ISSN 0189-3491 Volume 15 2019

NIGERIAN JOURNAL OF PSYCHOLOGICAL RESEARCH

Published by
Departmental of Psychology,
University of Nigeria, Nsuka.
www.psychology.unn.edu.ng

Nigerian Journal of Psychological Research, 15, 2019

Personality traits as predictors of readiness to change among treatment-seeking substance use disorder patients in Northern Nigeria

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ARTICLE INFO

Keywords:
Drug addicts
Personality traits
Readiness to change
Rehabilitation
Substance abuse.

ABSTRACT

Readiness to change drug use is a pertinent issue in the management of substance abuse/dependence. However, there is limited research on the factors that influence readiness to change, particularly in non-Western mental healthcare settings, including Nigeria. This study examined the roles of personality traits in readiness to change among drug addicts in Northern Nigeria. Readiness to change comprises recognition of drug use problem, ambivalence towards drug use, and taking steps to change drug use behaviour. Participants were seventy patients drawn from Drug Alcohol Treatment Education and Rehabilitation (DATER) centre, hospital wards and out-patient department of Federal Neuropsychiatric Hospital, Barnawa, Kaduna state, Nigeria. They completed two instruments which were the Big Five Inventory (BFI) and Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES - 8). The study's hypotheses were tested using hierarchical multiple regression. Results showed that openness to experience, conscientiousness, extraversion, and neuroticism did not significantly predict recognition, ambivalence and taking steps. Agreeableness negatively predicted recognition, and positively predicted taking steps, but it did not significantly predict ambivalence. These findings highlight the need to consider personality traits, especially agreeableness, in studies, theoretical postulations and interventions to enhance individuals' recognition and actions towards changing drug use behaviour.

Introduction

Substance abuse is a pressing social/mental health issue facing all countries in the world including Nigeria (Adamson & Akindele, 1994; Gureje, Degenhardt, Olley, Uwakwe, Udofia, & Wakil, 2007; National Institute on Drug Abuse, NIDA, 2014; Onifide, Somoye, Ogunwobi, Akinhami, & Adamson, 2011; United Nation Office on Drugs and Crime, UNODC, 2015). Substance abuse refers to pathological use of substance resulting in potentially hazardous behavior or in continued used despite a persistent social, psychological, occupational or health problem (National Institute on Drug Abuse, NIDA, 2014; United Nation Office on Drugs and Crime, UNODC, 2015). A related term to substance abuse is dependence. Substance dependence is a chronic relapsing brain disease, characterized by compulsive drug seeking and use despite negative consequences (Butcher, Mineka, & Hooley, 2013; National Institute on Drug Abuse, NIDA, 2014; United Nation Office on Drugs and Crime, UNODC, 2015). Addiction is also another term in substance abuse literature. In substance addiction, with continued use of substances such as alcohol, cocaine, or the other drugs, the brain reorganizes itself to adapt. Unfortunately, this change in the brain increases the drive to obtain the drug and decreases the desire for other nondrug experiences - both of which contribute to continued use and relapse (Russo, Mazei, Robison, Ables, & Nestler, 2009).

As a mental health problem, substance use can have physical/physiological, psychological, cognitive, emotional, social, economic consequences on individuals and the society (Adamsom & Akindele, 1994; Gureje et al., 2007; Iorfa, Ugwu, Ifeagwazi, & Chukwuorji, 2018; NIDA, 2014; Onifide et al., 2011; Ruwan, Ajodo, & Kwasau, 2016; UNODC, 2015). Mental health professionals such as clinical psychologists, consultant psychiatrists, psychiatric nurses and counsellors observe many cases of addiction and relapse in psychiatric hospitals and drug treatment centers. For instance, the Drug Alcohol Treatment Education and Rehabilitation (DATER) of Federal Neuropsychiatric Hospital, Barnawa, Kaduna, where the first author works, witnesses an influx of patients seeking treatment and rehabilitation. This situation is worrisome and indicates the need for investigations of the factors that can make a patient ready to change his/her substance use. Research has shown that have shown that SUD patients's motivation or readiness to change is an important factor toward successful treatment (e.g., Friedman, Granick, & Kreisher, 1994; Carney & Kivlahan, 1995). It is the first step toward any action or change in behaviour. Thus, in substance abuse/dependent treatment centres, readiness to change is considered an important condition to be met for successful treatment. Lack of motivation or readiness to change has been a condition/factor that explains the failure to begin, continue and comply with treatment. This is

