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Research Article

PERSONALITY AND PSYCHOLOGICAL HEALTH: A COMPARATIVE STUDY OF CRIME SUSPECTS AND NON-SUSPECTS IN ANAMBRA STATE

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ABSTRACT

Criminality is currently threatening human existence on earth. Criminals are becoming more sophisticated, and have increasingly become more and more difficult to apprehend. Criminality in Nigeria has caused monumental loss of lives and properties including death of several law enforcement agents. It has also been blamed for low foreign direct investment. Huge resources have been expended on fighting crime, without much success, it makes sense then to apply psychological measures, especially to apprehending and identifying criminal. This study on Personality and Psychological Health, compared a total number of 158 participants (comprising crime suspects and non-suspects 'Part-time students'), who were purposively and randomly selected from Nigeria Prisons, Awka division and NnamdiAzikiwe University, Awka. Their ages ranged between 20 and 35years, with the mean age of 28.23 and standard deviation of 4.40. The inclusion criteria for prison inmates (crime suspects) was having been arrested and detained in prison for a minimum period of one week and having attempted senior school certificate, while that of the undergraduates was based on their age. The Social Cognitive Theory by Bandura (1977), which claims that behaviour, is explained as guided by cognitions between the stimulus and response seems to provide possible explanation on the relationship between personality, psychological health and crime. The Big Five Personality Inventory (BFI) by John, Donahue, and Kentle (1991) and the 12-Item General Health Questionnaire (GHQ-12) by Goldberg and Williams, (1988) were used for data collection. The result of Zero-Order Correlation Matrix Coefficients showed that: "Personality traits correlated with domains of psychological health among crime suspects and non-suspects in Anambra State; while that of Multiple Analysis of Variance showed that (i) crime suspects differed significantly only in the trait of extraversion and (ii) crime suspects differed significantly from non-suspects in the domains of psychological health. Based on the findings, it was recommended amongst others that besides being useful in the pursuit for apprehending/identifying possible perpetrators of crime, Judicial Panels and the Courts should note the health status of individuals before adjudication, during incarceration, and at the point of discharge from prison. This will enable authorities concerned to treat the people affected before letting them back into the society.

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INTRODUCTION

Crime is a universal phenomenon and differs only in degree among the various nations of the world. In Nigeria, criminal activities are multidimensional and have been undermining its corporate existence as well as efforts towards sustainable development (Tanimu, 2006).

The concentration of violent crimes in major urban centres worldwide is viewed as an indicator of the breakdown of urban systems. In many urban centres of Nigeria, criminal activities and violence are assuming dangerous proportion as they threaten lives and property, national sense of well-being and

coherence, peace and social order: thus, reducing citizens' quality of life (Agboola, 2009; Ahmed, 2010).

Over the years, the rate of crime in Nigeria has been on the increase and these crimes are being carried out with more digital sophistication. This has led to the formation of various vigilante groups, to combat crimes in some parts of the country (Fajamirokun, Adewale, Idowu, Oyewusi, & Maiyegun, 2006). Notwithstanding the presence of such groups, crime has significantly contributed to underdevelopment of the country through loss of human capital and other factors of production. Aside from the human and sociological effect, it is also believed that it is a major reason for poor direct investment by foreign entrepreneurs. Reduction of both frequency, magnitude,

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and types thus become a primary national and research concern.

When a person is accused of committing a criminal offence, the law provides that the person is yet called a suspect and may be detained until trial and adjudication is made (S.33 [5] of the 1999 constitution). It is conceivable that these persons (at least most of them) are still very much in touch with society and can give reliable account of their interactions. The researchers believe that this population will provide valid information on the possible relationship among the variables of personality, general health and criminality. This is in the understanding that the key to good understanding of criminal behaviour is focused on adequate analyzing of fundamental attributes of all humans, rather than specific criminal acts.

Criminal behaviour or criminality is a style of behaviour characterized by self-centeredness, indifference to the suffering and needs of others and low self-control (Gottfredson & Hirshi, 1990). In ordinary language, the term 'crime' represents an unlawful act that is punishable by the state. Crime is an act that violates the law of the society or serious offence against the law of the society for society for which there is a severe punishment by law (Tanimu, 2006). It is any action or omission prohibited by law and punished by the state and a deviant behaviour that violates prevailing norms, which may be cultural, social, political, psychological and economic conditions. Earlier, Okonkwo (1980) opined that it is an act or omission which renders the person doing the act or making the omission liable to punishment. Indeed, the term in modern criminal law has no simple or universally accepted definition, however the statutory definitions have provided the most popular view, that crime is a category created by law. In other words an act is a crime if declared as such by the relevant and applicable law.

To best summarize a wide variety of criminal behaviour, a typology or classification system was proposed by an earlier researcher (Glaser, 1967), thus: Predatory crimes, these are the majority of crimes that are considered most severe by the general public and have serious negative sanctions. Predatory crimes were divided into crime against persons, crimes against property, and white collar crime. Crimes against persons and property have clearly chosen victims where property was taken or the victim was assaulted. White collar crimes refer more to behaviours such as forgery, embezzlement, and over invoicing. The second category was illegal service crimes. These are crimes that do not appear to have a specific victim, yet they involve some sort of relationship between the criminal and others who may be considered "customers." Examples are prostitution, drug crimes, or gambling. The third category was public disorder crimes, these also lack specific target victims, yet they are considered as crimes when others are offended or are likely to be offended. Drunkenness, disorderly conduct, and vagrancy are key example. The fourth and final category is negligence offences, in which there is an unintended victim.

