

## **Standardization of Hare Psychopathy Checklist (2<sup>nd</sup> ed. –R) Among Prison and Non-Prison Population in Kaduna State-Nigeria**

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### **Abstract**

The study examined the reliability, standardization, and factor structure of the Hare psychopathy checklist (PCL-R) 2<sup>nd</sup> edition in prison and non-prison populations and the validity of the construct of SCL-90 amongst the non-prison population in Nigeria. A survey design was used to obtain data on the participants from the communities and correctional settings. Some 384 participants were used for the study, 296 (77.1%) were male, and 88(22.9%) were females. Their age ranged from 18-55 years, with a mean age of 33.03 years and a standard deviation of 9.2 years. Participants were selected through cluster and simple random sampling techniques. Data was analysed using Cronbach's alpha, descriptive statistics of mean, standard deviation, error of mean scores, factor analysis, frequency, simple percentage estimates, and independent t-test. The results on reliability statistics of the PCL-R 2<sup>nd</sup> edition had a Cronbach's alpha of 0.823 and were considered highly significant. The norms for prison-population (Mean PCL-R score gender) for male was 50.52 (SD 9.9: n=177) and females 43.86 (SD 8.7: n=15); while for non-prison population (Mean PCL-R score gender) for male 48.73 (SD 9.8: n= 119) and female 52.05 (SD 9.9: n=73). Findings therefore revealed that male participants of ages 18-35 years indicated more symptoms of psychopathy. The PLC-R 2<sup>nd</sup> edition total scores positively correlated with obsessive compulsive disorder, Interpersonal sensitivity and somatisation subscales of the SCL-90 and therefore measured what it was supposed to measure. The analysis of factor structure replicated two-factor solutions of previous studies. The result confirmed that participants manifested interpersonal, affective, lifestyle and antisocial symptoms. The results confirmed the psychometric properties of the PCL-R 2<sup>nd</sup> edition as a measure of psychopathy in Nigeria. Therefore, it is recommended that the PCL-R be adopted as a psychological assessment tool for criminality and psychopathy by psychologists and other forensic experts who work in the Nigerian Criminal Justice System.

**Key Words:** Hare, Prison, Non-Prison, PCL-R, Psychopathy, Standardization

## **Introduction and Background**

The United States Department of State has stated that violent crime is prevalent throughout Nigeria (VOA, 2022). US visitors and residents have been victims of a wide range of violent crimes, including armed robbery, assault, rape, and kidnapping (OSAC, 2020). Most countries of the world are under siege, a siege orchestrated by murderous blood-thirsty, criminally minded individuals who have indicated an insatiable disposition towards sadism (Nnabuife, 2020).

In March 2022, the Action on Armed Violence (AOAV) reported a recorded number of 2,856 deaths and 216 injuries in different incidences of explosive violence around the world with civilians accounting for 2,074 (745) of the deaths recorded (AOAV, 2022). In the same vein the UNODC (2019) on global study on homicide reported an estimated average of roughly 65,000 killings every year in related organized crime.

Numbeo (2021) ranked six African countries among the twenty nations with the highest crime rates in the world. These include South Africa, Angola, Namibia, Nigeria, Libya and Kenya. When homicide rates per 100,000 populations were calculated, Africa again came second to America. For example, Van Diemen (2022) reported that 6,083 people were murdered in South Africa between January and March 2022. The report suggests an alarming increase of 22% of 1,107 more people murdered compared to the year 2021. There was an increase in the number of women (37.2%) and children (70.5%) of those murdered.

Akpan (2022) reported that 1,743 Nigerians were killed in the first quarter of 2022 as a result of insecurity and violent crimes. The report also revealed that an average of 19 Nigerians die daily in various violent attacks between January and March 2022. The review indicated that 269 attacks with 427 people were killed specifically in Kaduna State (259), Niger State (448), and Zamfara State (327).

Consequently, 40 people were killed and 80 injured in a church when Gunmen stormed church in Owo Ondo State Nigeria on Sunday morning and opened fire shooting the congregation and also detonated explosives as the worshipers scampered for safety (Olasunkanmi, 2022). The prodigious escalation in violent crime worldwide indicates an insatiable disposition towards sadism by perpetrators. That is to say that they appear to be pathologically delighted to oppose

constituted authority, victimise fellow citizens, and pride themselves in the destruction they mastermind in society (Zaman, 2021).

Doctors use a simple test to predict psychopathy. Psychopathy Checklist-Revised also known as the PCL-R test (Legg, 2020). It is a checklist that has twenty items on it that include: glibness or superficial charm, grandiose sense of self-worth, need for stimulation/proneness to boredom, pathological lying, conning or manipulative, lack of remorse or guilt, shallow affect, callous and lack of empathy, parasitic lifestyle, poor behavioural controls, promiscuous sexual behaviour, early behavioural problems, lack of realistic, long-term goals, impulsivity, irresponsibility, failure to accept responsibility for actions and criminal versatility.

