion and pathological gambling. This limitation was covered in the present study using a sample of undergraduate students.

Phua et al. (2022) compared the cognitions of sports bettors and non-sports gamblers. A total of 713 participants were recruited of which 80 were sports bettors, 270 were non-sports gamblers, and 363 were non-gamblers. The results of a between-groups MANOVA showed that sports bettors recorded higher scores for Luck/Perseverance than non-gamblers and non-sports gamblers. Sports gamblers also recorded higher Illusion of Control scores than both non-gamblers and non-sports gamblers. Problem gambling was measured using the South Oaks Gambling Screen. One-way analysis of variance between the three groups showed sports bettors scores were higher than those of non-sports gamblers, and non-gamblers. The reviewed study has the unique difference of using different scales to measure cognitive distortions and gambling, from the ones to be used in the present study. Also, it used MANOVA for analysis while the present study used regression analysis.

Nigro et al. (2022) investigated the interplay between cognitive distortions related to gambling, temporal perspective, and chasing behaviour in a sample of habitual gamblers. Hierarchical logistic regression analysis showed that the decision to chase depended on scores on the CFC-14 Immediate scale and the GRCS dimensions Gambling Expectancies and Interpretative Bias. Hierarchical linear regression analysis indicated that, chasing frequency was affected by loss condition, distortions related to gambling expectancies and predictive control, as well as by myopia for the future. Interestingly, the results of path analysis clearly indicated that some cognitions related to gambling predict chasing frequency not only directly, but also indirectly via shortened time horizon. Notably, gambling severity did not predict either the decision to chase, or the chasing persistence. However, the reviewed study was not conducted using a sample of gamblers in Makurdi metropolis. Thus, the external validity of the study is largely limited.

Esparza-Reig et al. (2021) analyzed the relationships between gambling motives, cognitive distortions and irresponsible gambling behavior, and proposed an explanatory model of gambling addiction. The results indicated that gambling motives were positively related to cognitive distortions, acting as predictors of these. Additionally, the proposed theoretical model showed goodness of fit on various indices and explained 69% of variance in cognitive distortions, 37% of that in irresponsible gambling and 43% of that in gambling addiction. The main limitation of the research was that the sample belongs to a very specific population, who did not necessarily have gambling problems. The main contributions were uncovering some of the relationships between gambling motives and cognitive distortions and the proposal of a mediating role of irresponsible gambling in the relationship between cognitive distortions and the development of gambling problems. If the proposed model replicates, it can be of help to research and health professionals.

Optimism and Pathological Gambling

Juma and Pandelaere (2023)examined the negative impact of hope on gambling decisions. In this article, findings of five studies, including a study with consequential decisions, demonstrated that in a gambling context, hope can lead to suboptimal decisions. The authors theorized and showed empirically that hope triggers experiential processing, which in turn increases gambling, even though it does not affect rational expectations of winning. Evidence from a variety of gambling contexts revealed hope leads to both intended and actual gambling behavior. However, this effect did not hold for consumers who exhibit low trait experiential processing, and was attenuated when people were prompted not to rely on their feelings. This article contributed to prior literature by providing a detailed description of how hope affects information processing and leads to suboptimal decisions in a gambling context. More broadly, the findings offered implications for policy makers and consumers seeking to understand and anticipate how an everyday positive emotion might be detrimental to consumer welfare.

Keshavarz (2020) examined arousal, mood and problem gambling: evidence for hope as a psychological strength among at-risk individuals. The study testedif hope can protect at-risk individuals (i.e., individuals who gamble to escape problems and negative emotions) from problematic gambling. Two exploratory studies were conducted to explore whether (a) potential predictors of hope can also make for positive intervention and prevention, and (b) hope can also aid in the recovery process. Consistent with predictions, findings from these two studies revealed that (i) good quality sleep and nutritional intake can increase hope levels and hope levels can in turn reduce problem gambling severity, suggesting that predictors of hope can also make for positive intervention and prevention among at-risk populations, and (ii) individuals high in hope are more likely to seek help if gambling-related problems were to emerge, suggesting that, as well as making for positive intervention and prevention, hope can also aid in the recovery process.

Capri et al. (2017) examined the role of cognitive factors, such as superstition, locus of control, decision-making and unrealistic optimism, on gambling. Results showed that pathological gamblers group obtained a high superstition index. With reference to unrealistic optimism, gambler group believed that they had a better chance of success compared to non-gamblers. They also showed a higher impulsivity index in decision making than non-gamblers. This study supported the idea that cognitive factors such as superstition, unrealistic optimism, impulsivity and external locus of control are involved in gambling.

