Personality Traits, Perceived Stress and Social Network as Predictors of Alcohol Addiction among Youths in Ibadan, Nigeria

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Abstract

The challenge of alcohol use among youths has been on the increase and the problems are manifested to the individual, the family and the society at large. One such problem is alcohol addiction which has been investigated using different predictors with varying results. Therefore, this study re-examines personality traits, perceived stress and social network as predictors of alcohol addiction among youths in Ibadan, Oyo State, Nigeria. The study adopted cross-sectional survey design while data was collected from 384 youths (males 282, females 102) using validated questionnaires. Data collected were analyzed using zero-order correlation, t-test of independent samples and multiple regressions analysis. Four questions were tested and the results were accepted at a $p < 0.05$ level of significance. The results showed that personality traits ($r = 0.168$, $p < 0.05$) and social network ($r = .057$, $p < 0.05$) positively correlated with alcohol addiction while perceived stress negatively correlated with alcohol addiction [$r = - 0.029$, $p < .05$]. Also, the result revealed that perceived stress significantly influenced alcohol addiction among youths ($t [383] = 0.213$, $p <. 0.05$). However, social networks did not significantly influence alcohol addiction among youths in Ibadan ($t [382] = .026$, $p >. 05$). Finally, the results showed the combined effect of personality traits, perceived stress and social network as joint predictors of alcohol addiction among youths in Ibadan [$R^2 = .125$, $F [5, 378] = 10.771$, $p < .05$). The study concluded that personality traits, perceived stress and social network are good predictors of alcohol addiction among the study participants. The study recommended that mental health workers should carried out personality profiling, used stress therapy and design targeted adverts to help youths who are suffering from alcohol addiction.

Keywords

Alcohol addiction, Perceived stress, Personality traits, Social network, Youths/ Ibadan

Introduction

The use of alcohol has remained a pervasive problem to human societies throughout history. The World Health Organization (WHO, 2023) reported that the level of alcohol consumption has increased exponentially which is responsible for the death of about 3.3 million people globally. Youths are at a time of high vulnerability in development of dangerous and destructive habits such as substance abuse that include the use of alcohol and other illicit drugs (James, 2023).

Alcohol is one of the world's most commonly used substances especially among adolescents and young adults (James, 2023). According to the World Health Organization (WHO,

2018), Nigeria ranks high among African countries plagued by alcohol consumption where over 75% of the general population takes alcohol weekly. Alcohol has become a common drink in leisure activities and social functions. As a result, a high percentage of Nigerian youths reportedly consume alcohol starting at a very early age. This high consumption of alcohol is the cause of alcohol addiction - also referred to as alcoholism, alcohol dependence, or alcohol use disorder (Knecht et al, 2017; Burk et al, 2022).

Some factors have been investigated as predictors of alcohol addiction. This study will discuss three factors including personality traits, perceived stress and social network. Personality trait is a consistent behavioural pattern of an individual over time (Boyle et al., 2018). Scholars have frequently used the Five-Factor Model (FFM) personality structures proposed by McCrae and Costa (2015) to explain individual personality. The Big Five Factors are decomposed into neuroticism, extraversion, openness to experience, agreeableness and conscientiousness. Studies revealed that individuals who scored high in neuroticism (Lyvers et al., 2019; Benjamin & Wulfert, 2005), extraversion (Hakulinen & Jokela, 2018; Lyvers et al., 2019; Olufunmike, 2018; Taiwo et al., 2022), openness to experience (Goclowska et al., 2019; Hell et al., 2022; Lui et al., 2022) and low in conscientiousness(Gallego et al., 2018) scored high in alcohol addiction scale while individuals who scored high in agreeableness scale were found to score the lowest in alcohol addiction scale (Olufunmike, 2018; Taiwo et al. 2022).

