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The Role of Personality and Stress in the Development of Substance Use Disorder among Substance Use Disorder Patients in Kaduna State, Nigeria



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Abstract

This study investigated the role of personality and stress in the development of substance use disorder among substance use disorder patients in Kaduna State. A cross sectional design was adopted in the study and participants were 47 substance use disorder (SUD) patients (42 males and 5 females) between the ages of 18 – 40 years. They were drawn from the substance use disorder patients of Federal Neuropsychiatric Hospitals Kaduna using purposive sampling method in Kaduna. The questionnaire measures; Social and Psychological Determinants of Drug Abuse Questionnaire [1], 'The Big Five Inventory' (BFI) as developed by John and Srivastava [2], Drug Abuse Screening Test (DAST-28) developed by Skinner [3] and The Life Events Inventory' [4] were completed by the participants. Prediction for the development of drugs use was considered using neuroticism, extraversion, and openness to experience, agreeableness, conscientiousness and stress. While cross-sectional design was adopted for the study. Linear Regression Analysis and Hierarchical multiple regression analysis was applied to analyze the data. Results showed that neuroticism did not significantly predict substance use disorder ($R = .040$; $F = .072$, $P > .05$) thus, accounted for about 0.2% variance for the substance use disorder among clients. While extraversion significantly predict substance use disorder ($R = .303$; $F = 4.557$, $P < .05$) thus, accounted for about 9.2% variance for the substance use disorder among clients. Openness to experience did not significantly predict substance use disorder ($R = .235$; $F = 2.625$, $P > .05$) thus, accounted for about 5.5% variance for the substance use disorder among clients. Agreeableness did not significantly predict substance use disorder ($R = .241$; $F = 2.772$, $P > .05$) thus, accounted for about 5.8% variance for the substance use disorder among clients. Also, the results indicates a no statistically significantly positive impact of agreeableness ($\beta = .345$ $t = 1.665$, $p > .05$) on substance use disorder. Conscientiousness did not significantly predict substance use disorder ($R = .257$; $F = 3.024$, $P > .05$) thus, accounted for about 6.3% variance for the substance use disorder among clients. Stress did not significantly predict substance use disorder ($R = .020$; $F = .018$, $P > .05$) thus, accounted for no variance for substance use disorder among clients. In hypothesis seven, it was shown that the first model was jointly significant $F(5, 41) = 3.159$, $P < 0.05$, $R^2 = 0.280$. Both conscientiousness and extraversion were the significant predictors of substance use disorder. It is suggested that, clinicians treating the patients at the hospital should endeavor to assess personality factors and substance abuse

disorders to ascertain their co-morbidity status and if found, should be treated for both at the same time to enhance better quality of life and reduce susceptibility to substance use disorder.

Keywords: Role; Personality; Stress; Development; Substance use disorder; Substance use disorder patients.

1. Introduction

According to American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders Fifth Edition Text Revision (DSM-V, 2022), Substance Use Disorder (SUD) is a cluster of cognitive, behavioral, and physiological symptoms indicating that the individual continues using the substance despite significant substance-related problems.

National Institute on Drug Abuse [National Institute on Drug Abuse NIDA \[5\]](#); [National Institute on Drug Abuse NIDA \[6\]](#) and [United Nations Office on Drugs and Crime UNODC \[7\]](#); [United Nations Office on Drugs and Crime UNODC \[8\]](#); [United Nations Office on Drugs and Crime UNODC \[9\]](#), have identified SUD as one of the most urgent mental health and social issues facing all countries in the world. This has spread and increased rapidly in many societies, educational institutions, especially among the youths and patients. This social problem is considered an issue of serious concern as it adversely affects the lives of patients and performance of people involved as well as the harmonious functioning of the entire structure of the society.

Use of psychoactive substance/drug use and other associated problems are inimical to the survival and effective functioning of human societies. A significant numbers of untimely deaths and accidents (physical, psychological, social, economic and mental consequences) have been linked to the activities of persons under the influence of one psychoactive drug or the other [\[8\]](#).

Personality traits are one of the many factors that have been implicated in contributing to the development of drug use and abuse. Premorbid personality traits such as impulsivity, thrill-seeking, rebelliousness, irresponsibility, and nonconformity appear to play a central role in the development of substance dependence [\[10\]](#).