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evident in what was observed in most treatment centers (Miller & Rollnick, 1991).

Miller and Rollnick (2002) defined readiness to change as a person's willingness to participate in behavior change strategy. Readiness to change can further be referred to as the substance use disorder (SUD) patient's acknowledgement that he/she is having problem related to substance use, tending to express a desire for change and to perceive that harm will continue if he/she does not change. It also involves an action already taken by the SUD patient to make a positive change in their substance use. Miller and Rollnick (2002) explains the meaning of readiness to change in three factor scales, namely, Recognition (RE), Ambivalence (AM) and Taking Steps (TS).

Recognition: This is the extent to which the SUD patient acknowledges that he/she has problem related to substance use, tends to express a desire to change, and perceives that harm will continue if he/she does not change. Usually a low score on recognition indicates denial that substance is causing him/her serious problems, rejection of diagnostic label such as "substance abuser", and not expressing a desire to change (Miller & Tonigan, 1996).

Ambivalence: This factor reflects some openness to reflection (expected in contemplation stage of change). It should be noted that one may be low on ambivalence either because he/she knows that substance is causing problem (high recognition) or because the person knows that he/she does not have substance problem (low recognition) (Miller & Tonigan, 1996).

Taking Steps (TS): This factor indicates that the individual is already doing things to make a positive change in his/her substance use and may have experienced some success in the course of positive change initiated. It has been shown that high score on this scale predicts successful change while low score indicates the contrary (Miller & Tonigan, 1996).

In order to curtail the trend of abuse and effectively attend to the care needs of those who are seeking treatment for substance abuse/dependence, an understanding of the psychosocial factors that influence patients' motivation is important. Although tremendous progress has been made in understanding substance abuse/dependence and discovering the best ways to prevent and treat the affected persons (National Institute on Drug Abuse, NIDA, 2014), research on personality and readiness to change substance abuse/dependence have not been given much attention (Chang & Vigorito, 2006). The present study examines the role of personality in readiness to change among patients who are seeking treatment for substance abuse/dependence.

Diener and Lucas (2017) defined personality traits as enduring disposition in behaviour that show differences across individuals and which tend to characterize the person across a varying type of situation. Personality is a tendency to behave, feel, perceive and think in relatively consistent ways across time and situation in which the trait may be manifested (American Psychiatric Association, 2013). There are several views of personality but the Big Five model (McCrae & Costa &, 1991) appears to be the most popular in current literature and research. It upholds that a personality trait has five facets, namely, Openness to experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism (OCEAN) (John, Donalue, & Kent; 1991; John & Srivastava, 1999).

Openness to experience is the personality trait of seeking new experience and intellectual pursuit. It is characterized by the following: ideas (curious), fantasy (imaginative), aesthetics (artistic), action (wide interest), feeling (excitable) and values (unconventional) (Caspi, Robert, & Shinner, 2005; John, Naumann, & Soto, 2008; Terracciano, Lockenholf, Crum, Bienvenu, & Cost, 2008). Conscientiousness is the personality trait of being honest and hardworking. It is characterized by the following: competence (efficient), order (organized), dutifulness (not careless), achievement striving (thorough), self-discipline (not lady) and deliberation (not impulsive) (John, Naumann, & Soto, 2008, Caspi, Robert, & Shinner, 2005; Terracciano, Lockenholf, Crum, Bienvenu, & Cost, 2008).