Perceived stress influences behavior which could be a positive or a negative response (McCoy et al, 2017). Youth encounter stress from different areas of life such as in schools, family settings, work places, family conflict, social and personal challenges making perceived stress a leading cause of mental illness (Jackson & Sher, 2023). Studies have revealed that individuals who scored high in perceived stress scale tend to be involved in alcohol consumption that over time become dependent and addicted which causes alcohol addiction (Dunn & Wang, 2003; James, 2023). One study that investigated the relationship between perceived stress and alcohol consumption found alcohol consumption as high as 79.8% among youths (Dick et al., 2013). Perceived coping motives was also found to have significant relationship with drinking motives while different drinking motives did not show significant relationship across different groups between first year and final year students. When perceived stress was studied as predictor of alcohol addiction among college students during the COVID-19, Seipose et al. (2019) found perceived stress to be a significant predictor of alcohol addiction among the study participants. Also, alcohol abusers were more likely to engage in maladaptive coping styles compared to the non-abusers. In terms of the frequency and intensity of youths' involvement in alcohol abuse, Hariom et al. (2019) found the frequency of alcohol abuse to be 4.97% while the intensity was 16.47 among their study participants.

The use of social network such as Facebook, WhatsApp, Instagram, Twitter(X), YouTube, Tumblr, Vine, Snapchat, Myspace, Instant Messenger, and Bebo provide a virtual space where young people can socialize, potentially replacing physical spaces such as bars and nightclubs. Datareportal (2023) reported that about 21.75 million Nigerians are active users of Facebook accounts as at January 2023. Empirical analyses of the contents and messages posted on Facebook have found that alcohol-related contents on social networks where youths interact convey

positive attitudes towards alcohol addiction (Henriksen, 2021; Hennessy & Tanner-Smith, 2018). Bozzola et al. (2022) found the percentage of youths posting alcohol-related contents on Facebook to have increased from 25% to 49.9%. Studies on the effects of social networks on alcohol addiction gave varying results. For example, Siciliano et at. (2013) found users of digital technologies to be among those drinking alcohol leading to alcohol addiction. A contrary finding was that social media networks did not influence alcohol addiction (Best et al., 2016), and that youths who want to indulge in drinking alcohol would not necessarily be influenced by what they see on social media (Best et al., 2016).

There have been progressive actions by the Nigerian government to regulate substance use and abuse among youths in the country. Laws have been legislated to curb substance use and abuse and there have been agencies set up such as the National Agency for Food and Drug Administration and Control (NAFDAC), National Drug Law Enforcement Agency (NDLEA), and Standard Organization of Nigeria (SON) to curb illegal drug activities in Nigeria. However, even with these government efforts, there seems to be a continuous high prevalence of alcohol abuse (25%) among youths which leads to alcohol addiction and sporadic binge drinking (Dumbili et al., 2022). The National Survey Data (NSD, 2020) raised the alarm that 50% of youths between ages of 18 and 35 years consumed alcohol weekly, and 25.5% drank alcohol daily. Also, alcohol addiction has been found to be associated with a number of risk factors and harms such as delinquent behavior, economic deprivation, criminal behavior, impulsive thoughts, anti-social behavior, vocational failure and social conflict (Hawkins, 2019; Loxley et al., 2022). Despite these campaigns by both the non-governmental organizations (NGOs) and the government on substance abuse, alcohol abuse has increased leading to alcohol addiction.

Many factors have been investigated as likely predictors of alcohol addiction among different populations with some studies being supported while other studies are contradicted.

Studies have investigated psychological predictors of alcohol addiction among different populations with varying results. Therefore, the main objective of this study was to investigate personality traits, perceived stress and social media as predictors of alcohol addiction among youths in Ibadan metropolis, Nigeria.

The following hypotheses were tested in this study:

H1: There would be significant relationship among personality traits, perceived stress, social network and alcohol addiction among youths in Ibadan.
H2: Youths who scored high on perceived stress would score higher on alcohol addiction than youths who score low on perceived stress.
H3: Youths who scored high on social media network would score higher on alcohol addiction than youths who score low on social media network.
H4: Personality traits, perceived stress, and social network would jointly and independently predict alcohol addiction among youth in Ibadan.