One of the factors that can correlate with crime is psychological health status, which refers to a state of wellbeing in which a person can use his or her own abilities and cope with the normal stresses of life. It is a measure of mental health which is described as a state of well-being in which the

individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community (World Health Organization, 2005). This follows that Psychological Health is not just the absence of mental illness (Bos, Snippe, de Jonge, & Jeronimus, 2016).

Wikipedia Dictionary (2010) explains the meaning of psychological health as a state of emotional and psychological well-being in which an individual is able to use his or her cognitive and emotional capabilities, function in society and meet the ordinary demands of everyday life. It is the interaction of balance-strike among biological, psychological, social, and spiritual patterns of human existence. In their different approaches to explaining psychological health, most researchers believe that psychological health concerns the physical, social and psychological states (Vaillant, 2012).

Psychological health is an important determinant of one's integrated personality and balanced behaviour identified on the basis of the level of his/her adjustment to self, others and environment. However, Goldberg explains psychological health status to include four dimensions, which are: physical symptoms, anxiety and sleeplessness, social function disorder and depression.

Psychologists sometimes use the term psychological health interchangeably with mental well-being (Josefsson, Cloninger, Hintsanen, Jokela, Pulkki-Råback, & Keltikangas-Järvinen, 2011), "subjective well-being" or "happiness" (Lucas & Diener, 2008; Rosenthal & Hooley, 2010), "Psychological well-being" or "eudaimonia" (Cloninger & Zohar 2011; Wood, Joseph, & Maltby, 2011) "mental hygiene" (Barenbaum & Winter, 2008) and "psychological wealth" (Diener & Biswas-Diener, 2008). In using these terms, some of these scholars argue that psychological health or whatever term that is used to reference it, cannot be considered separately, and in order to have a better understanding of psychological health, its major components such as physical, mental, and spiritual well-being should be considered together (Cloninger & Zohar, 2011).

Another factor that can correlate with crime is personality, which may be described as the dynamic and organized set of characteristics including cognitions, emotions, motivations, and behaviours displayed in various situations. It is the unique and variable patterns of human behaviours, focusing on sensing, thinking, and feelings (Obi, Nwankwo, Agu, Aboh, & Agbor, 2013). According to Robert (2009) personality is the relatively enduring patterns of thoughts, feelings, and behaviors that reflect the tendency to respond in certain ways under certain circumstances. Schacter, Gilbert, & Wegner (2009) assert that personality is an individual's characteristic style of behaving, thinking, and feeling".

Furthermore, Obi, Nwankwo, Agu, Aboh, and Agbor, (2013) states that the personality of the individual is the settled framework of references within which a person addresses issues and decides how to behave. These authors went ahead to argue that the concept of personality is a comprehensive, all embracing concept and the total pattern of characteristic ways of thinking, feeling, and behaving that constitute the individual's distinctive method of relating to the environment.

Hence, personality is the sum total of psychological characteristics of a person that are enduring as well as unique. In an attempt to explain personality, many scholars such as Eysenck (1964) emerged, with the claim that certain numbers of personality traits are enough to conceptualize human personality. McCrae and John (1991) asserted that breaking personality into diverse but related components called the Big Five, will help the understanding of human personality. These include: openness to experience, conscientiousness, extroversion, agreeableness, and neuroticism (or emotionality). These components are generally stable over time, and about half of the variance appears to be attributable to a person's genetics rather than the effects of one's environment (Briley, & Tucker-Drob, 2014) and are adopted to guide the present study.

Studies on personality and its relatedness to other human structure have led to two major themes, which have pervaded nearly all efforts at domain of personality theorizing: human nature and individual differences (Buss, 2008). It is plausible therefore to state that the way one thinks, feels and behaves and one's unique individuality has significant contribution in other aspects of human functioning such as mental health or psychopathology. Indeed, some individuals are more prone to mental illness and psychopathology because of their characteristics and personality traits (Hampson & Friedman, 2008).

Psychologists have opined that criminal behavior must be explained by personality dimensions. This however has always been given great attention by personality theorists. According to literature, both classical and recent research show that some individuals are crime prone, that is, they have certain specific personality features which cause them to involve in illegal activities (Hampson & Kline, 1977). Empirically, while many researchers have compared the offenders and non-offenders on a number of psychological factors; most of the researchers have specifically compared offenders and non-offenders on the four dimensions of personality given by Eysenck. Almost all the studies showed that offenders scored higher on psychoticism, neuroticism, extraversion and lie as compared to non-offenders (Ardalan, Irvani, & Sobhi-Gharamaleki, 2010; Dunlop, Morrison, Koenig & Silcox, 2010; Corf & Toupin, 2009). Also, Monahan, Laurance, Elizabeth and Edward, (2009) compared the inmates with non-inmates and concluded that both differ in their personalities.

Possibly, it could be deduced from studies that researchers have tried to compare offenders and non-offenders on their personality structure/characteristics. Surprisingly though, none of these studies to the best of the researchers' knowledge has tried to look at the comparison between the personality structure of suspects and non-suspects, and psychological health. This however makes the present study very imperative.

Personality and Crime

Tenibiaje (2010) investigated the differences in the personality traits of prison inmates and non-inmates and development of crime. The study was carried out in Nigerian Prisons located in five states in southwestern Nigeria. The sample comprised of 200 subjects made up of 121 inmates and 79 non-inmates. The non-inmates were the students of University of Ado-Ekiti, Nigeria, public servants and nurses in Ekiti State, Nigeria, aged

17 to 45 years. Eysenck Personality Questionnaire was used to collect information from the respondents. The result of the investigation showed that the inmates scored significantly higher than the non-inmates in extroversion, neuroticism and psychoticism dimensions.

