

## Relationship between personality traits and recidivism among inmates of the Nigerian correctional service, Enugu custodial centre

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**ABSTRACT: Background:** Personality is a major factor in shaping behaviours, such as criminal behaviour. Previous studies have shown that low levels of Agreeableness and conscientiousness were associated with antisocial behaviour, criminality and recidivism.

**Objectives:** The study aimed to determine the relationship between the Big Five Personality Traits and criminal recidivism.

**Methods:** This was a cross-sectional study of 112 inmates of the Nigerian Correctional Service, Enugu Custodial Centre (ECC) incarcerated for various offences. Recidivism was assessed through a self-reported frequency of incarceration. The 60-item NEO-Five Factor Inventory (NEO-FFI) assessed personality traits, measuring Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness to Experience dimensions.

**Results:** The frequency of recidivism among inmates of ECC was 22.3%. Repeat offenders had significantly lower levels of conscientiousness than first offenders ( $U = 774, P = 0.02, N = 112$ ).

**Conclusion:** Personality traits of offenders may be assessed routinely as part of the Risks and Needs Assessment (RNA) tool for Correctional Services since it could help predict future criminal recidivism. It may also help plan treatment modalities that enhance inmates' reformation, rehabilitation and reintegration into the community upon discharge.

**KEYWORDS:** Personality; Traits; Recidivism; Corrections.

### I. INTRODUCTION

There has always been a meeting point between mental health care and the law since antiquity (Gutheil, 2005), involving the application of the law to psychiatric practice as well as the relationship between crime and psychiatry. Past research has shown that there is a link between mental health and offending (Halle et al., 2020; Kim, Harris & Lee, 2024), with some scholars suggesting that people with mental illness are more likely than the general population to commit acts of criminality and violence (Elbogen & Johnson, 2009; Kim, Harris & Lee, 2024). The increased rate of offending among mentally ill persons may be related to their level of psychopathology (Duriguetto & Araujo, 2020; Meszaros & Tischer-Danzinger, 2000), the individual's personality characteristics (Tharshini et al., 2021), other environmental and social factors. Patients with command hallucinations and paranoid (persecutory) delusions may become homicidal on account of these florid psychopathologies. Homicidal acts in the setting of depression are usually of the altruistic type; the individual may be deluded that the world is dreadful for him and his family and may kill his spouse and children to save them from the dreadful world, a phenomenon sometimes referred to as "extended suicide" (Meszaros & Tischer-Danzinger, 2000).

The association of crime and personality disorders among prison inmates has been widely reported (Mela et al., 2013; Tharshini et al., 2021; Coid & Ullrich, 2010). Personality disorders, especially antisocial personality disorder, in combination with substance use disorder, have been found among homicide offenders (Mela et al.,

2013). Psychopathy is often seen as a more severe form of antisocial personality disorder with a greater risk of violence (Coid & Ullrich, 2010). Psychopaths are aggressive with socially irresponsible conduct and are recidivists, committing the same crime even after being punished.

Studies have investigated the differences in personality traits among violent, theft and illicit drug use criminals in comparison with normal adults (Eriksson, Masche-No & Daderman, 2017; Shimotsukasa et al., 2019). While violent criminals showed lower Agreeableness and higher Extraversion than other non-violent criminals, theft criminals displayed low conscientiousness, while illegal drug use criminals showed higher Extraversion and Openness; the authors concluded that future criminals may be predicted by the personality traits they display earlier in life (Shimotsukasa et al., 2019).

It has always been questioned whether criminals are "born or made", reflecting the nature vs nurture debate (Sinha, 2016). Criminality has been estimated to have a heritability of 45% in both sexes. However, social, situational or environmental factors play major roles, with the shared environment accounting for 18% variance in liability in females and 27% in males (Kendler, Lönn, Morris et al., 2015). Genetic factors influence various personality traits associated with criminal behaviour, such as impulsivity, aggression and sensation-seeking (Padar, 2023). A study determining the link between personality and criminality and its prediction of future recidivism found that criminals scored higher on intelligence, impulsiveness, suspicion, self-efficiency, spontaneity, and self-concept control factors and very low scores on emotionally less stable on Cattell's 16 PFs scale compared with normal individuals (Sinha, 2016).