Psychopaths typically begin their criminal careers at a younger age than do other offenders, at least as reflected in formal contact with the criminal justice system (Hare, 1998). Hemphill, Templeman, Wong and Hare (1998) reported that the mean age of first conviction was 18.6 years for offenders with a PCL score of 30 or more, 19.5 years for offenders with a PCL score between 20 and 30, and 24.3 years for offenders with a PCL score of less than 20. Offenders with a PCL-R score of 30 or more (psychopaths) committed significantly more violent and non-violent offences and a greater variety of crimes than those with a score of 2 or less. Furthermore, these differences remained when the subsample of white and African American offenders was analysed independently. The correlation between the PCL-R Total scores and the total number of criminal charges was .40 for white offenders and .30 for African American offenders. The correlation between the PCL-R Total Scores and the total number of different criminal charges was .46 for white offenders and .35 for African American offenders (Hare, 2003)

Porter et al. (2003) reported a mean PCL-R Score of 24.7(SD=6.8), with no difference among White, Native American, and African American offenders (77%, and 2.2% of the sample, respectively). A cut off score of 30 was used to divide the offenders into psychopathic (n=93) and non-psychopathic (n = 224) groups. The mean age of the offenders was 43.5(SD =11.5) years. The psychopaths committed significantly more violent and nonviolent offenses across their criminal careers, and a greater variety of offences than did the non-psychopaths, whereas the non-psychopaths committed more sexual offences. Factor 1 scores were significantly correlated with total violent crimes (.11) and nonviolent crimes (.11), whereas Factor 2 was significantly correlated with nonsexual violent crimes (.26) and nonviolent crimes (.33). Among

the psychopaths, the number of homicides was significantly associated with Factor 1 (.23) but not with Factor 2 (-.08). Among non-psychopaths, the opposite was true: Homicides were associated with Factor 2 (.9) but not with F 1 (-.05). In a sample of 71 male offenders in a forensic psychiatric facility, Douglas and Webster (1999) found the PCL-R was significantly correlated with the total number of offences (.35), violent offences (.41), and nonsexual violent offences (.38), but not with sexual offences (.15). Cooke (1995) reported that the correlation between a PCL-R diagnosis of psychopathy and general offending was .20 in a sample of 247 Scottish male offenders. Cooke, Michie, and Philip (1997) found that PCL-R scores among 244 Scottish male prisoners were strongly correlated (.56) with estimates of lifetime violence. Brinkley, Schmitt, Smith, and Newman (2001) correlated the PCL-R and its factors with violent and nonviolent criminal activity in 197 White and 181 African American male offenders. The correlations were much the same for the two subsamples, although Factor 2 was more strongly associated with violent offences in White than in African American offenders. Molto et al. (2000) reported that the PCL-R was significantly associated with a total number of convictions among Spanish offenders. However, the PCL-R Total score was significantly correlated with the number of assaults (.30). Factor 2 scores were significantly associated with several assaults (.23), rape (.24), and robbery (.31), and Factor 1 scores were significantly correlated with fraud offences (.31). Ratings for a Scottish sample displayed a very similar pattern to that obtained in the standardization sample (e.g., factor congruence for Factor 1 = .92 and Factor 2 = .93; correlations between the two factors,  $r = .55$ ). Alpha coefficients for the total score, Factor 1, and Factor 2 were comparable with those obtained in the standardization Sample (total score,  $\alpha = .88$ ; Factor 1,  $\alpha = .73$ ; Factor 2,  $\alpha = .79$ ). Overall, these results suggest that the underlying structural properties of the overall test generalize across cultures (Van de Vijver, & Leung, 1997).

The reliability and validity of the PCL-R are ascertained because it is an established instrument for measuring psychopathy. Hare used a sample of 4,981 prison inmates and 1,246 non-inmates and found an alpha coefficient of 0.87 (Rogers, 2001). For a five-year time period the test-retest co-efficient was presented as 0.89 (Schroeder & Hare, 1983), validity has been supported by factor analysis's structure (Hare et al., 1990) using samples of prison and forensic inpatients.

The PCL-R 2<sup>nd</sup> edition is the most validated and reliable instrument for detecting psychopathy in correctional, forensic psychiatric, and the general population. Nicholls, Ogloff, Brink, and Spidel

(2005) found that women scored lower than men on the PCL-R in samples of civil and forensic psychiatric patients, inmates, and community members. The result is similar to Levenson, Kiehl, and Fitzpatrick (1995) who compared men and women in a community sample on primary and secondary psychopathy and found that men were 47% higher on primary psychopathy and higher, although marginally, on secondary psychopathy than their female counterparts.