Khan (2014) compared the personality of prison inmates and non-suspects of Khyber Pukhtonkhwa (KPK), using the Eysenck personality Questionnaire which was administered on the sample of 400 prison inmates = 200, non-suspects = 200). These inmates comprised of prisoners in different jails of KPK while non-suspects were the students of different colleges of KPK. It was hypothesized that the suspects will score higher on all the four dimensions of Eysenck personality scale as compared to non-suspects. Findings of the study confirmed the said hypothesis. It was proved that suspects had higher scores of psychoticism, neuroticism, extraversion, and lie as compared to non-suspects.

Tenibiaje (2011) investigated the interactive effect of personality traits, sex and age among prison inmates in some Nigerian prisons. In South Western Nigeria, five hundred and four prison inmates were selected through stratified randomization were administered the Eysenck Personality Questionnaire. The researcher utilized the descriptive survey method, and the Eysenck Personality Questionnaire was the instrument. One research question and one null hypothesis were formulated and tested using two-way Analysis of Variance (2-WAY ANOVA) at probability level of 0.05. It was found that there was a significant interaction between personality traits, sex and age on criminal behaviour of inmates.

Fuller (2012) studied the relationship between personality factors and offending. The personality factors included in the study were Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (OCEAN). It was hypothesized that OCEAN would significantly impact offending and co-offending among an adult sample of college students. Also, an effort was made to show that OCEAN could significantly differentiate between individuals who did not offend at all, individuals who offended alone, and individuals who participated in co-offending. Personality was measured using the Big Five Inventory, and offending was measured using an adaptation of Elliott and Ageton's (1980) self-reported delinquency scale. Various types of offending were examined. An online survey of 305 college students provided the data for analysis. To test the hypotheses, a variety of statistical methods including OLS regression, logistic regression, ANOVA and multinomial logistic regression were applied. Fuller (2012) reported support for the relationship between certain personality factors (conscientiousness and agreeableness) and offending. Agreeableness was the only factor shown to be significantly associated with co-offending. Agreeableness and conscientiousness were significantly able to differentiate between non-offenders and co-offenders.

It could be seen from these empirical evidences that these studies strongly support that criminality had link with personality traits of whatever measure (Eysenck, Big Five, or NEO-I). It has also been shown that offenders/suspects differed from non-offenders/suspects on some personality traits. However, these studies have not pointedly related personality

with any possible reason for involvement in crime or indeed any difference between these offenders and non-offenders on their general health status.

Personality and Criminal Behaviour (Emphasis on Big Five)

The first person to explore the utility of personality traits in explaining criminal behavior was Eysenck (1964). Eysenck asked the very important question: "Why do most people lead relatively blameless lives, rather than indulging in a career of crime?" (p. 102). He suggested that within everyone is a conscience, or "inner guiding light" that keeps one from committing crime. The person who does not develop conditioned moral and social responses (or a conscience, which is a result of low ability to be conditioned and extraversion) will be more likely to engage in criminal or deviant activities. Once an individual has been conditioned to know that certain unacceptable behaviors will be punished, predictable and involuntary physiological reactions will take place if that behaviour is completed. That is why a deterrence explanation of criminal behavior is inaccurate, according to Eysenck (1964). Crime is not always detected, nor does it always merit punishment. Therefore, the deterrents that keep individuals from committing crime must be the autonomic reactions. This fear/anxiety reaction actually takes place even before a crime is committed. At the time a criminal act is contemplated, there is an immediate and unpleasant reaction in an individual who has a conditioned conscience. The closer one gets to actually committing the act, the greater the unpleasant reaction becomes; he argued.

This process will deter crime long before the judicial system or any other social institution ever becomes aware of the action. Eysenck saw biology as the primary basis for personality traits. The main tenet of his theory is that an optimal level of cortical arousal (stimulation of the cortex within the brain) is within each person. Behavior or physical performance tends to deteriorate when arousal is increased or decreased beyond this optimal level (Eysenck, 1964).

After a factor analysis of his own, he developed two categories of personality classification. His two categories were extraversion/introversion and neuroticism/stability. Extraverts were people who were poorly conditioned, but who were also outgoing and talkative due to their need for external stimulation to keep their arousal levels optimal and their performance maximized. On the other hand, introverts were quiet and reserved due to excessive arousal. A quiet environment would bring the introvert back to a level of optimal performance. Neurotic individuals were unable to control their emotions and were easily upset. This person was more likely to experience anxiety and depression. The opposite was the stable person who was able to maintain calm in stressful situations.

After more research, Eysenck's work was expanded to include a third category of personality that he termed psychoticism/socialization (Eysenck & Eysenck, 1985). Psychoticism referred to individuals with higher levels of testosterone in the body who were seen not only as people who were emotionally unstable, but as people who were more likely to become violent or aggressive. Characteristic behavior of the psychotic individual included: aggression, impulsiveness, non-conformity, and hostility.

To support his theory, Eysenck (1964) provided research showing that extraverted people were harder to condition than introverted individuals. Psychopaths also had a tendency to be harder to condition. In addition to that, he also presented research supporting the assertion that people who commit crimes are more introverted than non-criminal individuals, and those generally scoring higher on psychoticism, extraversion and neuroticism (PEN) were more likely to engage in criminal activities (Eysenck, 1964).