Extraversion is the extent of a person's social interaction with others, seeking fulfilment from source outside of self or in a community. It is characterized by the following; gregariousness (sociable), assertiveness (forceful), activity (energetic), excitement-seeking (adventurous), positive emotion (enthusiastic) and warmth (outgoing) (Caspi, Robert & Shinner, 2005; John, Naumann, & Soto, 2008; Nwoke & Chukwuorji, 2014; Terracciano, Lockenholf, Crum, Bienvenu, & Cost, 2008). Agreeableness reflects how much individuals adjust their behavior to suit others. It is characterized by the following; trust (forgiveness), straightforwardness (not demanding), altruism (warm), compliance (not stubborn), modesty (not show-off) and tender-mindedness (sympathetic) (Caspi, Robert, & Shinner, 2005; John, Naumann, & Soto, 2008; Terracciano, Lockenholf, Crum, Bienvenu, & Cost, 2008). Neuroticism measures individual's emotionality and is characterized by the following; anxious (tense), angry/hostility (irritable), depression (not contented), self-consciousness (shy), impulsiveness (moody) and vulnerability (not self-confident) (Caspi, Robert, & Shinner, 2005; John, Naumann, & Soto, 2008; and Terracciano, Lockenholf, Crum, Bienvenu, & Cost, 2008).

The Self-Determination Theory (Deci & Ryan, 2000) postulates that internal and external factors influence the formation of human behaviour. When behaviours are formed by the internal factors, it causes lasting behavioral change when compared with the change in behavior caused by external factor. Based on this theory, a link may exist between personality traits and readiness to change. For instance, internal instinct factors of a conscientious personality can bring about positive behavioural change leading to person's readiness for changing his addictive behaviors. This brings to bear, the importance of self-determination in the formation of positive human behaviour and subsequent readiness to change addict's behavior (motivation/readiness to change).

Another theory which is relevant in this study is the Trans-Theoretical Model (TTM) of behaviour change. Prochaska and DiClemente (1986), developed trans-theoretical model as a cognitive-behavioral cycle consisting of five stages with cognitive and behavioral elements. These five stages are precontemplation, contemplation, preparation, action and maintenance. The precontemplation stage is when most persons are unware of their substance abuse and problematic behaviour and will not change their undesirable behaviour (no recognition of problematic behaviour). The contemplation stage occurs when the person comes to realize that there is a problem and starts thinking of taking action but lack the willingness/ability to initiate to change (Ambivalence). At this stage, it may stay for a long time. The preparation stage indicates the intention to change the undesirable behaviour by taking action to initiate positive change (Readiness). The action stage is where a successful action is taken in changing the addictive behaviour (Taking steps to change). At this stage, it requires commitment of time and energy especially in rehabilitation. (Prochaska & DiClemente, 1986). The latest version of TTM, posits that life contextual processes can inhibit movement through the change process (DiClemente, 2005). TTM can be used to determine whether relationship exist between personality trait and readiness to change substance abuse behaviour because the model considers multidimensional problems that can affect the change process including personality traits.

Studies have reported a profound effect of personality on drug dependence (Grana, Munoz, & Navas, 2009; Devieux, Malow, Rosenbery, & Jamwal, 2009). Other studies (e.g., Ahmed & Hammond, 2005; Eysenck, 1997; Gera, Bertecca, Zaimovic, Pirani, & Branchi, 2008), have indicated that drug

addiction is related to some specific personality traits, hence the term "addictive personality". Eysenck and Eysenck (1985) revealed that personality profile of SUD patients (males and females) and non-SUD patients differs. To further buttress the above, Eysenck and Eysenck (1975) had conducted a study on personality traits of heroin addicts using Eysenck Personality Questionnaire (EPQ) and found that SUD patients had different personality profiles from non-drug addicts. Other studies (e.g., Gossop & Eysenck, 1980; Blaszazynski, Buhrich & McConaghly, 1985; Nishith, Mueser & Gupta, 1994) also obtained similar findings.