Methodology

The study employed cross-sectional survey design using questionnaires to collect data from a sampled population of youths in Ibadan-North Local Government Area (LGA) of Oyo State, Nigeria. The research

settings were the University of Ibadan, Agbowo, Sango and the Polytechnic Ibadan. These areas were selected because of high youth population and where the prevalence of alcohol abuse among youths was high.

Sample size was calculated using Cochran's sample size formula and this was translated to 384 participants used in the study.

Four instruments were used for data collection which included the *Drug Abuse Screening Test (DAST)* used as a screening tool for alcohol addiction. It is a 20-item self-report scale. The instrument takes approximately 5 minutes to administer and we used computerized formats. Directions: The following questions concern information about your involvement with drugs. Drug abuse refers to (1) the use of prescribed or "over-the-counter" drugs in excess of the directions, and (2) any non-medical use of drugs. DAST has excellent internal consistency reliability (alpha) of 0.95 for the total sample and 0.86 for the drug abuse sample. For the present study, Cronbach's alpha of 0.87 was reported.

Personality trait was measured using a 10-item personality inventory (TIPI) developed by Gosling et al. (2003). The scale is presented in a 7-point Likert's format that ranges from 1 = disagree strongly, 2 = disagree moderately, 3 = disagree a little, 4 = neither agree or disagree, 5 = agree a little, 6 =agree moderately, 7= strongly agree. In the scale, 2 items are for each of the 5 dimensions (openness to experience, conscientiousness, extraversion, agreeableness and neuroticism). It takes less than 10 minutes to complete the scale. The scale Cronbach's alpha was 0.80 while in the present study; the Cronbach's alpha was 0.77.

Social network was evaluated using Social Media Use Integration Scale (SMUIS) which was developed by Jenkins-Guarnieri et al. (2013). SMUIS is a 10-item scale which has two subscales: Social Integration and Emotional Connection (SIEC) and Integration into Social Routines (ISR). SMUIS is scored on a 5-point Likert's rating format where 1= Strongly disagree, 2= Disagree, 3=Neutral or I don't No, 4 = Agree, 5 = Strongly agree. Some of the items on the scale include: 'I enjoy checking my Facebook account', and 'Facebook plays an important role in my social relationships. The scale Cronbach's alpha was 0.80 and for the present study, the scale Cronbach's alpha was 0.76.

Perceived stress was determined using the Perceived Stress Scale developed by Cohen et al. (1983). The scale is a 10-item presented on a Likert's type response format, which asks the respondents to indicate on a 5-point scale (0= Not stressful, 1-Never, 2-Rarely, 3-Sometimes, 4-Often, and 5-Always their levels of perceived stress. Some items include: 'I feel like stress is a part of my life', 'I often feel unnecessarily over-stressed', and 'I often feel unnecessarily over-stressed' The scale has a Cronbach's alpha of 0.96, while in the present study, the scale Cronbach's alpha was 0. 84..

The researchers obtained a letter of Introduction from the Department of Psychology; University of Ibadan which was used to introduced them to the potential participants. The researchers approached potential participants in the halls of residents and students' union buildings for those in the university and polytechnic and in eateries and clubs for participants from Agbowo and Sango, all within Ibadan-North LGA. A total of 390 questionnaires were distributed over a period of eight days across the four areas selected within Ibadan-North LGA, 387 copies were retrieved which gave a 99 percent response rate, however, three questionnaires were incompletely filled and were removed,

thus left with 384 questionnaires used for the analysis.

Ethical Consideration

Due diligence was paid to ethical issues in the course of carrying out the research. The principle of informed consent was observed; prospective participants were informed about the nature of the study, and verbal consent was obtained from those who indicated interest to participate. Anonymity and confidentiality of responses were ensured while freedom from harmful consequences was also ensured. Meanwhile, prospective participants were equally told of their right to withdraw from the research at whatever point they felt inclined to do so.

Data collected were analyzed using SPSS version 23. Both descriptive and inferential statistics were used for the analysis. Hypothesis 1 was tested with zero-order correlation; question 2 and 3 were tested with t-test for independent samples, while hypothesis 4 was tested using multiple regressions analysis. All questions were accepted at a 0.05 level of significance.

