Personality Traits and Cognitive Distortions as Predictors of Pathological Gambling Among Lottery Gamblers in Ibadan Nigeria

by

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Abstract

This study investigated the influence of personality traits and cognitive distortions on pathological gambling among lottery gamblers in Ibadan, Nigeria. The research was conducted on a group of 469 (383 males; 86 females) gamblers in Ibadan using three psychometric scales: Gambler’s Belief Questionnaire (GBQ), Big Five Personality Scale; Cognitive Distortions Scale. Result revealed that cognitive distortions had significant influence on pathological gambling while Occupation and educational qualification jointly predicted pathological gambling. Neuroticism, Education, and Age all independently predicted pathological gambling while Occupation and educational qualification jointly predicted pathological gambling. Cognitive distortions, neuroticism, education and age were important determinants of pathological gambling. The gamblers required a comprehensive, cognitive restructuring to desensitize them from pathological gambling. In future, extended interdisciplinary research should be carried out on psychological profiling among pathological gamblers to optimize comprehensive personality assessment.

Keywords: Pathological gambling, cognitive distortions, cognitive restructuring

1. Introduction

With the proliferation and acceptance of gambling in society and the prevalence of the get rich-quick syndrome, adults and youths now engages in different forms of
gambling, such as the Dice betting, Jokers, Internet gambling, Naira bet, Lotto gambling, popularly known as “BABA IJEBU” in south western Nigeria among others, the gambling venues and casino continue to expand day-by-day. Advertisements of Non-skill game such as the visa-lottery are now placed in the media. The telecommunication service provider companies such as MTN, GLOBACOM, AIRTEL, ETISALAT etcetera also promote gambling by introducing recharge certain amount and get a visa to travel to England to watch the English premiership matches (LIVE) and also introducing, who wants to be a millionaire, the Nigerian Bottling Companies and Breweries are not left out in their so-called marketing techniques or promotions.

In spite of attempts to protect minors from harm by prohibiting them from engaging in most forms of gambling, there are few restrictions on the marketing of gambling products (Monaghan, 2008). Evidence of high rates of gambling and associated problem amongst the adults and youths indicates that the issue of gambling must be addressed to minimize harm (Dervensky and Gupta, 2004).

The study examined the following objectives as it relates to the study. The main objective was to examine the personality trait i.e. the Big Five factors and cognitive distortions on pathological gambling, among gamblers. The specific objectives include:

1. To determine the existing relationships among personality traits (extraversion, agreeableness, conscientiousness, neuroticism and openness to experience), cognitive distortions and pathological gambling among gamblers.
2. To investigate the independent and joint predictive roles of personality traits and cognitive distortions on pathological gambling among gamblers.
3. To investigate the independent and joint influence of age, sex, marital status, occupation and educational qualification on pathological gambling among gamblers.

2. Review of Related Literature

When considering the nature of the behaviour, gambling attraction primarily lies in the arousal of winning and (in some cases) losing money. However, pathological gambling is a repeated betting behaviour that interferes with a person’s finances, job, family life or other relationship (Alissa, 2008). It can also be a form of behavioural addiction that has been associated with elevated impulsivity and also cognitive distortions in the processing of chance, probability and skill (Michalzuk, 2011). It is clear that gambling addiction result from an interaction between many different variables (e.g. environmental, social, psychological and/or biological) pathological gambling have a large negative economic and psychological impact on individuals and families. Gerstein, Murphy and Bard, Enjelman, (1999) opined, that pathological gambling can strain relationship, interfere with responsibilities at home and work, and lead to financial catastrophe. It may even lead people to do things they never thought possible, like stealing money to gamble or taking money meant for their children. People with this problem are sometimes forced to sell personal items, like cars and houses, to pay off gambling debts.

Personality trait has been linked to pathological gambling, i.e. the Big Five-personality factors, there have been different theoretical perspectives in the field of
personality psychology over the years including human motivation, the whole person, and individual differences (Costa and McCrae, 1992). Allport, Norman and Cattell (1995) were influential in formulating this taxonomy which was later refined. Allport compiled a list of 4500 traits, Cattell reduce this list to 35 traits. Other continued to analyze these factors and found congruence with self-ratings, rating by peers and rating by psychological staff that eventually became the Big Five factors. The Big Five Factor is: openness to experience, conscientiousness, extraversion, agreeableness and neuroticism.