Among the inmates in three Dutch prisons, personality traits of neuroticism, trait anger, and hostility contributed to state anger, which in turn was responsible for the violence in those prisons (Hornsveld & Kraaimaat, 2023); the authors hypothesise that reducing state anger has the potential in decreasing violent deaths in Dutch prisons. In another study in which the Eysenck personality inventory was used, it was found that respondents who scored high on psychoticism and low on neuroticism and extraversion showed a positive correlation between criminal thinking and recidivism (Bourke, Boduszek & Hyland, 2013), showing that criminal cognition is moderated by personality in the prediction of recidivism. A follow-up of 148 juvenile offenders for 4.5 years after release from incarceration showed that personality traits measured during confinement predict recidivism rates beyond factors such as age and number of prior offences (Steiner, Cauffman & Duxbury, 1999).

Meta-analysis (Eriksson, Masche-No & Daderman, 2017) has revealed that delinquents (offenders and repeat offenders) tend to score low on Agreeableness and conscientiousness, average on openness, and high levels of neuroticism and extraversion. Ahmed, 2019 studied the mediating role of the big five personality traits on recidivism among ex-prisoners. He found that out of the five facets of the five-factor model (FFM), only two, specifically conscientiousness and Agreeableness, had a mediating effect between prison experience and criminal recidivism. There was, thus, an inverse relationship between criminal recidivism and conscientiousness and Agreeableness.

Although the association between personality disorders, personality characteristics and crimes have been widely reported (Coid & Ullrich, 2010; Eriksson, Masche-No & Daderman, 2017; Shimotsukasa et al., 2019), what has not been vigorously studied in our environment is the relationship between recidivism and personality characteristics.

This study aimed to determine the relationship between the big five personality traits and recidivism, and is designed to contribute to this area.

## II. METHODS

### Setting

The setting was the Nigerian Correctional Service, Enugu custodial centre located at the Ogbete area of Enugu North Local Government Area (LGA) within the Enugu metropolis.

The Enugu Custodial Centre, formerly Enugu Prison (a Maximum-Security prison), was built in 1915 to accommodate 638 inmates. It is said to be congested, housing about 1,800 inmates (Uchenna, 2016), including about 61 inmates in the asylum section of the prison.

### Design

This was a cross-sectional study of the inmates of Enugu Custodial Centre (ECC) incarcerated for various offences.

### Inclusion criteria

Incarcerated inmates of ECC who were 18 years and above willing to give informed consent were recruited for the study.

### Exclusion criteria

Those physically or mentally incapable of effective participation were excluded from the study.

### Ethical issues:

Approval for this study was obtained from the Ethics and Research Committees of the UNTH, Enugu. Written permission to conduct the study at the ECC was obtained from the State Controller of Corrections, Nigerian Correctional Service, Enugu State, at the State Headquarters, Independence Layout, Enugu.

The research procedure was interview-based and non-invasive. Written informed consent was obtained from the participants. Participants were free to withdraw from the study at any time, even after initially consented.

### III. PARTICIPANTS

#### Recruitment

A total of 112 ECC inmates who were volunteers and willing to give informed consent were recruited for the study. In order to participate in the survey, the volunteers needed to be incarcerated at the ECC and must be 18 years or older. They were either awaiting trial or already convicted.

The participants were educated enough to understand the English and Igbo languages to participate effectively in the survey. Surveys that were not completed or extreme outliers were removed from the analysis.

#### Procedure

All participants in the study were given the same surveys under similar conditions after obtaining informed consent from them. Participants were educated on the definitions of the variables before completing the survey to ensure that self-reporting would be as accurate as possible. Surveys were administered on a volunteer, one-on-one basis in designated corrections visitation areas and other areas approved by the ECC authorities. Participants could fill out the survey independently or have the administrator and his research assistants read out the questions and transcribe the responses to compensate for any limited literary/educational disadvantage or other written language barriers for some level of uniformity.