In contrast, other personality traits, especially negative emotionality (anxiety, inhibition, moodiness, and unhappiness), may be a consequence rather than a cause of substance dependence [\[11\]](#). According to [Poonam, et al. \[12\]](#) it was reported that another cause of substance use disorder is the personality factor, with various personality traits making individuals inclined towards substance abuse. Therefore, personality factors play an important determining role in SUD. Adolescents' personality plays a role in their substance use disorder; those who become dependent have a negative self-concept and low self-esteem [\[13\]](#). According to the five-factor model of personality [\[14\]](#), the full range of personality traits can be well-defined in terms of five basic dimensions. These dimensions are extraversion, agreeableness, conscientiousness, neuroticism, and openness [\[15, 16\]](#). Beginning in early childhood, personality trait differences can be seen in those children who abuse substances versus those who do not [\[17\]](#). Those children who abused drugs at a young age had significantly higher scores on neuroticism, and lower scores of agreeableness and conscientiousness. These traits appear to be consistent across the lifespan. Personality traits related to neuroticism and disinhibiting have been consistently associated with substance use disorders [\[18\]](#). Because of its wide applicability and consistency across the lifespan, knowledge of the personality traits that render a person susceptible to substance abuse can prove beneficial in the prevention and early intervention of drug using behavior.

In addition to personality traits, stress serves as a risk factor for substance use. There is increasing evidence that environmental and economic stressors can have adverse effects on families and children, indicating that stress is an important risk factor in substance use [\[19\]](#). Moreover, the literature has consistently found stress to be a significant risk factor for the development of addiction to drugs and/or alcohol and relapse vulnerability [\[20\]](#). Furthermore, stressful life events have been found to be associated positively with depression, poor physical health, and substance use, suggesting that stress may be a precipitant of drug use behavior [\[21\]](#). Personality traits and stressful life events serve as potential risk factors for substance use and abuse/dependence among adolescents, adults and old adults. The Big Five neuroticism factor has been studied by stress researchers and has been found to be related to many poor health outcomes. Neurotic individuals perceive stressors as more stressful, which may underlie some of the health risks [\[22\]](#).

Substance abuse is a form of destructive behavior that people may engage in when experiencing high levels of stress. Previous studies have revealed that there is a prevalence rate of drug abuse in Africa, particularly in Nigeria where drug related cases are reported to be on the increase [\[23\]](#). The prevalence of abuse of alcohol, cannabis and other substances among the population of students, prisoners, and patients in psychiatric facilities were also discovered. [Oyeyemi, et al. \[24\]](#), reported that despite the efforts of NDLEA and other governmental agencies to stem the tide of substance abuse in Nigeria, there has been a consistent rapid rise in the number of cases of drug abuse among young people and old adults (ages 10-24) in Nigeria.

Despite these challenges, academic research has not been carried out as it supposed to in order to provide solutions to policy makers on the menace. It therefore, goes to implicate a lacuna in understanding of the role of personality and stress in the development of substance use disorder (SUDs). This work addressed the lacuna. It is in the light of the foregoing that this study investigated the role of personality and stress in the development of substance use disorder among substance use disorder patient in Kaduna State.

2. Materials and Methods

2.1. Participants

Sixty (60) participants were employed in this study which comprise youths that are between the ages of 18-40 years old who are receiving treatment at the Federal Neuropsychiatric hospital, Kaduna especially those who have been taking substances/drugs for not less than 2 years' experience. Purposive sampling procedure was used in the

study. Purposive sampling is a technique used in qualitative research to select group of individuals or units for analysis where participants are chosen on purpose and randomly.

2.2. Instruments

The instrument for data collection in the study was a self-developed and validated questionnaire tagged; Social and Psychological Determinants of Drug Abuse Questionnaire [1]. The questionnaire was divided into four sections, namely, A, B, C and D. Section A covered socio-demographic characteristics of the respondents, section B was 'The Big Five Inventory' (BFI) as developed by John and Srivastava [2] was adopted for this study. The instrument is a 44-item inventory that was developed to assess the Big Five personality domains of Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness. Respondents indicate their level of agreement with each of the 44 items using a 5-point Likert scale (1 = disagree strongly, 5 = agree strongly); 16 items are reverse-scored. The items are described in behavioral, cognitive, and affective terms. A respondent's total score in each personality trait was obtained by summing his/her total score on the 2 items. Higher scores indicate higher ranking in the traits. Examples of items in the scale include; I see myself as: "Extraverted, enthusiastic", "Critical, quarrelsome", "Dependable, self-disciplined", "Anxious, easily upset", "Open to new experiences, complex". John and Srivastava [2] provided original psychometric properties for American sample while Umeh [25] obtained evidence of the reliability and validity of BFI in Nigerian samples. A test retest reliability coefficient of .85 and alpha coefficient of .80 was obtained by John and Srivastava [2]. The divergent validity tested by Umeh [25] with Maladjustment scale indicated correlation coefficients ranging from .50 (extraversion) to .39 (neuroticism).