Openness to experience is a general appreciation for art, emotion, adventure, unusual ideas, imagination, curiosity, and variety of experience. The trait distinguishes imaginative people from down-to-earth, conventional people. They tend to be compared to closed people, more creative and more aware of their feelings. They are more likely to hold unconventional beliefs (Costa and McCrae, 1992).

Conscientiousness is a tendency to show self-discipline, act dutifully, and aim for achievement against measures or outside expectations. The trait shows a preference for planned rather than spontaneous behaviour. It influences the way in which we control, regulate, and direct our impulse (Costa and McCrae, 1992).

Extraversion is characterized by positive emotions, surgency, and the tendency to seek out stimulation and the company of others. The trait is marked by pronounced engagement with the external world. Extraverts enjoy being with people, and are often perceived as full of energy. They tend to be enthusiastic, action-oriented individual who are likely to say “Yes” or “Let go” to opportunities for excitement. In groups they like to talk, assert themselves, and draw attention to themselves (Costa and McCrae, 1992).

Agreeableness is a tendency to be compassionate and co-operative rather than suspicious and antagonistic towards others. Agreeable individual’s values getting along with others. They are generally considerate, friendly, generous, helpful, and willing to compromise their interests with others. Agreeable people also have an optimistic view of human nature. They believe people are basically honest, decent, and trustworthy (Costa and McCrae, 1992).

Neuroticism is the tendency to experience negative emotions, such as anger, anxiety, or depression. It is sometimes called emotional instability. Those who score high in neuroticism are emotional reactive and vulnerable to stress. They are more likely to interpret ordinary situations as threatening and minor frustrations as hopelessly difficult (Costa and McCrae, 1992).

Cognitive distortions are rationalizations that serve to neutralize conscience, potential empathy, and guilt, and thereby prevent damage to the self-image when an individual engages in antisocial behaviour (Barriga and Gibbs, 2001). In this way cognitive distortions play a role in protecting the self from blame or negative self-concept and facilitate aggression or other antisocial behaviour (Barriga and Gibbs, 2001).

The concept of cognitive distortion has suffered both from an absence of empirical support and also from a lack of clarity in definition. Over time, this lack of clarity has become increasingly problematic. Authors have broadened the concept of cognitive distortion in different ways; for example, using the term to describe general antisocial thinking (Ward, 2000). In clinical practice, the term cognitive distortion has
become confused with any causal explanation for offending given by offenders, no matter how valid the explanation might be (Mann and Webster, 2001).

The cognitive distortions, introduced by Aaron Beck (2003, 2004) and Albert Ellis (2002) are traditionally defined as fallacious reasoning that plays a crucial role in the emergence of certain mental disorders. Cognitive distortions are errors in thinking that impinge upon the person’s view of themselves, of other people and of their own future.

Gibbs and Potter (2002) have delineated the self-serving cognitive distortions into four categories:

i. Self-Centered: According status to one’s own views, expectations, needs, rights, immediate feelings, and desires to such an extent that legitimate views of others are scarcely considered or are disregarded.

ii. Blaming Others: Misattributing blame for one’s harmful actions to outside sources, especially to another person, a group, or a monetary aberration (in a bad mood); or misattributing blame for one’s victimization or other misfortune to innocent others.

iii. Minimizing/Mislabeling: Depicting antisocial behavior as causing no real harm or as being acceptable or even admirable; or referring to others with belittling or dehumanizing labels.

iv. Assuming the Worst: Gratuitously attributing hostile attention to others, considering a worst case scenario for a social situation as if it were inevitable, or assuming that improvement is impossible in one’s own or other’s behavior.

These cognitive distortions may manifest themselves into externalizing problem behaviors such as aggression and criminal behavior (Yochelson and Same now, 1976). For example, self-centered thinking errors usually stem from egocentric bias. In turn, these primary cognitive distortions may result in blatantly harmful antisocial behavior to others (Gibbs, Potter, Goldstein, 2005). Once the behavior has been engaged, the youth may experience psychological stresses such as guilt and damage to the self-image. Therefore, the secondary cognitive distortions (blaming others, assuming the worst, and minimizing) develop which permit the youth to continue the antisocial behavior by neutralizing the guilt and preventing damage to the conscience.

There are numerous factors contributing to the development of pathological gambling, cognitive distortions and personality trait also seems to be an important factor. Research has shown that neuroticism and extraversion are correlated constructs, and they predict the same kinds of behavioural phenomena (Zuckerman and McDaniel, 2003). Neuroticism is regarded as the inability to inhibit responses. Some aspects of extraversion are thrill and adventure seeking, experience (or intensity) seeking, dis-inhibition, and boredom susceptibility. Pathological gamblers commonly exhibit certain traits. They thrive on challenges, are attracted to highly stimulating situations, tolerate boredom poorly, and if they find a task to be dull, they will avoid it or not complete it (Peck, 1986).