Results

Participants

The study participants consisted of 282 (73%) males while 102 (27%) were females. The age of the participants showed that 211(55%) were between 18 and 25 age bracket, 141(37%) were between 26 and 32 age bracket while 32(8%) were between 33 and 39 age bracket. In terms of the participants' marital status, 204 (53%) were singles, while 180(47%) were married. The educational qualifications of the participants showed that 89 (23%) had primary school certificates, 153(40%) of the participants had secondary school certificates, while 142(37%) of the participants were degree holders. Finally, in terms of religious faiths, 205(53%) of the participants were Muslims, 163(42%) were Christians, while 16(5%) were from other faiths. In this study, the prevalence of alcohol abuse among male samples was 12.5% and 7.2% for female sample which warranted the present study.

Testing the hypotheses

H1: There would be significant relationship among personality traits, perceived stress, social network and alcohol addiction among youths in Ibadan. This was analyzed using zero-order correlation statistics which is presented in Table 1.

Table 1 shows zero-order correlation statistics of the study variables. The result showed a positive relationship between personality trait and alcohol addiction [$r = 0.168$, $p < 0.05$] which indicated that as personality trait increased, alcohol use would also increase at 16.8%. Furthermore, perceived stress has a negative relationship with alcohol addiction [$r = -0.029$, $p < 0.05$]. This relationship indicates that the higher the perceived stress, the lesser their alcohol addiction. Furthermore, social networks showed a weak positive relationship with alcohol addiction [$r = .057$, $p < 0.05$]. This indicated that the more the use of social networks, the higher alcohol uses disorder among youths in the study. Therefore, the hypothesis was confirmed.

H2: Youths who scored high on perceived stress would score higher on alcohol addiction than youths who scored low on perceived stress. This was tested using t-test of independent means and the result is presented in Table 2

Table 2 presents t–test of independent means for perceived stress and alcohol addiction. The result indicated that participants high on perceived stress significantly scored higher on alcohol addiction than participants low on perceived stress [$t (383) = 1.213$, $p < 0.05$].

However, participants high on perceived stress recorded a mean score of (M = 48.48, SD = 4.68) while participants low on perceived stress recorded a mean score of (M = 49.49, SD = 8.26). This result implies that there is a significant difference on the levels of perceived stress on alcohol addiction among youths in the study population. This hypothesis was accepted.

H3: Youths who scored high on social media networks would score higher on alcohol addiction than youths who scored low on social media networks. This was tested using t-test of independent means and the result is presented in Table 3.

Table 3 presents results on the levels of social network on alcohol addiction among youths in Ibadan. The result showed that youths who scored high on social networks did not score higher on alcohol addiction than youths who scored low on social networks [t (382) = .026, p > 0. 05] such that participants who high on social network reported a mean score of (M = 48.57, SD = 5.00) while participants low reported a mean score of (M = 48.59, SD = 6.61). This result did not confirm the stated hypothesis, hence was rejected.

H4: Personality traits, perceived stress, and social network would jointly and independently predict alcohol addiction among youth in Ibadan. This was tested using multiple regression analysis and the result is presented in Table 4.

Table 4 presents the multiple regressions of personality traits, social network and perceived stress as predictors of alcohol addiction among youths in Ibadan. The results showed that personality traits (extraversion, conscientiousness, neuroticism and openness to experience), perceived stress and social network jointly predicted alcohol addiction among youths that participated in the study [R2 = .129, F (5,378) = 7.979, p < 0.05]. This accounted for about 12.9% of the total variance observed in alcohol addiction among youths. Further observation showed that personality traits of agreeableness (= .156, t = 4.628, p < 0.05), conscientiousness (=.-.265, t = -5.197, p < 0.05), openness (=.436, t = 2.926, p < 0.05) and extraversion (= -. 295, t = -2.123, p < 0.05) independently predicted alcohol addiction among study participants. However, perceived stress (= -.024, t = -1.019, p > 0.05), neuroticism (= .153, t = .643, p > 0.05) and social network (= -.008, t = -.499, p > 0.05) did not independently predict alcohol addiction among youths in Ibadan.