Section C was Drug Abuse Screening Test (DAST-28). DAST was developed by Skinner [3] to provide a self-report instrument for population screening in clinical cases and treatment evaluation research. The instrument takes 5 minutes to be administered and may be given in self-report of interview evaluation format. DAST is scored by "Yes" or "No". Any score higher than 12 indicates substance abuse/dependence problem. DAST has shown to have internal consistency reliability Cronbach alpha of .92 and criterion validity of .92 Skinner [3]. Adekeye, *et al.* [26], obtained a three-week test-retest reliability of .73 using Nigerian sample.

Section D was 'The Life Events Inventory' [4]. This is a standardized psychological assessment instrument adopted by Ifeagwazi [4] from Holmes and Rahe [27] and Nweze [28] with a split – half reliability coefficient of .80. It contains 28 items designed to measure the level of stressful or negative life events experienced by the participants. Each item is scored on 5-point scale ranging from 1 to 5 reflecting the degree with which the item applies to the participant. It was used in this study specifically to determine the stress levels of the participants. To this effect, a cutoff point of 61.7 (mean score of the participants) was adopted by the researcher such that participants who scored above 61.7 were considered to be under high stress, while those who scored below 61.7 were considered to be under low stress.

2.3. Procedure

Prior to the data collection, ethical clearance to conduct the study was obtained from Health Research Ethical Committee of Federal Neuropsychiatric Hospital (FNHP), Barnawa, Kaduna. Who approved the research and permitted that the study be conducted in the hospital. After which a purposive sampling technique was employed to select the participants and clinical psychologist was employed whose knowledge, experience and contributions was very important in this study. Therefore, due to their relevance to the study, this technique was applied to gather sample of the participants within the study population. Participants were reached in the wards including drug rehabilitation ward where patients' consents were sought and obtained and confidentiality was strictly maintained and observed. Patients were assured that their identity were not required in the study and their responses be kept confidential as this was carried out. The items in the assessment instruments were explained when necessary. A total 60 questionnaires were distributed, out of which 47 representing (78.3%) responded, 4 (6.7%) got missing and 9 (15%) did not respond.

2.4. Design and Statistics

A cross-sectional design was adopted. Statistical package for social sciences (SPSS) version 27 was used to conduct all analysis using descriptive, Pearson product moment correlation and hierarchical regression analysis. The independent variables (IVs) were Big Five personality domains of (Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness) and stress while the dependent variables (DV) were SUD patients.

3. Results

Table 1 shows the socio-demographic status of the respondents. It was revealed that male were the highest participants 89.36% than female 10.64% in this study. The religion affiliation of the respondents shows those that practice Islam were the highest participant 53.19%, while those that are of the Christian faith were 44.68%, however, those that belong to traditional religion were the least participants in this study with 2.13%. Similarly, the marital status of the respondents revealed that participants that are single constituted the majority with 72.34%, while the married were 21.28%, and those that are divorced were 6.28. The educational background of the respondents in this study shows those with tertiary level of education were the highest participants with 85.11%, secondary 12.77% while those with primary education were 2.13% respectively.

Table-1. Socio-demographic status of the respondents (N = 47)

Variable	Frequency	Percentage (%)
Gender		
Male	42	89.36
Female	5	10.64
Religion affiliation		
Christianity	21	44.68
Islam	25	53.19
Tradition	1	2.13
Marital status		
Single	34	72.34
Married	10	21.28
Divorce	3	6.38
Education		
Primary	1	2.13
Secondary	6	12.77
Tertiary	40	85.11

Table 2 presents the results on the mean and standard deviation scores for personality traits, stress and substance use disorder. The study revealed that the 47 participants generated the following mean and standard deviation for the survey study. Openness to experience (M= 31.79; SD= 4.629), Conscientiousness (M= 27.68; SD= 4.409), Extraversion (M= 25.02; SD= 2.682), Agreeableness (M= 27.85; SD= 3.683), Neuroticism (M=27.64; SD= 4.088), Stress (M= 97.15; SD= 28.934) and substance use disorder (M= 18.49; SD= 5.279).