Studies show that psychopathy in women is substantially lower than that observed in men (Hare, 2003). Warren (2003) found a psychopathy rate of 17% in a sample of U.S. women prisoners. Neary (1990) found a psychopathy rate of 11%, and Vitale et al., (2002) found 9% in a female sample from a U.S. prison. Tardiff and Sweillam (1980) reported that males perpetrate violent acts approximately ten times more often than females. Thus, the rates of psychopathy among men are roughly twice that found among women (Salekin et al., 1997). These gender differences may reflect broader differences in psychopathology among men and women as well as diagnostic biases. Summarising the various studies, Jackson et al. (2002) concluded that the PCL-R scores observed among women are 4-6 times lower than those obtained in men. However, the PCL-R remains consistent in identifying psychopathy among women and men in the general population (Vitale & Newman, 2001).

Most Studies on PCL or its use have been majorly European, American and Asian. Psychopathy is yet to be systematically explored in Africa especially in Nigeria. The major study to note in Nigeria has been the one by Ifeagwazi and Ugwu (2018) who studied Psychopathy and Aggressive behaviour among Nigerian male prison inmates and the moderating role of substance abuse using the Self Report Psychopathy Deviate Scale (Levenson, Kiehl, & FitzPatrick, 1995) together with the Aggression Inventory (Buss & Perry, 1992) and the Drug Abuse Screening Test (Skinner, 1982). The PCL-R 2<sup>nd</sup> edition Scale is yet to be elaborately standardized for use in Nigeria. The Hare Psychopathy Checklist Revised 2<sup>nd</sup> edition is one instrument that could be used for criminal profiling and judicial guidance. While it is brief and easy to use, its cultural appropriateness and relevance are yet to be determined.

This study aims at standardizing the PCL-R 2<sup>nd</sup> edition in Nigeria to determine its reliability, and validity in relation to the construct of SCL-90 amongst the non-prison population, and factor structure of the instrument in Nigeria.

It was hypothesised that there will be significant difference in the reliability statistics of PCL-R 2<sup>nd</sup> edition in Kaduna State-Nigeria. There will be significant difference in statistical norms of PCL-R 2<sup>nd</sup> edition in Kaduna State-Nigeria for the case determination of psychopathy. There will be significant difference in the validity of PCL-R 2<sup>nd</sup> edition in relation to the construct of SCL-90 in Kaduna State-Nigeria. There will be significant difference in the factor structure of PCL-R 2<sup>nd</sup> edition in Kaduna State-Nigeria.

The development of psychopathology has been proposed and explained by four proponents; Genetic/biological theory of psychopathy by Gunter, Vaughn and Philibert (2010), Freyne and Connor (1992) and Waldman and Rhee (2006). Biochemical, Neurological and Brain-Imaging theory by Intrator, Hare, Strzke and Brichswein (1997), Weis (1983), and Holin (1989). The Developmental theory of psychopathy as proposed by (Frick & Hare, 2001; Lahey, Hart, Pliszka, Applegate, & McBunnet, 1993; Lynam, 1996; McBunnet Piffner, 1998; Moffit, 1993; Robbins, 1996, 1978) and the Cognitive theory of Psychopathy by (Beck, Freeman, & Davis, 2006, Patterson & Newman, 1993).

The theoretical position of genetic/biological theory of psychopathy is that people born with specific inadequacies usually tend to commit criminal behaviour of psychopathy and that psychopaths can be recognised by certain hereditary impairments like extra chromosomes XYY (Freyne et al., 1992). It was thought that having an extra chromosome made men become aggressive Psychopaths. In a recent review of behavioural genetics in antisocial spectrum disorders, Gunter, Vaughn, and Philibert (2010) reported that family, twin, and adoption studies have all pointed to genetic contributions to antisocial behaviours. Genetic factors account for approximately half the variance in both twin and adoption studies that investigate antisocial behaviours (Gunter et al., 2010). Having a criminal biological father increased the likelihood that a male adoptee scored high on psychopathic traits in a sample of adoptees from the National Longitudinal Study of Adolescent Health. However, having a criminal mother did not have an effect. These findings were only seen in male adoptees and not females. Psychopaths have often indicated physiological responses in situations where they have exhibited reduced fear in anticipation of unpleasant or painful stimuli using physiological measures such as increased heart rate and skin conductance (Hart, 1998).

The Biochemical Neurological and Brain-Imaging theory of psychopathy asserts that biochemical and neurological factors contribute to psychopathy behaviour (Intrator et al,1997). The role of vitamins and mineral deficiencies in psychopathy behaviour, for example, deficiency of vitamin B3 is a major cause of hyperactivity in children and adolescents (Weis, 1983). Hyperactive children have an increased risk of becoming psychopaths. Brain lesions in individuals may result in psychopathy tendencies (Hollin, 1989).

Neurobiological evidence suggests differences in the brain of psychopaths and non-psychopaths (Hare, 2001). Evidence for functional differences in the brain of psychopaths has primarily been based on studies employing brain imaging that enables real-time pictures of the brain. Intrator, Hare, Strtze, and Brichswein (1997) used single-photon emission computed tomography (SPECT) to study the blood flow in the brains of a psychopath while a standard task presented participants with emotional and neutral words. The study revealed that the brain (cerebral cortex) of psychopaths was less active.