With the use of NEO Personality Inventory (Costa & McCrace, 1992) it has also been found that the personality traits of drug addicts and non-drug addicts were different - drug addicts obtained significantly low score in agreeableness, conscientiousness and extraversion, and high score on neuroticism (Mann, Wise Trinidad, & Kohanoki, 1995; Kvisle, 2004; Kornor & Nordvik, 2007). Barnes (1983) found that drug addicts consistently scored high on neuroticism than non-users, but they did not differ on extraversion, while Kannappan and Cherian (1989) reported that substance abusers scored higher on both the neuroticism and extraversion scales. The studies may prompt questions regarding the types of personality traits that could be considered as the predisposing factors toward addiction, and importantly how they are related to one's readiness for changing their addictive behaviour (Ahmed & Hammond, 2005).

Some other studies (e.g., Capone & wood, 2009; Collins, Logan, & Neighbours, 2010; Amaro, Reed, Rows, Picci, Mentalla & Pardo, 2010) have shown that student's readiness to change is associated with personality traits. Boyce, Wood and Powdthavee's (2013) study, comprising about 8, 625 persons over a 2-year period, reported an association between personality traits and readiness to change substance abuse and problematic behaviour. Magid, Maclean and Colder (2007) also found that personality traits of impulsivity and sensation seeking mediated different pathways of association between substance abuse and problematic behaviour. Kazem, Levine, Jacek, Angbing and Shou (2014) investigated personality factors and readiness to change among mandated and voluntary college students in United States. Results showed association between personality factors and readiness to change drinking behaviour.

In a recent study, Abiola, Udofia, Sheikh and Sanni (2015) assessed change readiness and treatment eagerness among psychoactive substance users in Northern Nigeria. Abiola et al. admitted that studies on psychoactive substance use in Nigeria had focused on prevalence and rarely on treatment implication(s) of large rates reported. Studies in this later direction will not only help to match treatment strategy with stage of change but also come with a more satisfactory outcome. Participants in Abiola et al.'s study were 111 psychoactive substance dependent users in three treatment centers in Northern Nigeria. All respondents filled socio-demographic questionnaire, and Stages of Change Readiness and Treatment Eagerness Scale version 8 (SOCRATES-8). They found overall motivation for change among participants to be medium on the three subscales of SOCRATES-8: ambivalence (median = 14.00; range =7–20); recognition (median = 31.00; range = 7–35); and taking steps (median = 35.00; range = 12–40). More than half (61.3%) scored moderately on resilience. The study demonstrated utility of SOCRATES-8 to assess change readiness and treatment eagerness of psychoactive substance abusers according to stages of change and their resilience characteristics. In the limitations of their study, Abiola et al. (2015) hinted that personality characteristics that may be related to the drug abusing habit and perhaps change readiness were not included in their study. In sum, much of the researches reviewed were focused on personality and drug use. The gap in existing literature which will be filled by the current study is that there is dearth of studies on the role of the Big Five personality traits in predicting readiness to change among treatment-seeking drug addicts.

The following hypotheses were formulated to guide the study:

1. Openness to experience will significantly predict readiness to change among treatment seeking SUD patients.\
2. Conscientiousness will significantly predict readiness to change among treatment-seeking SUD patients.
3. Extraversion will significantly predict readiness to change among treatment-seeking SUD patients.
4. Agreeableness will significantly predict readiness to change among treatment-seeking SUD patients.
5. Neuroticism will significantly predict readiness to change among treatment-seeking SUD patients.