### IV. STUDY INSTRUMENTS

#### The Sociodemographic and incarceration characteristics questionnaire

The Sociodemographic and incarceration questionnaire (SICQ) provided information on the respondents' age, gender, marital status, religion, and employment status before incarceration. The SICQ is made up of two parts. The first part, the personal data, assesses the personal information of the respondents enumerated above. The second part of the questionnaire shows the offending status of the respondents. It provided information about the number of times the individual has encountered the law, how often he/she has been incarcerated in a correctional centre, awaiting trial or convicted, and for what offence. Therefore, recidivism was assessed through a self-reported frequency of incarceration.

#### NEO Five-Factor Inventory (NEO-FFI)

The NEO Five-Factor Inventory (NEO-FFI) is a personality inventory that measures the five-factor model (FFM) or the big five personality traits consisting of Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience. NEO-FFI is the shortened version of the original Revised NEO Personality Inventory (NEO PI-R), which has 240 items. The NEO-FFI, used for this study, has 60 items, 12 per trait, and takes 10 to 15 minutes to complete. It is more objective than other subjective questionnaires with a standard list of questions and specific answers. It is used for screening, research, and applied purposes such as in industrial/organisational psychology. It was developed by Costa and McCrae in the 1970s and revised in 2004 (Costa and McCrae, 2004). It is suitable for use in both adults and children.

The Big Five Personality Traits, also known as OCEAN or CANOE, describes the five broad dimensions of personality representing a continuum of two extremes of high and low with individuals lying in between the two poles (Lim A.G.Y & Mcleod S, 2023):

1. Conscientiousness – low: impulsive, disorganized vs. high: disciplined, careful
2. Agreeableness – low: suspicious, uncooperative vs. high: trusting, helpful
3. Neuroticism – low: calm, confident vs. high: anxious, pessimistic
4. Openness to Experience – low: prefers routine, practical vs. high: imaginative, spontaneous
5. Extraversion – low: reserved, thoughtful vs. high: sociable, fun-loving.

### STATISTICAL ANALYSES

The Statistical Package for the Social Sciences (IBM-SPSS), version 20 for Windows, was used for analysis. Basic descriptive statistics were used to present the sociodemographic profile. Univariate frequency tables and bivariate cross-tabulation were used to identify relationships between variables.

Mann-Whitney U test was used to test the relationship between the various dimensions of personality traits and recidivism. All the significance tests were two-tailed at the 5% level ( $P < 0.05$ ) and confidence interval estimation of 95%.

V. RESULTS

Table 1: Sociodemographic and incarceration characteristics of the participants

Variables	Frequency (%)	Mean (SD)/Median (IQR)*
<b>Age Group (Years)</b>		
Young adults (18 – 44)	80 (71.4)	
Middle adults (45 -59)	29 (25.9)	
Older adults (60 & above)	3 (2.7)	
Mean age in years (SD)		35.00 (9.90)
<b>Sex</b>		
Male	102 (91.1)	
Female	10 (8.9)	
<b>Religious Affiliation</b>		
Christianity	94 (83.9)	
Islam	11 (9.8)	
Traditional	5 (4.5)	
Others	2 (1.8)	
<b>Marital Status</b>		
Married	41 (36.6)	
Never married	63 (56.3)	
Separated/divorced/widowed	8 (7.1)	
<b>Level Education</b>		
Primary	27 (24.1)	
Secondary	63 (56.3)	
Tertiary	22 (19.6)	
<b>Ethnicity</b>		
Igbo	86 (76.8)	
Yoruba	11 (9.8)	
Hausa	7 (6.3)	
Others	8 (7.1)	
<b>Employment Status Prior to incarceration</b>		
Student	18 (16.1)	
Employed	69 (61.6)	
Unemployed	25 (9.8)	
<b>Offenders' status</b>		
Awaiting trial	84 (75.0)	
Convicted	28 (25.0)	
<b>Visits during Incarceration</b>		
None	19 (17.0)	
Rarely	52 (46.4)	
Often	30 (26.8)	
Very often	11 (9.8)	
Median Length of Stay in the Prison in Years (IQR)		3.25 (3.00) *