This relationship can be better explained by looking at the link between the biological basis for Eysenck's (1964) theory and each of the traits. Hormones associated with the nervous system are responsible for the level of arousal in individuals. An absence of these hormones or lack of arousal can lead to the creation of extreme extraverts. Due to this perpetual state, that individual seeks excitement and lacks restraint. A criminal who is labeled neurotic would be moody and exhibit very emotional behavior. A psychotic criminal would be someone who is impulsive, acts without thinking, and may also lack the ability to empathize with others (Monte & Sollod, 2003). This pattern held true for myriad behaviors such as traffic violations, sexual promiscuity, recidivism in prisoners and general delinquency (Eysenck, 1964).

It is often pointed out that Eysenck's PEN model is very different from the Five Factor Model. Eysenck only has three factors and one of those factors does not correspond with the FFM at all. Even though Eysenck's (1964) three factors were published almost 20 years prior to the widespread acceptance of the FFM, there is actually an overlap between Eysenck's factors and the FFM. The factors of extraversion and neuroticism are the same. Eysenck (1992) argued that psychoticism actually encompasses certain aspects of both agreeableness and conscientiousness in the FFM.

Psychological Health and Personality Characteristics

Many studies have shown the effect of personality, personality traits, and personality dimensions on general health status (e.g., Josefsson *et al.*, 2011; Cloninger & Zohar, 2011; Cloninger, 1999; Cloninger, 2004; Cloninger, 2006; Diener & Biswas-Diener, 2008; Aboaja, Duggan, & Park, 2011; Herero & Extremera, 2010; Wood & Tarrier, 2010). A cumulative body of research suggests that some personality traits predispose individuals to experience specific life events (Luhmann, *et al.*, 2012). For instance, Steel, Schmidt, and Shultz (2008) conducted a comprehensive meta-analysis and evaluated the associations between each personality factor and general health status. Their findings support a strong relationship between neuroticism, extraversion, agreeableness, conscientiousness and all components of general health questionnaire (GHQ), whereas openness to experience shows close associations with the general health questionnaire facets of happiness, positive affects, and quality of life. In another meta-analysis by DeNeve and Cooper (1998), Neuroticism was most closely related with happiness, life satisfaction and negative affect, while Extraversion was related to positive affect.

Quevedo and Abella (2011) examined whether the facets of the Big Five Model and other personality characteristics not included in this model, such as optimism, self-esteem, and social support, are better predictors of general health than Big

Five broad dimensions. They found that Neuroticism was negatively related to positive affect, and Extraversion inversely related to negative affect. Neuroticism and Extraversion were associated to happiness; individuals with low Neuroticism and high Extraversion showed increased happiness. The findings also showed that the facets of these personality traits accounted for double the variance of general health status than the Big Five, although only 7 of 30 facets were relevant. More importantly, optimism, self-esteem and social support better explained the relationship between personality and general health status.

Moreira, Cloninger, Dinis, Sá, Oliveira, Dias and Oliveira (2014) examined the linear and non-linear associations between the dimensions of the psychobiological model of personality and general health (mental well-being) in adolescents. Participated in this study were 1540 adolescents ($M=15.44$, $SD=1.731$). Personality was assessed using the Temperament and Character Inventory (TCI). Well-being was evaluated in a composite perspective: satisfaction with social support, health-related quality of life, satisfaction with life and affect. Variable-centered and individual-centered analyses were performed. Self-directedness was strongly associated with all dimensions of affective and cognitive well-being regardless of the other two character traits. Cooperativeness was associated with non-affective well-being and with positive affect, but only when associated to elevation of Self-directedness and Self-transcendence. Self-Directedness and Cooperativeness explained 15.5% of the non-affective well-being variance. Self-Directedness and Self-Transcendence explained 10.4% of the variance in affective well-being. This study confirms the tendencies found in previous studies with adults from other societies, where each character dimension gives an independent contribution to well-being depending on the interactions with other Character dimensions. Also, this study highlights the importance of considering the non-linear influences of the character dimensions in understanding of adolescents' wellbeing.

Ghorbani, Ahmadi, and Shayanc (2011) reviewed the relationship between type A personality and general health. The method of this study is a descriptive and correlation method. The sample group consists of 50 psychology students in Payam-e-Noor University in Babol, which were randomly selected and answered to two type A personality questionnaire and general health status questionnaire by Goldberg. In data analysis, Pearson Moment Correlation Analysis and Independent t-test were used. The results showed that between type A personality and mental health, there is a significant relationship. Type As showed poorer mental health than Type B personality. The results indicated that there were no significant differences between mean mental health in the two groups of male and female respondents.

Shirazi, Khan and Ansari (2012) examined the relationship between general health status and personality characteristics among students. A total of 300 participants were randomly selected from Aligarh Muslim University, Aligarh, India. General health status was measured by General Health Inventory and personality characteristics were measured by neo-five factor inventory. Correlation, regression and independent t-test were used for analyzing the data. The result shows that there is significant correlation between general

health and personality characteristics. The multiple regression analysis using the stepwise method found agreeableness, neuroticism and openness as significant predictors of general health. Finally independent t-test found no significant difference at the mean scores of professional and non-professional students' general health and personality characteristics in terms of gender.

Amini, Heidary, and Daneshparvar (2015) investigated personality traits and its impact on mental health of battered women in Tehran. In this cross-sectional study, 196 married women who referred to Tehran Legal Medicine Center were selected based on simple sampling method, and then were studied based on General Health Questionnaire (GHQ-28) and the NEO Five Factor Inventory (NEO-FFI). In this cross-sectional study, the data were analyzed with the Pearson Product Correlation Test using the SPSS-16. The study revealed that statistically, mental health has a significant and positive correlation with neuroticism personality trait ($r=0.318$, $P<0.001$), while it has a significant but negative correlation with extraversion personality trait ($r=-0.280$, $P<0.001$), agreeableness ($r=-0.201$, $P=0.002$), and conscientiousness ($r=-0.265$, $P=0.001$).