Pathological gambling occurs when a person gambles compulsively to such an extent that the wagering has a severe negative effects on his/her job, relationship, mental health or other important aspects of life. The person may continue to gamble even after they have developed social, economic, interpersonal, or legal problems as a result of the gambling
Gambling could serve as a gateway to other crimes. A problem or pathological gamblers could steal, embezzle or forge cheques, in order to get money to satisfy their urge to gamble and many a times they loose their life savings in order to finance gambling.

For these reasons, gambling has to be researched into and recommendation have to be made to individual, school counselors, non-governmental organizations, welfare organizations etcetera.

In view of this, the following research hypotheses are highlighted to guide the direction of this study:

i. Participants who are high in cognitive distortions will significantly score high in pathological gambling.
ii. Participants who are high in extraversion will significantly report high pathological gambling.
iii. Neuroticism, extraversion, agreeableness will significantly independently and jointly predict pathological gambling.
iv. Age, sex and marital status will jointly predict pathological gambling.
v. Occupation and qualification will jointly predict pathological gambling

3. Materials and Methods

Design
This study adopted cross-sectional survey design to examine the influence of personality traits and cognitive distortion on pathological gambling

Population
The population consisted of people who engaged in playing Lotto in Ibadan metropolis.

Participants
A sample of 469 participants was drawn from lottery gamblers over the age of 21 years. The average age of the sample was 28.2 years (SD 15.2), and men outnumbered women (81.7% vs. 18.3%). A majority (78%) of the participants reported to have been involved in gambling for at least six months. On the average, participants had gambled approximately 15 times during the past 12 months and had spent over 2 hr gambling on each of those occasions.

Instruments
A 56–item structured self–report questionnaire which was divided into 3 sections was used:

SECTION A was designed to obtain participants’ socio-demographic information including sex, age, marital status, religion, educational qualification and occupation.

SECTION B consisted of 24 item gamblers belief questionnaire developed by Steenbergh, Meyers. May, and Whelan, (2002). Directions to the respondent were “Read each of the following statements carefully. Rate to what extent you agree or disagree with each
statement by circling a number.” Each item was rated on a Likert-type scale that ranged from 1 (strongly agree) to 5 (strongly disagree). Higher score indicates that individuals are high in pathological gambling. Reliability co-efficient alpha of .79 was obtained in this study.

SECTION C: Personality Traits (Big five) scale

The big five personality scale was developed by Furnham, McManus and Scott (2003) and measures five different personality constructs (Neuroticism, Extraversion, openness, agreeableness and conscientiousness). Short version of 10-items was used in this study. It is rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The reliability co-efficient alpha of 0.67 was established in this study.

SECTION D: Cognitive Distortions Scale

The 16-item interpersonal cognitive distortions scale was developed by Hamamci and Büyükoztürk (2004). The response ranges from 1=Never to 5=Always. Higher score indicates that individuals are high in cognitive distortions. Reliability co-efficient alpha of .67 was obtained in this study.

Procedure
Participants were recruited from lotto booths while waiting to fill the lottery coupon in different parts of Ibadan Metropolis. Ibadan Metropolis was made up of five local government areas. This division was followed in administration of the questionnaires. One hundred copies of the questionnaire were distributed in each local government area. Two research assistants were employed and trained by the researcher on the administration of the questionnaire and were sent to cover three local government areas while the remaining two local government areas was covered by the researcher. Participants were approached, informed of the study, and asked to participate. If the individual chose to participate, he or she was provided a consent form, a questionnaire packet, and a pencil and, if consent was provided, he/she was asked to complete the questionnaire at that time. Participants were informed that they were under no obligation to participate, that they could drop out of the study at any time, and that nonparticipation in the study would have no adverse consequences. All participants were asked to complete the GBQ–1, a gambling involvement questionnaire, 2 Big Five Personality Inventory and 3. Cognitive Distortions Scale that provided demographic information also. The questionnaire required about 15-20 minutes completing. Of 500 questionnaires administered, only 469 were correctly completed and returned, representing 93.8% response rate. The returned questionnaires considered adequate for data analysis were coded, stored and entered for data analysis using the SPSS 20.0 version of computer software package.