\*Median and Interquartile Range

Figure 1: Frequency of Recidivism among the participants

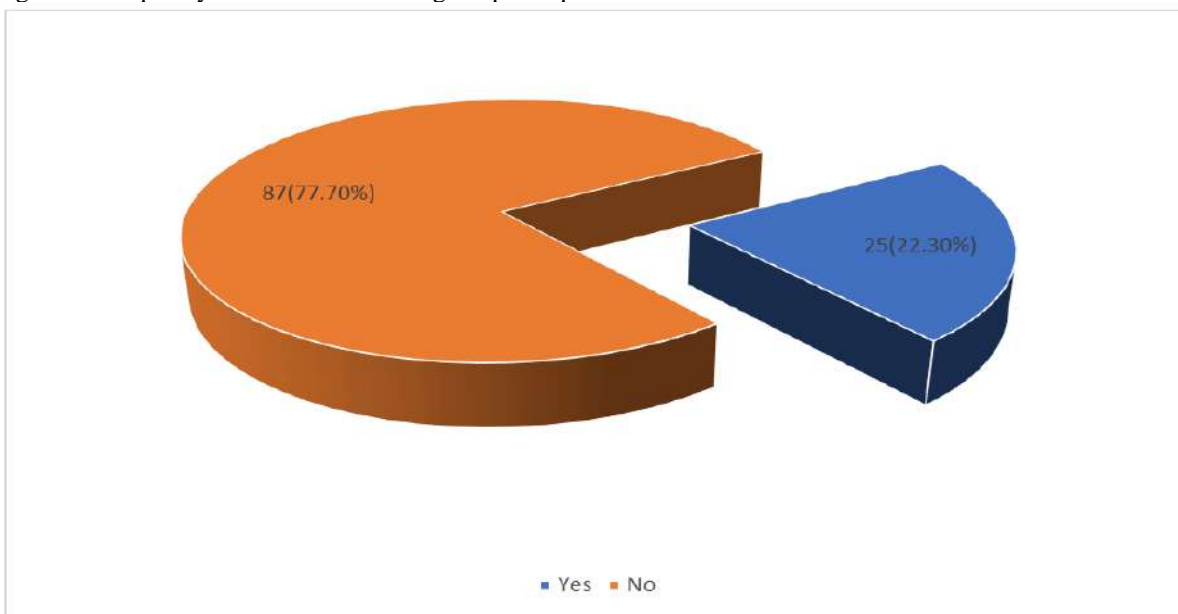


Table 2: Relationship between recidivism and personality traits

Variables	Recidivism		U-stat	p-value
	Yes Median (IQR)	No Median (IQR)		
Neuroticism dimension score	29.00 (13.50)	35.00 (9.00)	837.00	0.08
Extraversion dimension score	36.00 (19.50)	38.00 (8.00)	996.50	0.52
Openness dimension score	40.00 (14.00)	42.00 (8.00)	880.00	0.14
Agreeableness dimension score	37.00 (19.00)	40.00 (6.00)	897.50	0.18
Conscientiousness dimension score	37.00 (22.00)	42.00 (8.00)	774.00	0.02*

\*Significant p-value, IQR = Interquartile Range

### Results:

**Table 1** shows the sociodemographic and incarceration characteristics of participants. The mean age of participants was 35 years ( $M=35.0$ ,  $SD=9.90$ ). Most of the participants were males (91.1%). Christians were in the majority (83.9%). Most participants (56.3%) were never married, and about 56.3% only had a secondary school education. About 76.8% of the participants were Igbos, and the majority (61.6%) were engaged in one form of employment or the other prior to incarceration. Most offenders (75%) were awaiting trial, and only 25% were convicted of their crimes. Majority of the participants have been incarcerated at the correctional centre for about three and a quarter year ( $M=3.25$ ,  $SD=3.0$ ).

The offenders were rarely (46.4%) visited by friends and family.

**Figure 1** shows the frequency of recidivism among participants. This figure indicates that the rate of re-offending at the Enugu custodial centre is 22.3%.

**Table 2** highlights the relationship between personality traits and re-offending (recidivism). The dimensions of personality traits such as neuroticism, extraversion, openness, and Agreeableness were higher among first offenders than among repeat offenders. However, there was no statistical difference between first offenders and repeat offenders concerning recidivism. However, there was a significant difference between first and repeat offenders in the Conscientiousness personality trait dimension. Repeat offenders had a significantly lower level of conscientiousness than first offenders ( $U = 774$ ,  $P = 0.02$ ,  $N=112$ ).