These empirical evidences strongly suggest that personality traits are one of the core contributors to general health, alongside other factors such as self-esteem and social support. However, it would rather have made more sense, if these traits that were shown to have strong and significant relationships with general health are also studied on criminality. This will probably show whether they could act as mediating factors, direct influencing factors or relational factors to criminality in concert with general health tendencies.

Psychological Health and Criminal Behaviour

Empirically, researchers have studied psychological health and its connection with crime. Specifically, studies have identified negative emotions, such as depression, and anxiety, as motivating factors for delinquent behavior (e.g., Brody & Agnew, 1997; Piquero & Selock, 2004). Others have shown that individuals with mental health disorders face higher arrest rates, have records of past violence, and are more likely to be victims of crime themselves (e.g., Elbogen & Johnson, 2009; Teplin, McClelland, Abram, & Weiner, 2005; White, Chafetz, Collins-Bride, & Nickens, 2006). It has also been documented that adult prisoners and incarcerated adolescents suffer from mental illnesses at much higher rates than the general population (e.g., Marcotte & Markowitz, 2011). Even those with less severe mental health problems perform poorly in terms of behavioral outcomes. For example, Jiri, Thiel and Erni, (2002) investigated the relationship between criminal behavior on the one hand and endogeneity and anxiety on the other hand in a sample of patients with unipolar depression to help elucidate factors influencing the criminality rate in this population. A lower criminality rate in patients with higher ratings of endogeneity and anxiety was predicted. Clinical records of 179 male and 99 female psychiatric inpatients were retrospectively evaluated using the Newcastle Scale II and Hamilton Anxiety Scale. A full account of conviction records served as a measure of criminal behavior. Forty per cent of male patients and 7% of female patients were criminally convicted. A lower criminality rate was indeed found in male

and female patients with endogenous type of depression and in male patients with higher anxiety ratings. In a multivariate evaluation, however, socio-demographic variables like age and social class seem to be more important predictors of criminality and all variables they assessed contributed only marginally to the explanation of the criminality variance. Thus, in patients with unipolar depression, socio-demographic factors seem to be of a greater importance even though still limited importance regarding criminal behavior compared with the clinical variables of endogeneity and anxiety.

In another study, Jiri, Thiel and Erni, (2002) investigated criminal behavior in 261 male patients, diagnosed with affective disorders according to Research Diagnostic Criteria (RDC). Compared with matched controls from the general population, a significantly higher criminal rate was found for 82 bipolar patients and for 67 patients with unipolar minor or intermittent depression, but not for 112 patients with unipolar major depression. In another study, the relationship between endogeneity and anxiety to criminal behavior was investigated in a total of 278 psychiatric inpatients of both sexes and with all types of unipolar depression. The researchers expected the crime rate to be influenced by both variables; in particular, we predicted the criminal rate to be lower in anxious patients and in patients with endogenous depression, our hypothesis being based on the following reasoning.

Anderson, Cesur and Tekin (2012) examined the effect of depression during adolescence on the probability of engaging in a number of criminal behaviors using data from the National Longitudinal Study of Adolescent Health (Add Health). In their analysis, they controlled for a rich set of individual, family, and neighborhood level factors to account for conditions that may be correlated with both childhood depression and adult criminality. One novelty in their approach was the estimation of school and sibling fixed effects models to account for unobserved heterogeneity at the neighborhood and family levels. Furthermore, they exploited the longitudinal nature of their data to account for baseline differences in criminal behavior. The empirical estimates show that adolescents who suffer from depression face a substantially increased probability of engaging in property crime. They found little evidence that adolescent depression predicts the likelihood of engaging in violent crime or the selling of illicit drugs. Their estimates imply that the lower-bound economic cost of property crime associated with adolescent depression is about 219 million dollars per year Neelu, Prakash, Sengar and Singh (2015) assessed mental health problem in two groups of convicted criminals: murderers and rapists in terms of depression anxiety and stress. Based on purposive sampling technique, 72 convicted criminals were selected from Birsa Munda Central Jail Hotwar, Ranchi, India. Both groups of criminals were matched on various socio-demographic parameters such as: gender, age, education, religion, marital status, residence and occupation. All participants were assessed on Depression Anxiety and Stress Scale (DASS). Obtained responses were scored by using standard scoring procedures and subsequently statistically analyzed by using Chi-square test. In the study, rapists group had shown significant difference on scale of depression in comparison to murderer's group. Whereas there were no significant differences found

between both the groups on level of anxiety and stress. Mental health problems were found prevalent in both groups but more prominent in rapist's group. Rapists group have shown more symptoms and severity of depression, anxiety and stress than the murderers group.

Theoretical Framework of the Study

The theoretical framework guiding the present study is the Social Cognitive Theory by Bandura (1977), which claims that behaviour is guided by cognitions between the stimulus and response. It emphasizes that the simple S-R paradigm is inadequate to explain human behaviour since humans cogitate based on already acquired information. Bandura (1977) further posited that forces of memory and emotions worked in conjunction with environmental influences in defining an individual's basic characteristics and behaviour across situations.