Table-2. Mean and Standard Deviation of the Variables of Study.

Variables	N	Mean	Standard Deviation
Openness to experience	47	31.79	4.629
Conscientiousness	47	27.68	4.409
Extraversion	47	25.02	2.682
Agreeableness	47	27.85	3.683
Neuroticism	47	27.64	4.088
Stress	47	97.15	28.934
Substance use disorder	47	18.49	5.279

Table 3 shows the summary results of Linear Regression Analysis of the influence of neuroticism on substance use disorder among Patients in Federal Neuropsychiatric Hospital, Kaduna. The results revealed that neuroticism did not significantly predict substance use disorder ($R = .040$; $F = .072$, $P > .05$) thus, accounted for about 0.2% variance for the substance use disorder among clients. Also, the results indicates a no statistically significantly negative impact of neuroticism ($\beta = -0.52$, $t = -.268$, $p > .05$) on substance use disorder.

Table-3. Summary Result of Neuroticism Trait Predicting Substance Use Disorder among Patients in Kaduna

Variables	B	t	R	R ²	F	Sig.
Constant	19.916	3.707	.040	.002	.072	.770
Neuroticism	-.052	-.268				.770

df= 1, 45

Table 4 shows the summary results of Linear Regression Analysis of the influence of extraversion on substance use disorder among Patients in Federal Neuropsychiatric Hospital, Kaduna. The results revealed that extraversion significantly predict substance use disorder ($R = .303$; $F = 4.557$, $P < .05$) thus, accounted for about 9.2% variance for the substance use disorder among clients. Also, the results indicates a statistically significantly positive impact of extraversion ($\beta = .597$, $t = 2.135$, $p < .05$) on substance use disorder.

Table-4. Summary Result of Extraversion Trait Predicting Substance Use Disorder among Patients in Kaduna

Variables	B	t	R	R ²	F	Sig.
Constant	3.558	.506	.303	.092	4.557	.038
Extraversion	.597	2.135				.038

df= 1, 45

Table 5 shows the summary results of Linear Regression Analysis of the influence of openness to experience on substance use disorder among Patients in Federal Neuropsychiatric Hospital, Kaduna. The results revealed that openness to experience did not significantly predict substance use disorder ($R = .235$; $F = 2.625$, $P > .05$) thus, accounted for about 5.5% variance for the substance use disorder among clients. Also, the results indicates a no significantly positive impact of openness to experience ($\beta = .268$, $t = 1.620$, $p > .05$) on substance use disorder.

Table-5. Summary Result of Openness to Experience Trait Predicting Substance Use Disorder among Patients in Kaduna

Variables	B	t	R	R ²	F	Sig.
Constant	9.981	1.881	.235	.055	2.625	.112
Openness to experience	.268	1.620				.112

df= 1, 45

Table 6 shows the summary results of Linear Regression Analysis of the influence of agreeableness on substance use disorder among Patients in Federal Neuropsychiatric Hospital, Kaduna. The results revealed that agreeableness did not significantly predict substance use disorder ($R = .241$; $F = 2.772$, $P > .05$) thus, accounted for about 5.8% variance for the substance use disorder among clients. Also, the results indicates a no statistically significantly positive impact of agreeableness ($\beta = .345$ $t = 1.665$, $p > .05$) on substance use disorder.

Table-6. Summary Result of Agreeableness Trait Predicting Substance Use Disorder among Patients in Kaduna

Variables	B	t	R	R ²	F	Sig.
Constant	8.874	1.523	.241	.058	2.772	.103
Agreeableness	.345	1.665				.103

df= 1, 45

Table 7 shows the summary results of Linear Regression Analysis of the influence of conscientiousness on substance use disorder among Patients in Federal Neuropsychiatric Hospital, Kaduna. The results revealed that conscientiousness did not significantly predict substance use disorder ($R = .257$; $F = 3.024$, $P > .05$) thus, accounted for about 6.3% variance for the substance use disorder among clients. Also, the results indicates a no statistically significantly negative impact of conscientiousness ($\beta = -.300$ $t = -1.739$, $p > .05$) on substance use disorder.