Method

Participants

The sample for this study consisted of seventy (70) participants. They were drawn from Drug Alcohol Treatment Education and Rehabilitation (DATER) centre, male and female wards, and outpatient department of Federal Neuropsychiatric Hospital, Barnawa, Barnawa, in Kaduna, Kaduna state, Nigeria. Diagnosis of drug addiction or dependence was made based on the Diagnostic Statistical Manual of Mental Disorders of American Psychiatric Association (DSM-V) (APA, 2013) or International Classification of Diseases and Related Health Problems (ICD-10) criteria (WHO, 1993). Out of the 70, 77.1% of them were males while 22.9% were females. The participants were selected based on the following: (a) presence of an acknowledged problem with drugs or other psychoactive substances (b) being an inpatient in DATER, male or female wards, and outpatient of hospitals within the period of the study, (c) no serious current psychiatric symptoms (that is, severe cognitive impairment or psychotic episode), (d) informed consent taken from the patients and (e) an understanding of English language.

Instruments

Two psychological assessment instruments were completed by the participants in this study. They were Big Five Inventory (BFI), and Stages of Change Readiness and Treatment Eagerness Scale version 8 (SOCRATES 8).

Big Five Inventory (BFI)

The BFI, developed by John and Srivastava (1999), is a psychological assessment instrument designed to assess five personality traits of openness to experience, conscientiousness, extraversion, agreeableness and neuroticism. It comprises 44 self-report items which are arranged in a 5-point Likert format ranging from 1 (Disagree) Strongly to 5 (Agree Strongly). John et al. (1999) provided original psychometric properties for American sample while Umeh (2004) 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 et al. (1999). The divergent validity tested by Umeh (2004) with Maladjustment scale indicated correlation coefficients ranging from .50 (extraversion) to .39 (neuroticism). In a previous study among substance users in Nigeria, Lawal and Ogunsakin (2012) obtained a Cronbach's alpha reliability coefficient of .63 for the 44-item BFI.

Stages of Change Readiness and Treatment Eagerness Scale version 8 (SOCRATES 8).

This measure was developed by Miller and Tonigan

(1996). It is used for assessing change readiness and treatment eagerness among psychoactive substance users. It contains about 19 items that yield three scales scores: Recognition (Re) e.g., "I really want to make changes in my use of drugs", Ambivalence (Am) e.g., "sometimes I wonder if I am an addict" and Taking steps (Ts) e.g., "I have already started making some changes in my use of drugs". It is scored on a five point Likert scale from strongly disagree to strongly agree. The minimum and maximum possible score range for Am is 4–20; Re is 7–35; and Ts is 8–40. The Re corresponds to the pre-contemplation and preparation stage; Am to the contemplation stage; and Ts to the action and maintenance stage, as explained in the Transtheoretical Model of Change (Procahaska & DiClemente, 1986). Pearson correlation coefficients of the shortened 19-item scale with the longer 39-item scale were .96, .88 and .94 respectively for the Re, Am and Ts dimensions (Lua et al., 2001). Generally, each of the dimensions' score ranges from low (Am = 4–14; Re = 7–31; Ts = 8–32), medium (Am = 15–16; Re = 32–34; Ts = 33–35) and high (Am = 16–20; Re = 35; Ts = 36–40) motivation (Miller & Tonigan, 1996). Miller and Tonigan (1996) reported that the Cronbach's alpha of the measure was .60-.88 (ambivalence), .85-.95 (recognition), and, .83-.96 (taking steps). Test-retest reliability coefficients were .82 (ambivalence), .88 (recognition), and .91 (taking steps). In a study among addicts in northern Nigeria, Abiola, Udofia, Sheikh and Sanni (2015) reported that the reliability of the SOCRATES-8's subscales fell into acceptable range (ambivalence = .54; recognition = .87; taking steps = .84). As an evidence of its validity in Nigeria, Pearson's correlation coefficients of the subscales with Resilience Scale were positive and in moderate range (Abiola, Udofia, Sheikh, & Sanni, 2015). For the present study, we conducted a factor analysis for the SOCRATES version 8. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was .58, and the Bartlett's test of Sphericity was 479.94 (p<.001), indicating that the sample was sufficient to test for factorial validity of the scale. The original three factor structure of the SOCRATESv8 was extracted and they accounted for 51.12% of the variance in the construct overall. The separate variances explained by the individual subscales were as follows: 22.31% (Recognition), 16.42% (Ambivalence), and 12.39% (Taking steps). Cronbach's α of the scales were as follows: .72, .74, and .71, for Recognition, Ambivalence, and Taking steps, respectively.