Consequently, using Functional Magnetic Resonance Imaging (fMRI) on the brain of psychopaths, findings also revealed that psychopaths failed to use certain parts of the brain, specifically the frontal cortex, limbic system, and amygdala when they were processing emotional stimuli (Kiel et al., 2004). There is some empirical evidence supporting dysfunction in the amygdala in Psychopaths (e.g., Blair, Morris, Faith, Perett, & Dolan, 1999; Patrick, 1994).

The developmental theory of psychopathy asserts that trait and behaviour that defines adult psychopathy begin to manifest themselves in childhood and persist throughout much of the life span (Frick & Hare, 2001.). Children who throw tantrums (violent anger) if not adequately modified can degenerate to exhibiting oppositional defiant disorder (ODD) and may also result in attention deficit hyperactivity disorder (ADHD), conduct disorder (CD), and eventually violent criminal behaviour of Psychopathy (Moffit, 1993). Research revealed that it might be possible to differentiate between children who appear to be at high risk for developing psychopathic features and other children who exhibit severe emotional and behavioural problems, specifically those children diagnosed with conduct disorder, attention deficit hyperactivity disorder, and oppositional defiant disorder (Frick, 1998; Frick, & Hare, 2001; McBunnet, & Pfiffner, 1998; Lynam,1996). The combination of conduct disorder and attention

deficit hyperactivity disorder may be a significant risk factor for adult psychopathy (Lynam, 1996; McBride, 1998).

Cognitive theory of psychopathy states that people's beliefs strongly influence the likelihood that they will engage in psychopathy (Beck et al., 2006). The Psychopath's core belief is to look out for himself and does not consider other views, and has a sense of breaking the law. The cognitive deficit learning theory states that psychopaths are simply unable to learn from their mistakes and give way to intake abilities in many areas of cognitive functioning, such as intelligence and memory (Hiatt, & Newman, 1993). Research has identified that psychopaths have cognitive limitations in passive avoidance learning this simply implies that psychopaths cannot learn from behaviours that punish (Patterson, & Newman, 1993). Beck's view is that the psychopath prefers being alone to himself rather than being with others and views others as weak and deserving to be exploited or preyed upon (Beck, Freeman, & Davis, 2006).

## **Methodology**

The study adopted a survey as its design which enabled the researcher to obtain all data on the participants from the communities (non-prison population) and correctional settings (incarcerated prison population). The population for the study was derived from Kaduna North LGA of Kaduna State-Nigeria. It comprised of prison and non-prison populations. The prison population was selected from the Medium Security Custodial Centre Kaduna, while the non-prison population was derived from Kabala, Kawo, Gabasawa and Badarawa communities.

Inclusion criteria were persons between 18-55 years while exclusion criteria were persons that had mental diagnoses and those who could not converse in English language. The sample size of participants was determined by the Krejcie and Morgan (1997) formula of sample size determination. The minimum sample size was 392 participants, 192 from the prison population and 200 from the non-prison population however 8 participants from the non-prison population withdrew from the study: Hence leaving a minimum sample size of 384 participants.

Participants from the prison population (incarcerated inmates) were recruited through purposive and simple random sampling techniques. Participants from the non-prison population (community population) were recruited through the Cluster sampling technique. The community population was divided into smaller groups for the selection of participants. The demography of

participants in the study from the prison population (incarcerated inmates) was 177 (92.2%) males and 15 (7.8%) females while from the non-prison population (community population) males were 119 (62.0%) females were 73(38.0%). The method used for Data Collection includes the instrument for standardization which was the Hare Psychopathic Checklist-Revised (PCL-R) 2<sup>nd</sup> edition. The Hare PCL-R is a diagnostic tool that is used to rate the individual psychopathy or anti-social tendencies.

Robert Hare (1980) is the author and proponent of the original PCL-R screening versions. The PCL-R is a list of 20 symptoms ( Glibness/superficial charm, grandiose sense of self-worth, need for stimulation/proneness to boredom, pathological lying, conning/manipulative, lack of remorse/guilt, shallow affect, callous/lack of empathy, parasitic lifestyle, poor behavioural control, promiscuous sexual behaviour, early behavioural problems, lack of realistic long-term goals, impulsivity, irresponsibility, failure to accept responsibility for own actions, many short-term marital relationships, juvenile delinquency, revocation of conditional release, criminal versatility), that requires a forensic expert's clinical judgment to score.

Each item is scored on a 3-point ordinal scale ranging from 0-2 i.e., 0, 1, 2. A score of 0 indicates the absence of symptoms of psychopathy, a score of 1 indicates possible presence of psychopathy while a score of 2 indicates definite presence of psychopathy. Information to score the items is obtained from a semi-structured interview lasting approximately one (1) hour and reviewing the offender's institutional file. The PCL-R scores, ranging from 0-40 on the measure, a cumulative score of 30 and above is considered a conservative cut off for psychopathy. A score of 30 is the conventional cut off/benchmark score for psychopathy. The higher the score someone receives, the more psychopathy they manifest.