Rafa et al. (2016) investigated whether 'optimism' and 'pessimism' as behavioral traits may determine the gambling-like behaviour of rodents. In a series of ACI tests (cognitive bias screening), they identified rats that displayed 'pessimistic' and 'optimistic' traits. Subsequently, using the rat slot machine task (rSMT), they investigated if the 'optimistic'/'pessimistic' traits could determine the crucial feature of gambling-like behavior that has been investigated in rats and humans: the interpretation of 'near-miss' outcomes as a positive (i.e., win) situation. They found that 'optimists' did not interpret 'near-miss', 'near loss', or 'clear win' as win trials more often than their 'pessimistic' conspecifics; however, the 'optimists' were statistically more likely to reach for a reward in the hopeless 'clear loss' situation. This agrees with human studies and provides a platform for modeling interactions between behavioral traits and gambling in animals. Despite the fact that the study was conducted among animals, its findings agree with human studies and can instigate clinical interventions for gambling. Based on the shortcoming identified above, the following hypotheses were formulated and tested in the present study:

i. Cognitive distortions will significantly influence pathological gambling among undergraduate students of Benue State University Makurdi.
ii. Optimism will significantly influence pathological gambling among undergraduate students of Benue State University Makurdi
iii. Cognitive distortions and optimism will jointly influence pathological gambling among undergraduate students of Benue State University Makurdi.

Design

This study employed the cross-sectional survey design to investigate cognitive distortions, optimism and pathological gambling among undergraduate students of Benue State University Makurdi. This design was employed because the opinions of the respondents were gathered across undergraduate students of diverse parameters. The independent variables in the study were cognitive distortions and optimism while the dependent variable was pathological gambling.

Participants

The participants for this study were 422 undergraduate students of Benue State University Makurdi. Their ages ranged from 18-53years with a mean age of 36.23years (SD=4.36). They consisted of 179 (42.4%) male and 243 (57.6%) female students. In terms of their religion, 372 (88.2%) were Christians while the remaining 50 (11.8%) were Muslims. As for their ethnic groups, 171 (40.5%) were Tiv, 129 (30.6%) were Idoma while the remaining 111 (28.9%) were from other ethnic groups. Still amongst them, 210 (49.8%) were Single, 174 (41.2%) were Married, 16 (3.8%) were Divorced while the remaining 22 (5.2%) were Separated. Still amongst them, 306 (72.5%) were UTME students while the remaining 116 (27.5%) were Direct Entry students. Also, 82 (19.4%) were in 100L, 81 (19.2%) were in 200L, 80 (19%) were in 300L, 83 (19.7%) were in 400L, 57 (13.5%) were in 500L while the remaining 39 (9.2%) were in 600L.

Sampling

This study adopted the use of Accidental Sampling Method. This form of non-probability sampling which does not give room for every potential participant to stand a chance of been selected for the study, but accidentally utilizes the available persons. Therefore, in every level, the technique was applied to draw samples for the study.

Instruments

For the purpose of data collection, Self-Debasing Cognitive Distortions Scale, Optimism Bias General Scale and Pathological Gambling Diagnostic Form were used.

i. The demographic variables assessed in this study included the sex, age, religion, ethnic group, marital status, mode of entry and level of study.
ii. Cognitive Distortion was measured using the Self-Debasing Cognitive Distortion Scale developed by Ara (2016). The 16-item scale is measured on a 5-point Likert format of 1 (never) to 5 (most often). The author reported an alpha coefficient of .73. Meanwhile the present study obtained an alpha of .76. Sample of items include; "If something goes wrong, I think it is my fault", "I think nothing will ever work out for me".
iii. Optimism was measured using the Optimism Bias General Scale developed by Howard (2011). The 10-item subscale is rated on a Likert scale from 1 (Strongly Disagree) to 7 (Strongly Agree). The present study obtained an alpha coefficient of .75. Sample of items include; "I expect to complete personal projects in less time than it actually takes to complete them".
iv. Gambling Behaviour was measured using an extract of the DSM-V Pathological Gambling Diagnostic Form drawn by Ademola (2016). The 9-item Pathological Gambling Diagnostic Form is scored as 0 for No and 1 for Yes. According to the Diagnostic Manual scaling, the score of 4 or more indicates a gambling disorder while a score less than 3 signal no disorder. Hence the total score of each respondent is calculated and scaled as 0 – 3 (No Gambling Disorder) 4 – 9 (Gambling Disorder). The present study obtained an alpha coefficient of .73. Sample of items include; "Have you become restless or irritable when trying to cut down or stop gambling?", "Have you lied to your family or others to hide the extent of your gambling?"

Procedure

This study was conducted among undergraduate students of Benue State University Makurdi. The researcher prepared a total of 430 copies of the questionnaire. Their consents were sought and obtained before administration. They were instructed on how to complete the scale. It took the respondents about 10 minutes each to complete the filling. After administration, a total of 422 copies representing a return rate of 98.1% were returned and considered for statistical analysis.