Procedure

Prior to the data collection, ethical clearance to conduct the study was obtained from the Health Research Ethics Committee and the study was approved by the management of DATER of Federal Neuropsychiatric Hospital, Barnawa, in Kaduna, Kaduna state, Nigeria. Confidentiality was strictly observed/maintained. The first author and 3 other psychologists administered the assessment instruments to volunteer participants. Participants were approached in the wards and outpatient departments, where informed consent was sought and obtained. All participants met the DSM-V, ICD 10 diagnostic criteria of dependence for at least one substance of abuse **(**APA, 2013; WHO, 1993**)**. Participants were requested to focus on the substance(s) they were dependent on when filling the SOCRATES-8D. The completed questionnaires were retrieved from them and computed for data analysis.

Design/Statistics

This study is a survey and cross-sectional design was adopted. The independent variable (IV) were the personality trait; facets of the Big Five Personality Traits, while the dependent variable (DV) were the Readiness to Change. Pearson correlation and regression analysis were used to analyze the data using Statistical Package for Social Sciences (SPSS) version 21.

Results

Table 1 showed that openness to experience was positively correlated to extraversion and neuroticism. Openness to experience did not significantly correlate with recognition ambivalence and taking steps. Conscientiousness did not significantly correlate with recognition ambivalence and taking steps. Extraversion was not significantly related to recognition ambivalence and taking steps. Agreeableness was not related to recognition and ambivalence, but it was significantly related to taking steps. Neuroticism did not have a significant relationship with recognition ambivalence and taking steps. Recognition was negatively correlated with taking steps.

Table 1: Summary of inter-correlation for personality traits and readiness to change

Variables		1	2	3	4	5	6	7	8
1	Gender	-							
2	Openness	.02	-						
3	Conscientiousness	.02	.20	-					
4	Extraversion	.08	.26*	.24	-				
5	Agreeableness	-.19	.15	.20	.15	-			
6	Neuroticism	.04	.25*	.13	.01	.19	-		
7	Recognition	.21	.11	.13	-.05	-.23	.12	-	
8	Ambivalence	.05	-.14	-.10	.02	-.00	-.01	-.34**	-
9	Taking steps	-.07	.04	.18	.09	.26*	.03	.23	-.03

Note. ***p<.01; *p<.05

In Table 2, it was found that openness to experience did not significantly predict recognition (β = .11). Conscientiousness did not significantly predict recognition (β = .17). Extraversion did not significantly predict recognition (β = -.08). Agreeableness was a negatively significant predictor of recognition (β = -.29, p<.05). The B (-.26) for agreeableness showed that for each one unit rise in agreeableness, recognition decreases by .26 units. Neuroticism did not significantly predict recognition (β = .13). The R^2 for the personality traits was .12, showing that 12% of the variance in recognition was explained on account of the personality traits. The F statistics was not significant, F(5, 64) = 1.73.

In Table 3, it was found that openness to experience did not significantly predict ambivalence (β = -.15). Conscientiousness did not significantly predict ambivalence (β = -.10). Extraversion did not significantly predict ambivalence (β = .08). Agreeableness did not significantly predict ambivalence (β = .02). Neuroticism did not significantly predict ambivalence (β = .04). The R^2 for the personality traits was .03, showing that 3% of the variance in ambivalence was explained on account of the personality traits. The F statistics was not significant, F (5, 64) = .42.

In Table 4, it was found that openness to experience did not significantly predict taking steps (β = -.02). Conscientiousness did not significantly predict taking steps (β = .14). Extraversion did not significantly predict taking steps (β = .02). Agreeableness significantly predicted taking steps (β = .23, p<.05). The B for agreeableness was .15, indicating that each one unit rise in agreeableness was associated with .15 increase taking steps. Neuroticism did not significantly predict taking steps (β = .04). The R^2 for the personality traits was .09, showing that 9% of the variance in taking steps was explained on account of the personality traits. The F statistics for the model was not significant, F (5, 64) = 1.20.