The second instrument was Symptoms Distress Checklist 90 (SCL-90). Derogatis, Lipman, and Covi (1977) are the original authors of the American version and they provided the psychometric properties for the American sample while Erinoso (1996) provided the properties for Nigerian samples. The 90-item inventory is designed to assess 10 primary categories of symptoms associated with distress among psychiatric outpatients and with the experience of anguish arising from the problem of living among people in the general population. The 10 categories are Somatization, Obsessive-compulsive, Interpersonal sensitivity, Depression, Anxiety, Hostility,

Phobic Anxiety, Paranoid ideation, Psychoticism and Neuroticism. Erinoso (1996) reported a general population SCL-90 norm of =97 while Derogatis et al. (1997) reported a reliability alpha coefficient which ranged from 0.77 for psychoticism to 0.90 for depression. Erinoso (1996) reported a significant coefficient of concurrent validity between Retirement stress inventory and SCL-90 scales which ranged from 0.26 for scale F (Hostility) to 0.47 for scale J (neuroticism)

Procedure and Administration of the Instruments involved obtaining official permission from the author of the PCL-R 2nd edition. The study was preceded by an advocacy visit to the communities (prison and non-prison communities). The researcher obtained permission from local government and prison authorities to conduct research. Three (3) research assistants were trained in the administration of the instruments. Informed consent was obtained from participants. Community administration of the PCL-R 2nd edition was carried out and concluded with administration at the Medium Security Custodial Centre.

Data was analysed as follows; Validation (reliability and validity) was done using Cronbach's alpha while Norms were obtained by obtaining descriptive statistics of mean standard deviation, error of mean scores, and percentages. Discriminant validity and factor structure were done using factor analysis.

## Results

This section presents descriptive statistics on participant's socio-demographic characteristics and their responses to PCL-R on respective items in line with the study objectives.

*Table 1 Participants Socio-Demographic Characteristics*

Gender	Frequency	Percentage (%)
Male	296	77.1
Female	88	22.9
Total	384	100.0
Age		
18-35 Years	255	66.4
36+	129	33.6
Total	384	100.0

Table 1 presents the Socio-demographic characteristics of the participants. The table clearly revealed that 384 participants participated in the study. Males were 296 (77.1%) while

88(22.9%) were females. Those aged between 18-35 years were 255(66.4%) while 129(33.6%) were 36 years and above.

It was hypothesised that there would be a significant difference in the reliability statistics of PCL-R 2<sup>nd</sup> edition in Kaduna State-Nigeria.

*Table 2: Reliability statistics of PCL-R 2<sup>nd</sup> edition in Kaduna - Nigeria*

	Mean	Minimum	Maximum	Range	Variance	Cronbach's Alpha	N of Items
Item Means	1.114	.135	1.451	1.315	.134	.823	20

Table 2 presents the reliability statistics of the instrument; it yielded a Cronbach alpha value of 0.823 and is therefore considered to be significant, indicating that the instrument is dependable to be used as an assessment tool to assess Psychopathy.

It was hypothesised that there will be a significant difference in statistical norms of PCL-R 2<sup>nd</sup> edition in Kaduna State-Nigeria for the case determination of Psychopathy.

*Table 3: Mean Score Gender and Age for Norms of Prison and Non-Prison Population*

	N	%	Mean	Standard Deviation	Std. Error of Mean	Variance
<b>1. Norms of Prison Population</b>						
<b>A. Gender</b>						
i. Male	177	92.2%	50.5201	9.94614	.74760	98.926
ii. Female	15	7.8%	43.8630	8.76788	2.26386	76.876
<b>B. Age</b>						
i. 18-35 years	140	72.9%	50.7753	9.87267	.83439	97.470
ii. >36 years	52	27.1%	47.9128	10.13734	1.40580	102.766
<b>2. Norms of Non- Prison Population</b>						
<b>A. Gender</b>						
i. Male	119	62.0%	48.7303	9.82987	.9011	96.226
ii. Female	73	38.0%	52.0698	9.99548	1.16988	99.910
<b>B. Age</b>						
<i>i.18-35 years</i>	<i>115</i>	<i>59.9%</i>	<i>49.3626</i>	<i>9.53255</i>	<i>.88891</i>	<i>90.869</i>
<i>ii.&gt;36 years</i>	<i>77</i>	<i>40.1%</i>	<i>50.9520</i>	<i>10.65263</i>	<i>1.21398</i>	<i>113.478</i>

Gender of the Norms for the Prison population indicated that male participants indicated more symptoms of psychopathy than the female participants. The results revealed that female participants scored lower than the male participants on the PCL-R on the prison population. Consequently, the results on age shows that participants of ages 18-35 years indicated more symptoms of psychopathy than participants of ages above 36 years. Gender norms for the non-

prison population also revealed that males were much higher than female in psychopathy and that participants of ages 18-35 years indicated psychopathy symptoms much more than those above 36 years of age.