Discussion

This study investigated personality traits, perceived stress, and social network as predictors of alcohol addiction among youths in Ibadan North Local Government Area (LGA). Four hypotheses were tested and accepted at a p < 0.05 level of significance.

The hypothesis that there would be a significant relationship among personality traits, perceived stress, social network and alcohol addiction was supported. This indicated that as personality traits and social network increased, alcohol addiction also increased among youths in the study samples. On the other hand, perceived stress showed a negative relationship with alcohol addiction. This result supported previous findings. For example, Seipone et al. (2019) found that a lifetime relationship existed between alcohol addiction and perceived stress among youths. Similarly, Ng Fat et al. (2021) showed that a positive relationship existed between social media usage and alcohol addiction among youths and young adults. Positive relationships found between personality traits and social networks on alcohol addiction were confirmed anecdotal evidence as observed in

Facebook, Instagram, Twitter (X) and others. Also, personality traits were found to predict substance abuse leading to alcohol addiction. This finding supported previous study where personality traits of openness to experience, neuroticism, extraversion and agreeableness were responsible for drinking behavior among youths (Gallego et al., 2018; Taiwo et al., 2022). It is noted that personality traits are biological components in human beings that influence unconscious behaviors which tend to be responsible for individuals' vulnerability to excessive alcohol use (Hakulinen et al., 2015; Blonigen et al., 2018). In addition, individuals who consistently posted themselves on social networks consuming alcohol derive pleasure from such behavior. Furthermore, perceived stress showed a negative relationship with alcohol addiction. This result is in line with previous findings by Westgate and Holliday (2016) and Best et al. (2016). For example, Best et al. (2016) found that perceived stress had a negative relationship with alcohol use meaning as perceived stress increases, alcohol addiction decreases. This is so because perceived stress causes cortisol, the hormone responsible for controlling stress to be activated (Ball, 2018). Therefore, the activation of cortisol hormone helps the individual to look for alternative methods to cope or manage stress instead of consuming alcohol that would later lead to addiction.

The hypothesis that youths high on perceived stress would score significantly high on alcohol addiction than youths low on perceived stress was confirmed. Youths who scored high on perceived stress significantly scored higher on alcohol addiction than youths who scored low on perceived stress. This result corroborated Gavurova et al. (2020) and Mphele et a. (2013) findings that youths high on perceived stress would be higher on alcohol addiction than youths low on perceived stress. Drinking to enhance individuals' opinion of themselves or to "to get high" is a major predictor of alcohol addiction or dependency among youths. Since individuals like the feelings that alcohol brings in (Malouff et al., 2007), they will continue to drink to acquire these feelings by drinking higher doses because the greater something feels, the more likely the individual is going to continue to do it. This is where alcohol addiction or dependency might start.

Furthermore, the hypothesis that youths high on social networks would score significantly higher on alcohol addiction than youths low on social networks was not supported. This means that social networks did not influence alcohol addiction among study participants. This finding supported Rada and Ispas (2017) and Westgate and Holliday (2016) results that social media was not a predictor of alcohol addiction. The fact that people use social media to post pictures while drinking is not a strong reason for them to start drinking. Other factors also play significant roles such as personality traits and perceived stress. For this reason, participants high on social network usage did predict alcohol addiction among participants in this study.