Table-7. Summary Result of Conscientiousness Trait Predicting Substance Use Disorder among Patients in Kaduna

Variables	B	t	R	R ²	F	Sig.
Constant	26.806	5.537	.257	.063	3.024	.089
Conscientiousness	-.300	-1.739				.089

df= 1, 45

Table 8 shows the summary results of Linear Regression Analysis of the influence of stress on substance use disorder among Patients in Federal Neuropsychiatric Hospital, Kaduna. The results revealed that stress did not significantly predict substance use disorder ($R = .020$; $F = .018$, $P > .05$) thus, accounted for no variance for substance use disorder among clients. Also, the results indicates a no statistically significantly negative impact of stress ($\beta = -0.52$, $t = -.268$, $p > .05$) on substance use disorder.

Table-8. Summary Result of Stress Predicting Substance Use Disorder among Patients in Kaduna

Variables	B	t	R	R ²	F	Sig.
Constant	18.841	6.842	.020	.000	.018	.895
Stress	-.004	-.133				.895

df= 1, 45

Table 9 shows the summary results of the Hierarchical Regression Analysis conducted to test the predictions of personality traits (Openness, conscientiousness, extraversion, agreeableness and neuroticism) in the first model on substance use disorder and the second model included stress as predictor of substance use disorder. The results show that the first model was jointly significant $F(5, 41) = 3.159$, $P < 0.05$, $R^2 = 0.280$.

Both conscientiousness and extraversion were the significant predictors of substance use disorder ($\beta = -0.292$, $t = -2.152$, $P < 0.05$ and $\beta = 0.331$, $t = 2.440$, $P < 0.05$, respectively) while openness ($\beta = 0.233$, $t = 1.707$, $P > 0.05$), agreeableness ($\beta = 0.218$, $t = 1.628$, $P > 0.05$), and neuroticism ($\beta = 0.012$, $t = 0.091$, $P > 0.05$) indicates statistically not significant outcomes.

The second model was found jointly significant $F(6, 40) = 2.653$, $P < 0.05$, $R^2 = 0.285$. But shown that stress ($\beta = -0.077$, $t = -0.489$, $P > 0.05$) indicates a statistically not significant impact in substance use disorder among patients.

In general, the first model shows that about 28% of the patient's substance use disorder was influenced by the element of conscientiousness and extraversion traits in their personality disposition while the inclusion of stress in the second model shows that about 28.5% influence patient's substance use disorder. This implies that, the inclusion of stress impacted about 0.5% on the variance of substance use disorder among patients. Meanwhile conscientiousness and extraversion personality traits were the major predictor factors of the substance use disorder among patients in Kaduna State.

Table-9. Summary of the Hierarchical Regression Analysis of Personality Traits and Stress on Substance Use Disorder

Predictor Variables	R ²	R	F	β	β	T	P-Val.
Model 1	530	280	.195	-	.500		016
Openness to experience					233	1.707	095
Conscientiousness					292	-2.152	037
Extraversion					331	.440	019
Agreeableness					218	1.628	111
Neuroticism					012	091	928
Model 2	534	285	.653	-	.524		.029
Openness to experience					266	.732	091
Conscientiousness					.291	2.120	040
Extraversion					326	.372	023
Agreeableness					210	.539	132
Neuroticism					041	274	786
Stress					.077	.489	628

4. Discussion

The results of Linear Regression Analysis of the influence of neuroticism on substance use disorder among clients in Federal Neuropsychiatric Hospital, Kaduna. The results revealed that neuroticism did not significantly predict substance use disorder thus, accounted for about 0.2% variance for the substance use disorder among patients. Also, the result indicates a no statistically significantly negative impact of neuroticism on substance use disorder. In contrast to the finding of this study, Personality factors are often considered as strong indicators of individual differences in susceptibility to substance reinforcement in the previous theoretical framework of substance use [29].

The results of Linear Regression Analysis of the influence of extraversion on substance use disorder among patients in Federal Neuropsychiatric Hospital, Kaduna revealed that extraversion significantly predicted substance use disorder thus, accounted for about 9.2% variance for the substance use disorder among clients. Also, the result indicates a statistically significantly positive impact of extraversion on substance use disorder.

The results of Linear Regression Analysis of the influence of openness to experience on substance use disorder among patients in Federal Neuropsychiatric Hospital, Kaduna revealed that openness to experience did not significantly predict substance use disorder thus, accounted for about 5.5% variance for the substance use disorder among clients. Also, the result indicates a no statistically significantly positive impact of openness to experience on substance use disorder. Seemingly, in earlier ages, large bodies of studies were interested in the relationships between personality factors of the five-factor model (Goldberg, 1999) and substance use problems.