Data Analysis

For the purpose of data analysis, the researcher employed the use of both descriptive and inferential statistics. In this study, descriptive statistics such as mean, standard deviation, frequencies and simple percentages were used to describe the respondents. Meanwhile, inferential statistic; Simple Linear Regression, and Standard Multiple Regression were used to test the hypotheses of the study.

Results

Table 1: Simple Linear Regression showing the influence of Cognitive Distortion on Pathological Gambling among Undergraduate Students of Benue State University Makurdi.

Variables	R	R^2	F	df	β	t	Sig
Constant	.645	.416	143.847	1,420		14.049	.000
Cognitive Distortion					.645	19.772	.000

The results as presented in table 1 shows that there was a significant influence of cognitive distortion on pathological gambling among undergraduate students of Benue State University Makurdi R^2=.416, F(1,420)=143.85, p<.001. This implies that cognitive distortion accounted for 41.6% of the variance in pathological gambling. Therefore, hypothesis one was supported.

Table 2: Simple Linear Regression showing the influence of Optimism on Pathological Gambling among Undergraduate Students of Benue State University Makurdi.

Variables	R	R^2	F	df	β	t	Sig
Constant	.449	.202	157.575	1,420		10.929	.000
Optimism					.449	15.103	.000

The results as presented in table 2 shows that there was a significant influence of optimism on pathological gambling among undergraduate students of Benue State University Makurdi R^2=.202, F(1,420)=157.58, p<.001. This implies that optimism accounted for 20.2% of the variance in pathological gambling. Therefore, hypothesis two was supported.

Table 3: Standard Multiple Regression showing the joint influence of Cognitive Distortion and Optimism on Pathological Gambling among Undergraduate Students of Benue State University Makurdi.

Variables	R	R^2	F	df	β	t	Sig
Constant	.699	.487	89.443	2,419	17.333	.000	
Cognitive Distortion					.573	14.814	.000
Optimism					.418	12.998	.000

The results as presented in table 3 shows that there was a significant joint influence of cognitive distortion and optimism on pathological gambling among undergraduate students of Benue State University Makurdi R^2=.487, F(2,419)=89.443, p<.001. This implies that cognitive distortion and optimism jointly accounted for 48.7% of the variance in pathological gambling. Therefore, hypothesis three was also supported.

Discussion

Hypothesis one was tested to find out if there will be a significant influence of cognitive distortion on pathological gambling among undergraduate students of Benue State University Makurdi. Finding indicated that there was a significant influence of cognitive distortion on pathological gambling among undergraduate students. This finding tallies with Ndukaihe et al. (2023) who found a significant link between cognitive distortions and

pathological gambling. Similarly, Phua et al. (2022) revealed that sports gamblers recorded higher illusion of control scores than both non-gamblers and non-sports gamblers. Another study by Nigro et al. (2022) indicated that, chasing frequency was affected by loss condition, distortions related to gambling expectancies and predictive control, as well as by myopia for the future. Interestingly, the results clearly indicated that some cognitions related to gambling predicted chasing frequency not only directly, but also indirectly via shortened time horizon. Still in consonance, Esparza-Reig et al. (2021) indicated that gambling motives were positively related to cognitive distortions among gamblers.

Hypothesis two was tested to find out if there will be a significant influence of optimism on pathological gambling among undergraduate students of Benue State University Makurdi. Finding indicated that there was a significant influence of optimism on pathological gambling among undergraduate students of Benue State University Makurdi. This finding tallies with Juma and Pandelaere (2023) whose meta-analytical studies revealed a link between optimism and pathological gambling. A related study by Keshavarz (2020) found that individuals high in hope are more likely to seek help if gambling-related problems were to emerge, suggesting that, as well as making for positive intervention and prevention. They also revealed that hope can also aid in the recovery process for gamblers undergoing treatment. Also, Capri et al. (2017) found that people with unrealistic optimism believed that they had a better chance of success compared to non-gamblers. Relatedly, Rafa et al. (2016) also indicated a linkage between hope and gambling behaviour.

Hypothesis three was tested to find out if there was a significant joint influence of cognitive distortion and optimism on pathological gambling among undergraduate students of Benue State University Makurdi. Finding indicated that there was a significant joint influence of cognitive distortion and optimism on pathological gambling among undergraduate students of Benue State University Makurdi. This finding however lacks the support of previous studies.

Conclusions

The following inferences have been drawn from the study based on the findings obtained herein: First, distorted cognition is a determinant of pathological gambling among undergraduate students. Secondly, optimism has influence on pathological gambling among undergraduate students. Lastly, pathological gambling is jointly influenced by cognitive distortion, optimism and depression.

Recommendations of the Study

With the above inferences, the present study has highlighted the following recommendations: First and foremost, the management of Benue State University should initiate school clubs centred on advocacies against gambling, to sensitize newly admitted students on its detriments. Secondly, periodic campaign and sensitization programmes should be organized for students with the target of educating them on the impact of gambling on their resources and wellbeing.

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