From this perspective, personality development depends mainly on both the functionality of the brain (and other physiological systems), the perceptual system, and socialization. One's pattern of behaviour across situations must be largely learnt, and learning involves both operant and classical conditioning. It is logical that both the Social Process theory of crime, and the Rational Choice theory of crime are derivatives of the broader social cognitive theory. The social cognitive theory suitably explains personality formation, and further holds that since one's response to a stimulus is born out of cogitation: weighing all options, examining the possible gains, and losses, and possibly juxtaposing these with resources at one's disposal. Criminal behaviour must therefore be a decision just like any other behaviour except ofcourse in cases of loss of touch with reality (insanity or intoxication). It is thus persuasive that some personality attributes are more likely than others to predispose to criminality, just as some health conditions (especially psychological health condition).

Statement of the Problem

World over, criminal behaviour is a major constraints to societal development. Newspaper and other media reports have highlighted crime that occurs almost on daily basis. Law enforcement agencies have been on alert and laws are being strengthened to deter criminals, yet it seems that not much has been achieved. Lives and properties are still being lost and various levels of trauma inflicted on the citizenry. It seems obvious that understanding the factors that motivate criminal behaviour or predispose humans to such acts is the panacea for a holistic and probably more effective crime control model. Indeed, researchers have for some time now focused on searching for such relationships, for instance Chapman, Lyness, and Duberstein, (2007); Martin *et al.*, (2002) researched on personality and criminal behaviour.

However, much of such research are western based and samples were taken from general population and convicted criminals in prisons. The present researchers are convinced that studying "crime suspects" will offer significant information that will expand the frontiers of knowledge in this matter. Again, studies of psychological health as possible precursors of crime are very scarce, yet one of the major functions of forensic psychologists is the evaluation of

mental/psychological health status of offenders. To close these lacunae and improve on existing literature on crime generally, and factors that may predispose to it, this study on personality and general health status becomes rather apt. Accordingly, the following research questions suffice:

1. Will personality traits correlate with domains of psychological health among crime suspects and non-suspects?
2. Will personality traits differ among the studied population?
3. Will psychological health differ among the studied population?

Purpose of the Study

The main purpose of this study is to make a comparison of personality and psychological health between crime suspects and non-suspects in Anambra State.

Specifically, the study seeks to find out if:

1. Personality traits will correlate with domains of psychological health among crime suspects and non-suspects in Anambra State.
2. Personality traits will differ significantly between crime suspects and non-suspects in Anambra State.
3. Psychological health will differ significantly between crime suspects and non-suspects in Anambra State.

Hypotheses

1. Personality traits will correlate with domains of psychological health among criminal suspects and non-suspects in Anambra State.
2. Personality traits will differ significantly between criminal suspects and non-suspects in Anambra State.
3. Psychological health will differ significantly between criminal suspects and non-suspects in Anambra State.

Method

Participants

A total of 158 participants (80 crime suspects and 78 non suspects) selected from Nigeria Prisons, Awka Division, and NnamdiAzikiwe University, Awka respectively, participated in the study. They comprised crime suspects who were selected using purposive sampling technique and part-time undergraduates of NnamdiAzikiwe, University, Awka, selected using simple random sampling technique. The inclusion criteria for prison inmates (crime suspects) was having been arrested and detained in prison for a minimum period of one week and having attempted senior school certificate, while that of the undergraduates was based on their age. This was done to control for age as an extraneous variable. Their ages ranged between 20 and 35years, with the mean age of 28.23 and standard deviation of 4.40.

Instruments

Two instruments were used for data collection: First is the Big Five Personality Inventory (BFI) developed by John, Donahue, and Kentle (1991), validated by Umeh (2004). This is a 44-item

inventory is a psychological instrument which assesses personality from a five-dimensional perspective.

The original mean divergent validation indices by Costa and McCrae (1992), and Goldberg (1992) respectively were .75 and .85. John, Donahue and Kentle (1991) reported Cronbach Alpha reliability coefficients of .80 and 3-month test-retest score of .85, while Umeh (2004), who provided validity indices for Nigerian sample reported the divergent validity coefficients for Extraversion .05, Agreeableness .13, Conscientiousness .11, Neuroticism .39 and Openness to Experience .24.

Another is the 12-Item General Health Questionnaire (GHQ-12) developed by Goldberg and Williams, (1988). This a dimensional instrument, which has been widely and extensively used as a short screening instrument, producing results that are comparable to longer versions of the GHQ. It consists of two dominant factors of Anxiety and Depression, and Social dysfunction, each one assessing the severity of psychological distress experienced by an individual within the past few weeks using a 4-point Likert-type scale (from 0 to 3). This scale focuses on breaks in normal functioning rather than on life-long traits; therefore, it only covers disorders or patterns of adjustment associated with distress.

Goldberg and Williams, (1988) reported Cronbach alpha coefficient for the GHQ, and it ranged from 0.82 to 0.86. Morakinjo (1979) found the sensitivity of GHQ to be 69.7%, specificity -96.0%, and overall misclassification rate of 10.7% using a cut-off of 12. However, the instrument is considered reliable and has been translated into 38 different languages. Lasebikan and Oyetunde(2012), and Okwaraji and Aguwa (2014) have used the GHQ-12 in Nigerian studies; while Guruje and Obikoya (1990) had used the GHQ-12 as a screening tool in Primary Health Care System.