It was hypothesised that there would be a significant difference in the validity of PCL-R 2<sup>nd</sup> edition in relation to the construct of SCL-90 in Kaduna State-Nigeria.

*Table: 4. Inter-Correlation amongst PCL-R and Obsessive-Compulsive Disorder, Interpersonal Sensitivity and Somatization of SCL-90*

SCL-90	Obsessive-Compulsive Disorder (OCD)	Interpersonal Sensitivity (IS)	Somatization
PCL-R	0.25	0.34	0.39

Table 4 provides the discriminant validity of the instrument. The validity of the instrument was conceived as the ability of the test to discriminate on psychopathy and the construct of SCL-90 such as obsessive-compulsive disorder, interpersonal sensitivity and somatisation. Results showed that the correlation between PCL-R 2<sup>nd</sup> edition and the subscale of the SCL-90 were low (0.25, 0.34, 0.39) respectively  $P > 0.05$ . This means that PCL-R 2<sup>nd</sup> edition significantly discriminated between psychopathy and other construct and therefore measured what it was supposed to measure. In this regard, the PCL-R edition was inter-correlated with three Subscales of SCL-90 namely Obsessive-Compulsive Disorder, Interpersonal Sensitivity, and Somatization. It was hypothesised that there would be a significant difference in the factor structure of PCL-R 2<sup>nd</sup> edition in Kaduna State-Nigeria. Factor Structure of the Hare PCL-R 2<sup>nd</sup> Edition for the Assessment of Psychopathy Behaviour in Nigeria

*Table 5: KMO and Bartlett's Test*

Kaiser-Meyer-Olin Measure of Adequacy.	.843
Approx. Chi-Square	2018.702
Bartlett's Test of Sphericity df	190
Sig.	.000

Source: Field Survey (2021)

As an initial step of factor analysis, the determination of the sampling adequacies of the study was given by the mean and standard deviation scores; the basis of which the Kaiser-Meyer-Olkin Measure of Sampling Adequacy based, Bartlett's template of Sphericity was used. The KMO Sampling Adequacy was reported as 0.843, P value less than 0.05 ( $P < 0.05$ ) which was significant. This means that the participants were very well selected.

*Table 6: Principal Component Analysis of Factor Extraction (Un-rotated Component Matrix)*

PCL-R items	Components	
	<b>1</b>	<b>2</b>
Glibness/superficial charm	.391	.340
Grandiose sense of self-worth	.401	.460
Need for stimulation/proneness to boredom	.312	.261
Pathological lying	.661	.019
Conning/manipulative	.687	.027
Lack of remorse or guilt	.663	.353
Shallow affect	.441	.014
Callous/lack of empathy	.722	.271
Parasitic lifestyle	.376	.280
Poor behavioural controls	.501	.209
Promiscuous sexual behaviour	.202	.547
Early behavioural problems	.583	.281
Lack of realistic, long-term goals	.537	.192
Impulsivity	.603	.411
Irresponsibility	.757	.107
Failure to accept responsibility for own actions	.535	.132
Many short-term marital relationship	.080	.564
Juvenile delinquency	.395	.448
Revocation of conditional release	.174	.269
Criminal versatility	.379	.283

Source: Field Survey (2021)

Table 6 presents the results of the principal component analysis which indicated factor commonalities and extraction like in the American study. It yielded two (2) factors of psychopathy namely factor one (1) Grandiose (0.4) pathological lying (0.6), conning/manipulative (0.6), lack of remorse or guilt (0.6), shallow affect (0.4), callous/lack of empathy (0.7), poor behavioural controls (0.5), early behavioural problems (0.5), lack of realistic long term goals (0.5), impulsivity (0.6), irresponsibility (0.7), failure to accept responsibility for own actions (0.5) and factor two (2) are a grandiose sense of self-worth (0.4), promiscuous sexual behaviour (0.5), impulsivity (0.4) many short-term marital relationship (0.5), and juvenile delinquency (0.4). Using 0.4 as in the benchmark of the original study, the un-rotated component matrix isolated twelve (12) items for factor one (1) and five (5) items for factor two (2). The items loaded more on component/factor 1 with twelve (12) items compared to five (5) items in component/factor 2 This result implies that participants manifested more interpersonal and affective symptoms of psychopathy than the lifestyle and antisocial symptoms.