4. Limitation of the Study

Certain obstacles insurmountably mediated in the way of this research. First of all, the study could only make use of 500 (five hundred) participants, more participants should have been included in further study on this topic for generalization. The issue of language posed a serious problem. Some of the participant found the items of the
instrument a bit difficult to comprehend and this may have some effect on their responses. However, efforts were made to explain some of the items to the participants in the language they understood.

5. Results and Discussion

The first hypothesis that participants who are high in cognitive distortions will significantly score high in pathological gambling was tested using t-test for the independent samples and the result is presented in Table 1.

Table 1: Summary of t-Test Showing the Influence of Cognitive Distortions on Pathological Gambling

<table>
<thead>
<tr>
<th>DV</th>
<th>Cognitive distortions</th>
<th>N</th>
<th>X</th>
<th>Sd</th>
<th>df</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>high</td>
<td>232</td>
<td>47.68</td>
<td>6.19</td>
<td>467</td>
<td>5.534</td>
<td>&lt;.01</td>
<td></td>
</tr>
<tr>
<td>low</td>
<td>237</td>
<td>44.51</td>
<td>6.22</td>
<td>467</td>
<td>5.534</td>
<td>&lt;.01</td>
<td></td>
</tr>
</tbody>
</table>

From Table 1, cognitive distortions had significant influence on pathological gambling at \( t(467) = 5.534; \ p <.01 \). This showed that participants higher on cognitive distortions (\( X = 47.68 \)) scored higher on the measure of pathological gambling than those who scored low on cognitive distortions (\( X = 44.51 \)). Therefore, the hypothesis was confirmed and accepted.

The second hypothesis that participants who were high in extraversion would significantly report high pathological gambling was tested using t-test for the independent samples and the result is presented in Table 2.

Table 2: Summary of t-Test for Independent Samples Showing the Influence of Extraversion on Pathological Gambling

<table>
<thead>
<tr>
<th>DV</th>
<th>Extraversion</th>
<th>N</th>
<th>X</th>
<th>Sd</th>
<th>df</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gambling</td>
<td>High</td>
<td>230</td>
<td>46.15</td>
<td>6.612</td>
<td>467</td>
<td>.257</td>
<td>&gt;.05</td>
</tr>
<tr>
<td></td>
<td>low</td>
<td>239</td>
<td>46.00</td>
<td>6.194</td>
<td>467</td>
<td>.257</td>
<td>&gt;.05</td>
</tr>
</tbody>
</table>

Table 2 shows that extraversion personality trait had no significant influence on pathological gambling among research participants in this study at \( t(467) = .257; \ p > .05 \). This result indicated that, there was no significant mean difference between participants higher on extraversion and those lower on extraversion on pathological gambling. Therefore, this hypothesis was rejected.

The third hypothesis that neuroticism, extraversion, agreeableness would independently and jointly predict pathological gambling was tested using multiple regressions and the result is presented on Table 3.
Table 3: Summary of Multiple Regressions Showing the Influence of Personality Traits on Pathological Gambling

<table>
<thead>
<tr>
<th>Predictors</th>
<th>R</th>
<th>R²</th>
<th>F</th>
<th>P</th>
<th>β</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>neuroticism</td>
<td>.124</td>
<td>.015</td>
<td>2.407</td>
<td>&gt;.05</td>
<td>.126</td>
<td>-2.365</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>extraversion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.056</td>
<td>-1.193</td>
<td>&gt;.05</td>
</tr>
<tr>
<td>agreeableness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.083</td>
<td>-1.546</td>
<td>&gt;.05</td>
</tr>
</tbody>
</table>

Dependent variable: pathological gambling

From Table 3, the result indicates that personality traits (neuroticism, extraversion and agreeableness) did not jointly predict pathological gambling among gamblers in Ibadan metropolis at (R= .124; R² = .015; f (3,465) = 2.407; p >.05). This implied that personality factors did not account for a significant variance in pathological gambling and the tested hypothesis is rejected.

The fourth hypothesis that age, sex and marital status would jointly predict pathological gambling was tested using multiple regressions and the results are presented on Table 4.

Table 4: Summary of Multiple Regressions Showing the Influence of Age, Sex and Marital Status on Pathological Gambling

<table>
<thead>
<tr>
<th>Predictors</th>
<th>R</th>
<th>R²</th>
<th>F</th>
<th>P</th>
<th>β</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.524</td>
<td>.297</td>
<td>2.408</td>
<td>&lt;.05</td>
<td>.109</td>
<td>2.368</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.11</td>
<td>.235</td>
<td>&gt;.05</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.057</td>
<td>-1.234</td>
<td>&gt;.05</td>
</tr>
</tbody>
</table>

Dependent variable: pathological gambling

Table 4 result indicates that age, sex and marital status jointly predicted pathological gambling among gamblers in Ibadan metropolis at (R = .524; R² = .297; F (3,465) = 2.408; p <.05). This implied that age, sex and marital status jointly accounted for about 29.7% variance in pathological gambling. Therefore, this hypothesis was confirmed and accepted.