Table 2: Multiple regression predicting recognition by personality traits

Predictors	*B*	*β*	*t*	95.0% Confidence Interval for *B*	
				Lower bound	Upper bound
Openness to experience	.08	.11	.84	-.11	.26
Conscientious	.15	.17	1.37	-.07	.37
Extraversion	-.07	-.08	-.62	-.31	.16
Agreeableness	-.26	-.29*	-2.38	-.49	-.04
Neuroticism	.14	.13	1.02	-.14	.42

Note. *p<.05

Table 3: Multiple regression predicting ambivalence by personality traits

Predictors	*B*	*β*	*t*	95.0% Confidence Interval for *B*	
				Lower bound	Upper bound
Openness to experience	-.12	-.15	-1.11	-.01	28.68
Conscientiousness	-.10	-.10	-.78	-.33	.09
Extraversion	.08	.08	.60	-.35	.15
Agreeableness	.02	.02	.17	-.19	.35
Neuroticism	.05	.04	.28	-.23	.28

Note. *p<.05

Table 4: Multiple regression predicting taking steps by personality traits

Predictors	*B*	*β*	*t*	95.0% Confidence Interval for *B*	
				Lower bound	Upper bound
Openness to experience	-.01	-.02	-.15	-.14	.12
Conscientiousness	.09	.14	1.10	-.07	.24
Extraversion	.02	.02	.18	-.15	.18
Agreeableness	.15	.23	1.87*	-.01	.31
Neuroticism	-.02	-.03	-.20	-.22	.18

Note. *p<.05

Discussion

The aim of this study was to examine the role of personality traits in readiness to change among persons seeking treatment for drug addiction in a treatment facility in Northern Nigeria. Openness to experience, conscientiousness, extraversion and neuroticism did not significantly predict recognition, ambivalence and taking steps which were the three aspects of readiness to change in this study. Existing research have not focused directly on readiness to change but some previous studies (e.g., Barnes, 1983; Kannappan, & Cherian, 1989) reported that the five-factor model of personality was often associated with inclination to use drug. However, Eysenck and Eysenck (1985) found that SUD patients and non-SUD patients did not differ on extraversion scale of personality.

It was found in this study that agreeableness negatively predicted recognition, and positively predicted taking steps. Agreeableness did not predict ambivalence. Some previous researchers (e.g., Mann, Wise Trinidad, & Kohanoki, 1995; Kvisle, 2004; Kornor & Nordvik, 2007) found that SUD patients obtained significantly low scores in agreeableness. Agreeableness reflects how much individual adjust their behaviour to suit others. In this case agreeable persons are characterized by trust, altruism, excitement seeking, cooperation, group oriented, and team playing. They may be more likely to accept to make necessary changes in abstaining from use of drugs and takes steps to remain free from the use of drugs.

The present study contributes to the body of knowledge on readiness to change drug use. The finding of this study, especially in relation to agreeableness should be noted and put into consideration in the management of SUD patients especially on motivation for change and also in making policies that gears toward improving management for drug abuse/dependence. There are some notable limitations of this study. First, the design of the study was cross-sectional and the findings precludes any causal explanations. Second, the study was treatment center-based and the sample was mostly composed of males, hence it is difficult to generalize the results to other population not in such centres or where there are more female participants. The sample size was also relatively small. Third, the contributions of possible covariates (like age, education and employment status) which were not included in the present study remains unknown. Future researchers should take note of the limitations of this study by investigating personality in readiness to change among larger number of participants in other geographical regions of Nigeria, and include other psychological constructs in their study. In conclusion, effective management and motivational programmes for treatment-seeking SUD patients may benefit from the consideration of personality especially agreeableness in order to enhance outcomes.

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