*Table 7: Principal Component Analysis of Rotated Component Matrix*

PCL-R items	Components	
	<b>1</b>	<b>2</b>
Glibness/superficial charm	.139	.499
Grandiose sense of self-worth	.081	.605
Need for stimulation/proneness to boredom	.404	.046
Pathological lying	.562	.348
Conning/manipulative	.558	.401
Lack of remorse or guilt	.748	.070
Shallow affect	.376	.232
Callous/lack of empathy	.752	.172
Parasitic lifestyle	.159	.441
Poor behavioural controls	.533	.102
Promiscuous sexual behaviour	.133	.567
Early behavioural problems	.332	.556
Lack of realistic, long-term goals	.554	.136
Impulsivity	.730	.001
Irresponsibility	.690	.327
Failure to accept responsibility for own actions	.374	.405
Many short-term marital relationship	.244	.515
Juvenile delinquency	.082	.591
Revocation of conditional release	.294	.129
Criminal versatility	.160	.444

Source: Field Survey (2021)

In addition, when rotated using the Kaiser Nomenclature method, the Principal Component analysis yielded two of the same factors similar to the initial study. However, the item loading, in

this case, was different. The 2 factors had nine items each differentiated into 4 facets as illustrated below

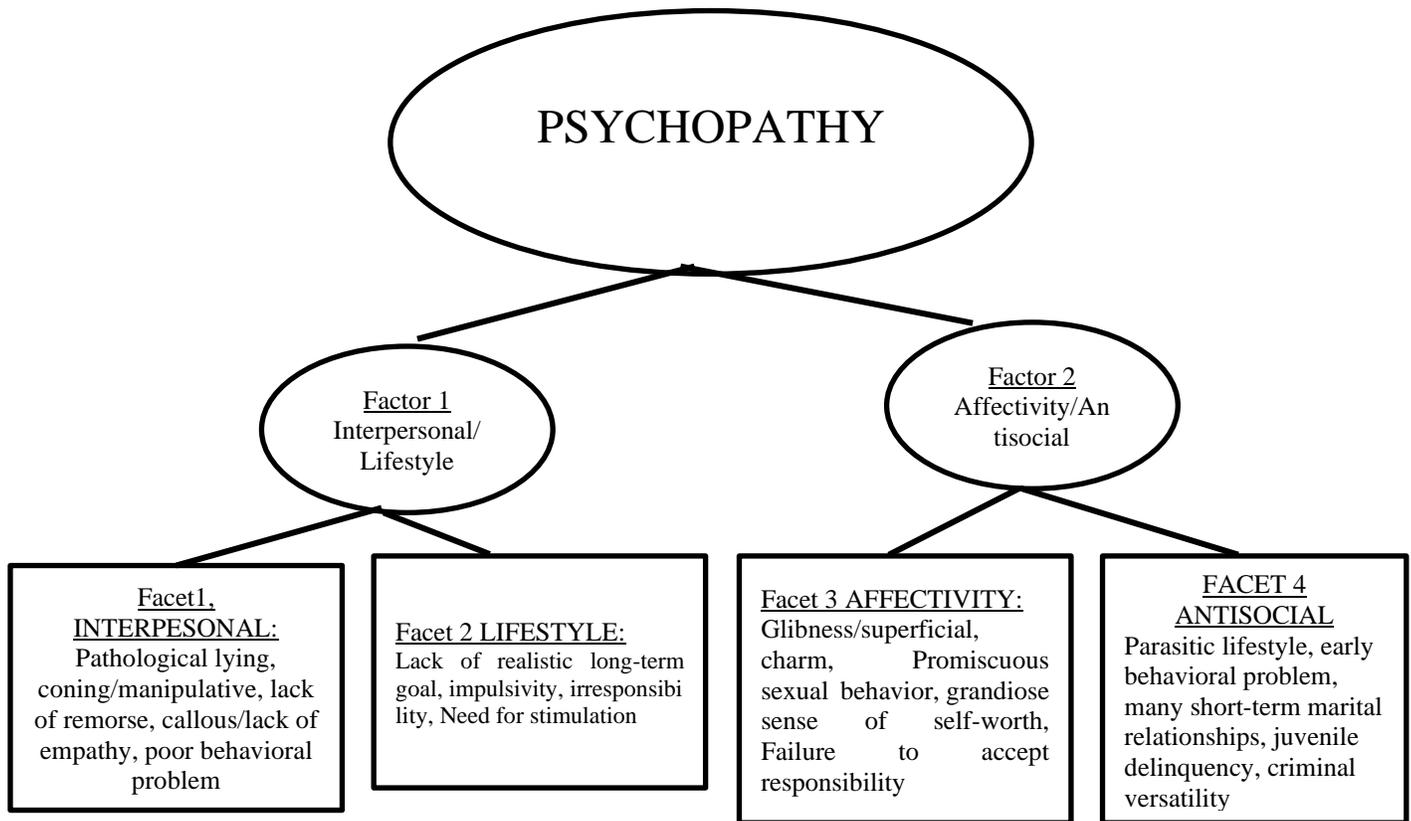


Figure 1 Rotated Component Matrixes

## Discussion

The reliability statistics of the PCL-R 2<sup>nd</sup> edition in Nigeria based on the total number of 20 items was .823 which was statistically significant. This result agrees with the findings of Rogers (2001) who reported that Hare used a sample of 4,981 prison inmates (males) and 1,246 inmates (females) to calculate an alpha coefficient of 0.87 and was significant. Consequently, Schroder and Hare (1989) reported that for a five (5) year period the test-retest coefficient was presented as 0.89. The results of data analysis show that the psychometric properties of the PCL-R in this study indicate that a PCL-R 2<sup>nd</sup> edition is a veritable tool that can be used for assessing psychopathy in Nigeria.