Finally, the hypothesis that personality traits, perceived stress and social network would jointly predict alcohol addiction among youths was supported which accounted for about 12.6% of the variance explained in alcohol addiction. This means that the interactions of personality traits, perceived stress and the use of social medial are strong determinants of alcohol addiction. This result lent credence to results obtained by Taiwo et al. (2022) and Mphele et al. (2013) in their studies on personality traits, perceived stress, alcohol use and problem drinking among undergraduates in South-west, Nigeria. When variables jointly predict a specific behaviour, their effects on the criterion variable are usually large. Therefore, on this result, the joint

influence of perceived stress, social network and personality traits greatly increase alcohol addiction among youths leading to alcohol addiction, that is, behaviour associated with uncontrollable use of alcohol or impulse drinking (Grigsby et al., 2016). Moreover, on an individual level, personality traits were a potent contributor to prediction of alcohol addiction while social network and perceived stress were insignificant. The silent nature of both perceived stress and social network at individual level on the prediction of alcohol addiction under joint and individual influence is not new (Malouff et al., 2007). However, this result contradicts those obtained by Best et al. (2016) that perceived stress and social network were not predictors of alcohol addiction.

Conclusion

This study empirically confirmed that personality traits, perceived stress, and social networks were strong predictors of alcohol addiction among youths in Ibadan. Specifically, personality traits of agreeableness, conscientiousness, openness to experience and extraversion were significant independent predictors of alcohol addiction among study participants. Also, youths who scored high on perceived stress significantly scored high on alcohol addiction than participants who scored low on perceived stress. Finally, social networks did not contribute to alcohol addiction among study participants.

Based on the findings of this study, the following recommendations were put forward for policy formulation and implementations:

Mental health practitioners (clinical psychologists, other mental health officials and social psychologists) should consider the relationship among personality traits, perceived stress and social network when designing and formulating treatment plans for individuals suffering from alcohol addiction. Since youths high on perceived stress were more vulnerable to alcohol addiction use than youths low on perceived stress, intervention design to build effective coping skills, emotional intelligence, and positive emotional health would serve as effective coping skills to prevent alcohol addiction.

Because perceived stress, social network and personality traits jointly and independently predicted substance abuse among youths in this study, it is recommended that clinicians should check for other underlying symptoms which could contribute to influence alcohol addiction. Since social network did not independently predict alcohol addiction, it should be used to develop targeted adverts to reduce alcohol addiction among youths.

This study has some limitations. The study was conducted among youths in Ibadan-North LGA out of 30 LGAs in Oyo State; this therefore limited the generalization of the findings to other Local Government Areas in Oyo State. Second, the study used self-reported questionnaires for data collection which was not free of social desirability bias. Further studies should include focus group discussion to validate data collected from self-reported questionnaire. Finally, further studies could consider social support, self-esteem and learned helplessness.

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Conflict of Interest

There is no conflict of interest among the authors of this paper.

Table 1

Zero-order Correlation among Personality Trait, Perceived Stress and Social Network and Alcohol Addiction

Variables	Mean SD		1	2	3	4
1 Alcohol use disorder	48.6016	5.22448	-			
2 Personality traits	43.7135	10.76530	.168*	-		
3 Perceived stress	57.0365	12.52460	-.029	.262*	-	
4 Social network	99.1302	20.58692	.057	.492*	.450*	--

*. Correlation is significant at the 0.05 level

Table 2

Independent T-test Showing Levels of Perceived Stress on Alcohol Addiction among Youths in Ibadan

Perceived stress	N	M	SD	Df	t	p
Low	45	49.49	8.26			
				383	1.123	0.05
High	339	48.48	4.68			

Dependent variable: Alcohol addiction

Table 3

Independent T-test Showing Levels of Social Media on Alcohol Addiction among Youths in Ibadan

Social Network	N	M	SD	Df	t	p
Low	48	48.79	6.61	82	.026	> 0.05
High	336	48.57	5.00			

Dependent variable: Alcohol addiction

Table 4

Multiple Regression Analysis Showing Joint and Independent Predictors of Alcohol Addiction among Study Participants

Variables			t	p	R	R^2	F	p
Extraversion			-.295	- 2.123	<.05			
Agreeableness			156	4.628	<.05			
Conscientiousness			-.265	-5.197	<.05			
Neuroticism	.		153	.643	>.05	360	.129	7.979
< 0.05								
Openness			.436	2.926	<.05			
Social network	-.008	-.499	>.05					
Perceived stress	-.024	-1.019	>.05					

Dependent variable: Alcohol addiction

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