## IV. DISCUSSION

### Highlights of the study

Young adults, with a mean age of  $35\pm 9.9$  years, are incarcerated at the Enugu custodial centre, with the majority of them in the awaiting trial list.

The rate of recidivism at the Enugu custodial centre is 22.3%.

There is a significant difference in the conscientiousness dimension of personality traits between first and repeat offenders; repeat offenders having a lower level of contentiousness trait.

### Sociodemographic and incarceration characteristics of participants

The ages of participants were classified into three categories (young adults, middle adults, and old adults) based on the World Health Organization's officially revised age standards (Dyussenbayevn, 2017). The mean age of participants was 35 years ( $M=35.0$ ,  $SD=9.90$ ), with about 75% of the inmates awaiting trial, not convicted of any crime yet. This is close to the national average of about 68% of inmates (Nigerian Correctional Service, 2024) on the awaiting trial list. This has further contributed to the congestion of Nigerian correctional centres. Inmates are kept in centres beyond the capacity for which they are built (Kekere, 2020). The speedy dispensation of justice has remained a major challenge to the Nigerian criminal justice system. Delays in court trials, in addition to frequent adjournment of cases in Nigerian courts, have contributed immensely to many inmates incarcerated for many years without trial. The ripple effects are enormous. Cells become overcrowded, and toilet facilities and other amenities are overstretched. Food and medical supplies still need to be improved.

It is interesting to note that most of the participants were gainfully employed before their incarceration. The median length of stay in prison of participants is 3.25 ( $SD 3.0$ ) years, with most of the participants complaining of abandonment since friends and relatives rarely visit them. The participants, predominantly males, are never married; most are only secondary school graduates. It is common knowledge that Nigerian correctional centres are more populated by males, who are more likely than females to commit crimes (Nigerian Correctional Service, 2024). The rate of recidivism in Enugu custodial centre is 22.3%. This is lower than the national average of 37.3% in 2005 and 52.4% in 2010 (Banwo, 2021).

### Personality traits and recidivism

It has long been established that personality is a major factor in shaping behaviour, including criminal behaviour. It is also known that high levels of psychoticism on the Eysenck scale (Bourke, Boduszek & Hyland, 2013) and low levels of Agreeableness and conscientiousness on the Five Factor Model (Eriksson, Masche-No & Daderman, 2017; Ahmed, 2019) are associated with antisocial traits/behaviour and crime and that these traits are predictive of future recidivism among incarcerated patients (Bourke, Boduszek & Hyland, 2013). Our study established a relationship between conscientiousness and recidivism. It showed that recidivists had significantly lower levels of conscientiousness than first offenders. Although there was a lower level of Agreeableness among repeat offenders than first offenders, that difference was not statistically significant, differing from previous studies (Ahmed, 2019; Eriksson, Masche-No & Daderman, 2017). The low levels of conscientiousness associated with recidivism were consistent with previous studies' findings (Eriksson, Masche-No & Daderman, 2017; Ahmed, 2019). It has been noted (Lim A.G.Y. & Mcleod S, 2023) that in contrast to people high on conscientiousness trait (well organized, disciplined, careful with good impulse control); those low on conscientiousness tend to be more disorganized, lack direction, struggle with impulse control and engage in careless and impulsive behaviour, including criminal recidivism.

### VII. CONCLUSION

Section 10 of the Nigerian Correctional Service Act, 2019 outlined the functions of the Custodial service, and Section 10 (e) states that “conducting risks and needs assessment (RNA) aimed at developing appropriate correctional treatment methods” is one of its priority functions. Adding personality measures to the RNA tools may further enrich our understanding of how personality traits influence criminal behaviour and future recidivism. The knowledge gained from such assessments may be used to develop more effective intervention strategies to combat future recidivism and enhance the reformation, rehabilitation and reintegration of discharged inmates back into the community.

### Study limitations

The study has some limitations. First, its cross-sectional design will not permit a full demonstration of the impact of personality traits on recidivism. Second, it was a non-population representative study. Its results cannot be generalized to the entire country. Despite these shortcomings, findings from this study should serve as baseline data for comparison in the future.

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### Declarations of interest

None.

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