The result results of Linear Regression Analysis of the influence of agreeableness on substance use disorder among patients in Federal Neuropsychiatric Hospital, Kaduna revealed that agreeableness did not significantly predict substance use disorder thus, accounted for about 5.8% variance for the substance use disorder among patients. Also, the result indicates a no statistically significantly positive impact of agreeableness on substance use disorder. In consonant to the finding of this study, [Bogg and Roberts \[30\]](#) found that women's drug craving was negatively related to agreeableness. [Zilberman, et al. \[31\]](#), found that compared with non-clinical participants, opioid-dependent individuals showed extraversion and lower conscientiousness, but similar levels of openness to experience and agreeableness.

The result results of Linear Regression Analysis of the influence of conscientiousness on substance use disorder among patients in Federal Neuropsychiatric Hospital, Kaduna revealed that conscientiousness did not significantly predict substance use disorder thus, accounted for about 6.3% variance for the substance use disorder among patients. Also, the result indicates a no statistically significantly negative impact of conscientiousness on substance use disorder. Similarly, it was reported by [Kornør and Nordvik \[32\]](#) that cocaine/heroin users were found to show very low conscientiousness, and marijuana users were found to show high openness to experience, and low agreeableness and conscientiousness. In summary, regardless of the drug types, low conscientiousness was found to be the common personality traits shown by users with problematic substance use across different studies [33].

The results of Linear Regression Analysis of the influence of stress on substance use disorder among patients in Federal Neuropsychiatric Hospital, Kaduna revealed that stress did not significantly predict substance use disorder thus, accounted for no variance for substance use disorder among patients. Also, the result indicates a no statistically significantly negative impact of stress on substance use disorder. The finding commensurate the work of [Gureje, et al. \[34\]](#) who examined the use of psychoactive substances among selected groups in Nigeria. Stress and alcohol abuse both are negatively associated with health, and substance misuse may mediate the relationship between stress and functional health outcomes. McDevitt-Murphy *et al.* (2010) investigated the relationship between stress using self-report measures of stress symptoms, hazardous alcohol use, and health functioning in 151 United States Veterans (136 men and 15 women) of the wars in Iraq and Afghanistan recruited from a Veterans Affairs primary care clinic. Based on established cut scores, 39.1% screened positive for stress and 26.5% screened positive for hazardous drinking. Stress symptoms and hazardous drinking were significantly correlated with each other and with health functioning. Hazardous drinking was found to partially mediate the relationship between stress and functional mental health, but not physical health.

There was a significant influence of Personality Traits and Stress on Substance Use Disorder among Psychiatric patients in Kaduna and the results shows that the first model was jointly significant both conscientiousness and

extraversion were the significant predictors of substance use disorder, while openness, agreeableness and neuroticism indicated statistically not significant outcomes. The second model was found jointly significant but showed that stress indicates a statistically not significant impact in substance use disorder among patients. In general, the first model showed that about 28% of the patient's substance use disorder was influenced by the element of conscientiousness and extraversion traits in their personality disposition, while the inclusion of stress in the second model shows that about 28.5% influenced patient's substance use disorder. This implies that, the inclusion of stress impacted about 0.5% on the variance of substance use disorder among patients. Meanwhile conscientiousness and extraversion personality traits were the major predictor factors of the substance use disorder among patients in Kaduna State. In consonant with the finding of this study, in a study conducted on personality, based on the adjectives present in the vocabulary, five strong factors were found to emerge, and many personality concepts were stated to be possible to conceptually organize into the framework of these five factors. The five factor personality model is defined as consisting of the dimensions of extraversion, emotional stability, conscientiousness, openness, and agreeableness (Goldberg, 2015). The Big five-factor model of personality, often entitled the Big Five, organizes the highest level individual differences into the following personality traits: Neuroticism (Emotional Stability), Extraversion (Surgency), Openness to Experience (Intellect), Agreeableness, and Conscientiousness. The Big Five adopting hierarchic models for the structure of personality accept that the dimensions of personality stated above are formed with uniting of more specific properties defined as sub characteristics consistent with individual items.