Hypothesis five that occupation and educational qualifications will significantly, independently and jointly predict pathological gambling was tested using multiple regressions. See Table 5 for the results.

Table 5: Summary of Regressions Showing the Influence of Occupation and Education on Pathological Gambling

<table>
<thead>
<tr>
<th>Predictors</th>
<th>R</th>
<th>R²</th>
<th>F</th>
<th>P</th>
<th>β</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupation</td>
<td>.213</td>
<td>.045</td>
<td>11.048</td>
<td>&lt;.05</td>
<td>-.007</td>
<td>-.127</td>
<td>&gt;.05</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.216</td>
<td>4.183</td>
<td>&lt;.05</td>
</tr>
</tbody>
</table>

Dependent variable: pathological gambling

Table 5 showed that occupation and educational qualification jointly predicted pathological gambling among gamblers in Ibadan metropolis at (R = .213; R² = 0.45; F (2,466) = 11.048; p <.05) that is, occupation and education jointly accounted for about
4.5% variance in pathological gambling. This implied that education accounted for about 21.6% variance in pathological gambling. Therefore, this hypothesis was confirmed.

In this study, five hypotheses were tested, using the T-test for independent samples to test the influence of cognitive distortions on pathological gambling and to test the differences between participants who are higher on extraversion and those lower on extraversion on pathological gambling. Multiple Regressions was used to test personality traits (neuroticism, extraversion and agreeableness) on pathological gambling, the influence of age, sex and marital status on pathological gambling and the influence of occupation and education on pathological gambling respectively.

The first hypothesis that participants who were high in cognitive distortions would significantly be high in pathological gambling was confirmed and accepted at \( t(467) = 5.534; P <.01 \). This showed that participants higher on cognitive distortions (\( \bar{X} = 47.68 \)) score higher on the measure of pathological gambling than those who scored low on cognitive distortions (\( \bar{X} = 44.51 \)).

The second hypothesis stated that participants who were high in extraversion would significantly reports high pathological gambling was not accepted, \( t(t 467) = .257; P > .05 \). This result indicated that, there was no significant mean differences between participants higher on extraversion and those lower on extraversion on pathological gambling. The findings supported the work of Advian Griffith and Paul (1999), that personality trait i.e. different of gratification and competitiveness only predicted pathological gambling.

The third hypothesis that neuroticism, extraversion, agreeableness would independent and jointly predict pathological gambling was not accepted, at \( R = .124; R^2 = .015; f (3,465) = 2.407; P > .05 \). This implied that personality factors did not account for significantly variance in pathological gambling. These findings supported the research of Lightsey and Hulsey (2002) that outside factors, such as stress contributed more to pathological gambling.

The fourth hypothesis stated that age, sex and marital status would jointly predict pathological gambling was confirmed and accepted in this study at \( R = .524; R^2 = .297; F (3,465) = 2.408; P <.05 \). This implied that age, sex and marital status jointly accounted for about 30% variance in pathological gambling. The findings supported the work of Grucza (2006) which proposed that gender was significantly associated with gambling status.

The fifth hypothesis stated occupation and qualification would jointly predict pathological gambling was accepted at \( R = 213; R^2 = 0.45; F(2,466) =11.048; P <.05 \) i.e. occupation and education jointly accounted for about 4.5% variance in pathological gambling.

6. **Conclusion and Recommendations**

From this study, it is pertinent to note that, distorted thinking is associated with persistence in gambling. While speculative, these results are congruent with behavioral therapy that challenges the thinking patterns of patients with problem and pathological gambling. Public health and intervention studies should test the utility of media messages
that reinforce the randomness of gaming and draw attention to the distorted thinking common to problem gambling.

More studies can be carried out to find out whether or not (in the Nigeria context) other factors like parental upbringing environmental factors could influence or prone an individual to gambling.

An attempt could also be made to compare self-esteem and self-actualization of non-gamblers to gamblers individuals.

7. References


Dervensky, J. and Gupta (2004). The Relationship of impulsivity, sensation seeking, coping and