RESULT

Table I Zero-order Correlation Matrix of Correlation between GHQ-12 and Personality Traits

Factors	1	2	3	4	5	6	7	8
1. Extraversion	1							
2. Agreeableness	.68**	1						
3. Conscientiousness	.57**	.70**	1					
4. Neuroticism	-.56**	-.63**	-.43**	1				
5. Openness	.56**	.58**	.64**	-.24**	1			
6. Social Dysfunction	-.30**	-.42**	-.50**	.28**	-.69**	1		
7. Anxiety/Depression	-.50**	-.57**	-.30**	.51**	-.47**	.78**	1	
8. Age	.26**	.27**	.38**	.28**	.31**	.38**	.37**	1

*p<.05; **p<.01; Bold Value correlation coefficient of domains of GHQ-12 and personality traits

The result in table 1 above showed that Extraversion had negative correlation with social dysfunction ($r=-.30$), Agreeableness had a negative correlation with social dysfunction ($r=-.42$), Conscientiousness had a negative correlation with social dysfunction ($r=-.50$) and finally Openness to experience had a negative correlation with social dysfunction ($r=-.69$); while Neuroticism had a positive correlation with social dysfunction ($r=.28$). This indicates that increment in the trait of neuroticism related to increment in social dysfunction, while increment in the traits of extraversion, agreeableness, conscientiousness and openness to experience

related to decrease in social dysfunction among the studied population.

Similarly, the same table showed that Extraversion had negative correlation with Anxiety/ Depression ($r=-.51$), Agreeableness had a negative correlation with Anxiety/ Depression ($r=-.57$), Conscientiousness had a negative correlation with Anxiety/ Depression ($r=-.30$) and finally Openness to experience had a negative correlation with Anxiety/ Depression ($r=-.69$); while Neuroticism had a positive correlation with Anxiety/ Depression ($r=.51$). This indicates that increase in neuroticism translated to increase in Anxiety/Depression; while increase in the traits of extraversion, agreeableness, conscientiousness and openness to experience translated to decrease in anxiety/depression among the studied population.

Table 2 Differences in personality traits and domains of general health

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
S/Population	Extraversion	186.464	1	186.464	7.678	.006
	Agreeableness	37.953	1	37.953	.784	.377
	Conscientiousness	18.780	1	18.780	.309	.579
	Neuroticism	.371	1	.371	.008	.927
	Openness	2.468	1	2.468	.039	.844
	Social Dysfunction	250.108	1	250.108	29.850	.000
	Anxiety/Depression	128.820	1	128.820	22.991	.000
Total	Extraversion	4000.254	157			
	Agreeableness	7679.247	157			
	Conscientiousness	9371.500	157			
	Neuroticism	6846.589	157			
	Openness	9863.519	157			
	Social Dysfunction	1629.975	157			
	Anxiety/Depression	1010.437	157			

Table 2 showed that crime suspects differed significantly from non-suspects in extraversion $F(1,157) = 7.68, p = .01$; while no significant difference was observed in the personality traits of (i) Agreeableness $F(1,157) = .78, p = .38$, Conscientiousness $F(1,157) = .31, p = .58$, Neuroticism $F(1,157) = .01, p = .93$ and Openness to experience $F(1,157) = .704, p = .84$ among the studied population. Also, the table showed that crime suspects differed significantly from non-suspects in social dysfunction $F(1,157) = 29.85, p = .00$ and Anxiety/Depression $F(1,157) = 22.99, p = .00$.

DISCUSSION AND CONCLUSION

Discussion

Statistical analysis confirmed that hypothesis one was upheld. Thus, there was a statistically significant correlation between the domains of the Big Five Personality and those of the General Health Questionnaire. Detail showed that only neuroticism correlated positively with both social dysfunction and Depression/Anxiety, while the other domains correlated negatively. Thus, high neuroticism is likely to predict both high social dysfunction, and high Depression and Anxiety.

Neuroticism as described by the Big Five connotes nervousness, stress, being unstable, loss of confidence, being

doubtful or being/feeling uncertain. These characteristics surely predispose to poor cogitation and poor utilization of personal resources. It follows logically that those who are high in neuroticism may behave irrationally many a time and this may affect the way they take care of events in their lives, including their health. Additionally, it is possible that poor psychological health was responsible for the high score in neuroticism. What is very clear however is that neuroticism is a factor in poor psychological health. This finding is in line with the DeNeve and Cooper (1998) who showed in their study on personality factors and general health that Neuroticism was most closely related with happiness, life satisfaction and negative affect, and Extraversion with positive affect. It is also in line with the study of Shirazi, Khan and Ansari (2012) who examined the relationship between general health status and personality characteristics among students. The result showed that there is significant correlation between general health and personality characteristics. The multiple regression analysis using the stepwise method found agreeableness, neuroticism and openness as significant predictors of general health. Furthermore, the study agrees with the findings of Amini, Heidary, and Daneshparvar (2015) who investigated personality traits and its impact on mental health of battered women in Tehran. The study revealed that statistically, mental health has a significant and positive correlation with neuroticism personality trait, while it has a significant but negative correlation with extraversion personality trait, agreeableness, and conscientiousness.

It is slightly in line with the study by Quevedo and Abella (2011) who examined whether the facets of the Big Five Model and other personality characteristics not included in this model, such as optimism, self-esteem, and social support, are better predictors of general health than Big Five broad dimensions. They found that Neuroticism was negatively related with positive affect and Extraversion inversely related with negative affect. Neuroticism and Extraversion were associated to happiness; individuals with low Neuroticism and high Extraversion showed increased happiness. Steel, Schmidt, and Shultz (2008) conducted a comprehensive meta-analysis and evaluated the associations between each personality factor and general health status. Their findings support a strong relationship between neuroticism, extraversion, agreeableness, conscientiousness and all components of general health questionnaire (GHQ); openness to experience showed close associations with the general health questionnaire facets of happiness, positive affects, and quality of life. With regards to its positive qualities of creativity, sensitivity, curiosity and independence that play huge role in logical empirical reasoning, and which predisposes to such philosophies as ‘When things get tough, the tough gets going,’ or ‘Determination is success,’ or ‘Where there is a will, there is a way,’ or ‘No one is a winner all the time,’ it is plausible that such thoughts and beliefs predispose to rational exercise of personal faculties and resources hence engender positive psychological health. As for the positive correlation between other facets of the Big Five and GHQ, the highest correlation seems to be Depression/Anxiety.