In addition to personality traits, stress serves as a risk factor for substance use. There is increasing evidence that environmental and economic stressors can have adverse effects on families and children, indicating that stress is an important risk factor in substance use (Brook *et al.*, 2006). Moreover, the literature has consistently found stress to be a significant risk factor for the development of addiction to drugs and/or alcohol and relapse vulnerability [20]. Furthermore, stressful life events have been found to be associated positively with depression, poor physical health, and substance use, suggesting that stress may be a precipitant of drug use behavior [21].

Personality traits and stressful life events serve as potential risk factors for substance use and abuse in college students. The Big Five neuroticism factor has been studied by stress researchers and has been found to be related to many poor health outcomes. Neurotic individuals perceive stressors as more stressful, which may underlie some of the health risks [22].

5. Conclusion

At the end of the study the work concluded that neuroticism, openness to experience, agreeableness, conscientiousness and stress did not statistically significantly predicted substance use disorder among substance disorder patients in Kaduna State. However, extraversion statistically significantly predicted substance use disorder among substance disorder patients in Kaduna State. Finally, it was also shown that the first model was jointly significant both conscientiousness and extraversion were the significant predictors of substance use disorder while openness, agreeableness and neuroticism indicates statistically not significant outcomes. The second model was found jointly significant but shown that stress indicates a statistically not significant impact in substance use disorder among patients. In general, the first model shows that about 28% of the patient's substance use disorder is influenced by the element of conscientiousness and extraversion traits in their personality disposition while the inclusion of stress in the second model shows that about 28.5% influence patient's substance use disorder. This implies that, the inclusion of stress impact about 0.5% on the variance of substance use disorder among patients. Meanwhile conscientiousness and extraversion personality traits were the major predictor factors of the substance use disorder among patients in Kaduna State.

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References

- [1] Lateef, K. O. and Ibrahim, D. O., 2016. "Social and psychological determinants of drug abuse among in-school adolescents in ido local government area of oyo State, Nigeria." *International Journal of Scientific and Research Publications*, vol. 6, pp. 332-336.
- [2] John, O. P. and Srivastava, S., 1999. *The big five trait taxonomy: history, measurement and theoretical perspectives*. In Pervin, C. A. and John, O. P. (Eds). *Handbook of personality: theory and research*. Guildford Press, pp. 102-138.
- [3] Skinner, H., 1982. "The drug abuse screening test." *Journal of Addictive Behaviors*, vol. 7, pp. 363-371.
- [4] Ifeagwazi, M. C., 1992. *The influence of negative life events on the manifestation of psychiatric*. Nsukka: University of Nigeria.
- [5] National Institute on Drug Abuse NIDA, 1999. "Research monograph series."
- [6] National Institute on Drug Abuse NIDA, 2014. "Drug, brain and behavior: The science of addiction."
- [7] United Nations Office on Drugs and Crime UNODC, 2007. "World drug report. United Nation."
- [8] United Nations Office on Drugs and Crime UNODC, 2020. "World drug report 2018. United Nation."
- [9] United Nations Office on Drugs and Crime UNODC, 2015. "World drug report. United Nation."