The statistical norms of the PCL-R 2<sup>nd</sup> edition in Nigeria for the case determination of psychopathy for prison population indicated that males had a mean PCL-R score of 50.52 (SD 9.9; n= 177) and females with a mean PCL-R score of 43.86 (SD 8.7; n=15). Consequently,

aged 18-35 years had a mean PCL-R score of 50.77 (SD 9.8; n=140), and those above 35 years of age had a mean PCL-R score of 47.91 (SD 10.1; n=52). Norms for the non-prison population revealed that males had a mean PCL-R score of 48.73 (SD 9.8; n=119) and females indicated a mean PCL-R score of 52.06 (SD 9.9; n=73). The age norm for 18–35-year-olds was a mean score of 49.36 (SD 9.5; n=115) while those above 36 years indicated a mean PCL-R score of 50.95 (SD 10.6; n=77). The findings therefore, revealed that male participants of ages 18-35 years indicated more symptoms of psychopathy. The result was supported by the work of Porter et al. (2003) who reported a mean PCL-R score of 24.7 (SD=6.8) with a mean age of 43.5 (SD=11.5) years. The result is also consistent with the work of Nicholls, Ogloff, Brink, and Spidel (2005) who found that women scored lower than men on the PCL-R in civil and forensic psychiatric patients and community members samples. Hemphill, Templeman, Wong, and Hare (1998) reported participants of ages 18-34 with symptoms of psychopathy who had a PCL-R score of above 30. Porter (2001) also corroborated the findings that individuals between 18-and 42 years exhibited a significantly more psychopathy symptoms with a PCL-R score of above 30 (psychopathy) compared with other age groups. Findings from this study bring a considerable understanding of the statistical norm of the PCL-R 2<sup>nd</sup> edition for the case determination of psychopathy in Nigeria

The validity of the PCL-R 2<sup>nd</sup> edition in Nigeria was supported by the low correlation of Subtest of SCL-90 in the study. The PCL-R 2<sup>nd</sup> edition discriminated on 3 subscales of the SCL-90 namely obsessive-compulsive disorder, interpersonal sensitivity and somatization. The result corroborates the work of Derogatis (1992) where the PCL-R was compared with Anxiety and the result indicated a relatively low correlation on the anxiety scale from the symptom checklist-90-Revised (SCL-90-R).

The factor structure of the PCL-R 2<sup>nd</sup> edition in Nigeria confirmed the 2 factors that constitute the major behavioural domains of psychopathy and the facets that define them. However, in this study, the facets differentiation is not the same as that of the original study as observed in factor 1 (facet 1 & 2) and factor 2 (facet 3 & 4). This therefore, means that participants on factor 1 manifested symptoms of the interpersonal and affective features of psychopathy while individuals on factor 2 manifested symptoms of social deviance (lifestyle and antisocial) features of psychopathy. The implication of this study is that the profiling of criminals in psychopathy in

Nigeria is dependent on their personality traits and social deviance. This result is consistent with the PCL-R factor structure which factor 1 is personality-based and factor 2 is behavioural-based. This result agrees with the work of Hare (2003) of factor analysis scores, 0.35, 0.46, 0.56, 0.58, and 0.66 and that PCL-R correlated with factors 1 and 2 (Hare, 2003). Salekin et al (1997) reported that the PCL-R factor structure remained consistent as factor 1, is personality-based and factor 2 is behavioural based. The importance of this finding is that the PCL-R in addition to being used for criminal profiling in forensic settings can be used in clinical settings to study the prevalence of antisocial personality disorders in the general population.

## **Conclusion**

Hare psychopathy checklist revised (PCL-R) 2<sup>nd</sup> edition is currently used in European, American and Asian countries as the instrument of choice for the diagnosis of psychopathy because of its reliability and validity. It is therefore pertinent to state that this study adapted the Hare PCL-R 2<sup>nd</sup> edition in Nigeria for the assessment of psychopathy amongst prison and non-prison populations. Results of the data analysis revealed that the psychometric properties of the PCL-R 2<sup>nd</sup> edition in this study can be used for assessing psychopathy and criminal behaviour in Nigeria. The PCL-R 2<sup>nd</sup> edition is now an empirically validated instrument for measuring psychopathy in Nigeria and therefore a predictive utility with the Nigerian criminal justice population. Finally, the Philosophy of this study is in the uniqueness of its findings. The study's findings are not elsewhere. There is no doubt, that useful knowledge has been identified and the likely contributions to scholarship. Based on the outcome of this study, the PCL-R was found to be a suitable psychological assessment tool for criminality and psychopathy that can be used by psychologists and other forensic experts who work in the Nigerian criminal justice system. Forensic psychologists and their counterparts can consider appropriate theoretical frameworks from the factor structure of the standardization process for the examination of criminal behaviour in the Nigerian context.

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