From the analysis for hypothesis two which tested whether the two groups would differ significantly in their psychological

health was upheld. Suspects reported significantly higher social dysfunction than non-suspects. They as well reported significantly higher Anxiety/Depression than non-suspects. These findings align to those of Jiri, Thiel and Erni, (2002) who investigated criminal behavior in 261 male patients, diagnosed with affective disorders according to Research Diagnostic Criteria (RDC). Compared with matched controls from the general population, a significantly higher criminal rate was found for 82 bipolar patients and for 67 patients with unipolar minor or intermittent depression, but not for 112 patients with unipolar major depression.

Poor psychological health may indeed prelude criminality, arrest, and detention. It is also possible that poor psychological health developed during detention as a reaction to stress, rejection, deprivation, or even torture. However, it has been observed that people with poorer psychological health are less able to cope with stress, they become easily frustrated, and are less likely to endure delayed gratification, hence their health status may indeed predispose them to acts that led to their being in custody. This is in tandem with the predispositions of the Arousal Theory of Crime (Gottfredson & Hirshi, 1990), which holds among others that persons with low levels of self-control are more likely to commit acts of force or fraud. Again, psychobiological studies seem to support this, since alterations in neurochemistry due to stress have been found to lead to low frustration tolerance, and loss of inhibition, which have been implicated in aggression and criminality.

For hypothesis three, it was only for extraversion that there was statistically significant difference between suspects and non-suspects. Suspects were lower in extraversion than non-suspects. This implied that the suspects were less in sociability, expressiveness, positive emotion, and activity level than non-suspects. One would have thought that the opposite state should obtain, however, if viewed from the angle that 'introverts' often exhibit outburst of emotions which may lead to aggression, and that people who stay on their own do not enjoy social support, it is a possible explanation that such people may resort to fraudulent ways to solve their problems. They are also more likely to plan revenge against perceived 'enemies' than those who talk things over.

There is however another possible explanation for the observed difference: it may be that the incarcerated persons having lost contact with people and being subjected to dehumanizing environment and treatment, developed the characteristics which are represented by low extraversion. This is more likely to obtain among persons who have stayed in custody for reasonable period of time, who may not be findings things 'easy' in the cells, and who might have lost hope of assistance. This finding aligns with the studies of Khan (2014) who compared the personality dimensions of suspects and non-suspects of Khyber Pukhtonkwha (KPK). Findings of the study accepted the hypothesis that the suspects would score higher on all the four dimensions of Eysenck personality scale as compared to non-suspects. It was proved that suspects had higher scores on psychoticism, neuroticism, extraversion, and lie as compared to non-suspects.

However, the study encountered a lot of limitations. The major limitation is the measure of psychological health. There are other measures of psychological health that were not covered in

the study which may be very important. For instance, Symptom Distress Checklist (SCL-90) covers 10 domains of psychological health which are not within the scope of the present study. Other studies can explore these domains.

The findings of this research, besides being useful in the pursuit for apprehending/identifying possible perpetrators of crime, could inspire Judicial Panels and the Courts to note the health status of individuals before adjudication, during incarceration, and at the point of discharge from prison. This will enable authorities concerned to treat the people affected before letting them back into the society. For example, if a person is found to be psychologically unstable before committing a crime, aspects of section 28 of the criminal code should apply to possibly mitigate sentence. Also, if the condition developed while in detention, the person should be treated and possibly given further rehabilitation to avoid recidivism.

As for observed differences in personality; for only extraversion that significant difference was observed, it is recommended that personality screening be requested by the courts for persons being tried, especially for gang actions, as collaborative evidence.

Further studies in this area of research should expand the scope by engaging more number of participants from varied locations, including police cells. It may also be very informative to attempt a longitudinal study to find out whether there are alterations in personality or health due to periods of incarceration. A comparison of sentenced prisoners and awaiting trials may also yield interesting results.

CONCLUSION

Criminality, a global phenomenon is not only the most dangerous threat to human existence, but a major issue of economic and psychological health concern. Governments and individuals do commit enormous resources to contain this menace; unfortunately, criminals have become so sophisticated that they are rarely trapped in action. This necessitates the equipment of law enforcement and investigative officers with knowledge on possibly ways to track down offenders after they might have escaped from crime scenes.

Although, a good number of research had been carried out on factors that predispose to criminality, not much has been done on the relatedness of personality, psychological health and criminality, more so, engaging awaiting trials as participants.

Among other theories, the social cognitive theory seems to capture the relationship between development of personality attributes, choices (rational thinking or otherwise) and the economic concomitants of criminal behaviour. Hence, it implies that one decides to go into crime after due cogitation concerning the possible outcomes, which is done with ones resources, victim's resources, and possibility of arrest in perspective.

Empirical evidence from this study strongly suggests that particular traits correlate with psychological health; Neuroticism was positively and significantly related to poor psychological health. Criminal suspects did not differ significantly from non-suspects in the traits of agreeableness, conscientiousness, neuroticism and openness to experience, but

differed in extraversion, with criminal suspects being more extroverted than non-criminal suspects.

Again, criminal suspects differed significantly from non-suspects in the domains of psychological health. Suspects showed significantly higher social dysfunction and anxiety/depression than non-suspects. It is therefore advocated that psychological health and personality testing should be made a part of routine interrogation procedures for criminal suspects.

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