- [10] Sher, K. J., Walitzer, K. S., Wood, P. K., and Brent, E. E., 1991. "Characteristics of children of alcoholics: Putative risk factors, substance use and abuse, and psychopathology." *Journal of Abnormal Psychology*, vol. 100, pp. 427–448. Available: <http://doi:10.1037/0021-843X.100.4.427>
- [11] Schuckit, M. A., Irwin, M. B., and Brown, S. A., 1990. "The history of anxiety symptoms among 171 primary alcoholics." *Journal of Studies on Alcohol*, vol. 51, pp. 34–41.
- [12] Poonam, B., Karun, B., Angad, S. H., Hemank, W., Dhruvendra, L., and Shradha, P., 2019. "Assessment of personality factors among patients presenting with different substance use disorders." *Journal of Evolution of Medical and Dental Sciences*, vol. 8, pp. 1656–1661.
- [13] Nurfantri, N., 2019. "Identifikasi faktor-faktor yang menyebabkan penyalahgunaan zat adiktif pada anak jalanan di Kota Kendari." *Preventive Journal*, vol. 2, pp. 70–74.
- [14] Digman, J. M., 1990. "Personality structure: Emergence of the five-factor model." *Annual Review of Psychology*, vol. 41, pp. 417–440. Available: <http://Doi:10.1146/annurev.ps.41.020190.002221>
- [15] Goldberg, L. R., 1993. "The structure of phenotypic personality traits." *American Psychologist*, vol. 48, pp. 26–34. Available: <http://doi:10.1037/0003-066X.48.1.26>
- [16] Luo, X., Kranzler, H. R., Zuo, L., Wang, S., and Gelernter, J., 2007. "Personality traits of agreeableness and extraversion are associated with ADHD variation." *Biological Psychiatry*, vol. 61, pp. 599–608. Available: <http://Doi:10.1016/j.biopsych.2006.05.017>
- [17] Anderson, K. G., Tapert, S. F., Moadab, I., Crowley, T. J., and Brown, S. A., 2007. "Personality risk profile for conduct disorder and substance use disorders in youth." *Addictive Behaviors*, vol. 32, pp. 2377–2382. Available: <http://Doi:10.1016/j.addbeh.2007.02.006>
- [18] Grekin, E. R., Sher, K. J., and Wood, P. K., 2006. "Personality and substance dependence symptoms: Modeling substance-specific traits." *Psychology of Addictive Behaviors*, vol. 20, pp. 415–24. Available: <http://doi:10.1037/0893-164X.20.4.415>
- [19] Boardman, J., Karl, B., and Ellison, C., 2015. "Neighborhood disadvantage, stress and drug abuse among adults." *Journal of Health and Social Behaviors*, vol. 2, pp. 151–165.
- [20] Mantsch, J. R., 2010. *Drug use and abuse-in stress consequences: mental neuropsychological and socioeconomic*. Academic Press.
- [21] Shalev, V., Grimm, J. W., and Shaham, V., 2002. "Neurobiology of Relapse to Heroin and Cocaine Seeking: A Review." *Pharmacological Review*, vol. 54, pp. 1-42.
- [22] McEwen, B. S., 2012. "Brain on stress: How the social environment gets under the skin." *Proceedings of the National Academy of Sciences*, vol. 109, pp. 17180–5.
- [23] United Nations Office on Drugs and Crime UNODC, 2018. "Drug use in Nigeria 2018."
- [24] Oyeyemi, A. L., Oyeyemi, A. Y., Jida, Z. A., and Babagana, F., 2013. "Prevalence of physical activity among adults in metropolitan Nigerian City: A cross-sectional study." *Journal of Epidemiology*, vol. 23, pp. 169-177.
- [25] Umeh, C. S., 2004. *The impact of personality characteristics on student's adjustment on campus. Unpublished ph.D. Research monograph*. Department of Psychology, University of Lagos.
- [26] Adekeye, O. O., Odukoya, J. A., Chenube, O., Igbokwe, D. O., Igbino, A., and Olowookere, E., 2017. "Subjective experiences and meaning associated with drug Use and addiction in Nigeria: A mixed method approach." *Global Journal of Health Science*, vol. 6, pp. 57-65.
- [27] Holmes, T. H. and Rahe, R. H., 1967. "The social adjustment rating scale." *Journal of Psychometric Research*, vol. 11, pp. 213-8.
- [28] Nweze, A., 1984. "Current development in stress and illness research. A selective review in medicine and psychology." *Nigeria Journal of Clinical Psychology*, vol. 3, pp. 1-9.
- [29] Pihl, R. O. and Peterson, J. B., 1995. "Alcoholism: the role of different motivational systems." *Journal of Psychiatry and Neuroscience*, vol. 20, pp. 372–96.
- [30] Bogg, T. and Roberts, B. W., 2004. "Conscientiousness and health-related behaviors: A meta-analysis of the leading behavioral contributors to mortality." *Psychological Bulletin*, vol. 130, pp. 887–919.
- [31] Zilberman, M. L., Tavares, H., and El-Guebaly, N., 2003. "Relationship between craving and personality in treatment seeking women with substance-related disorders." *BMC Psychiatry*, vol. 3, pp. 182-196.
- [32] Kornør, H. and Nordvik, H., 2007. "Five-factor model personality traits in opioid dependence." *BMC Psychiatry*, p. 7.
- [33] Malouff, J. M., Thorsteinsson, E. B., Rooke, S. E., and Schutte, N. S., 2007. "Alcohol involvement and the five-factor model of personality: A meta-analysis." *Journal of Drug Education*, vol. 37, pp. 277–94.
- [34] Gureje, O., Degenhardt, L., Olley, B., Uwakwe, R., Udofia, O., and Wakil, A., 2007. "A descriptive epidemiology of substance use and substance use disorders in Nigeria during the early 21st century." *Journal of Drug and Alcohol Dependence*, vol. 91, pp. 1–9.