

# Examining the Influence of Prison Overcrowding and Rehabilitation Programmes on Effective Rehabilitation and Inmate Correction in Nigerian Prisons

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## **Abstract**

*Effectiveness of correctional institutions in receiving theoretical and empirical concern as it has much implication for the functionality of the society. This study examined the predictive relationship prison overcrowding and rehabilitation programmes independently have on effective rehabilitation and inmates correction in correctional institutions across Delta State, Nigeria. A cross-sectional survey design was adopted and data was collected with a self-administered questionnaire. Two hundred and eighty inmates and 30 staff members of the prisons participated in the study. Data analysis supported hypothesis one since overcrowding have a negative and significant influence on effective rehabilitation. The effect size statistics for the hypothesis was large and this is of practical value. Hypothesis two was not supported as rehabilitation programmes were observed to positively and significantly influence inmate correction. It was recommended that for correctional institutions to achieve the objective of reforming inmates, prison environment should not be frustrating to inmates and staff*

**Keywords:** *Correctional institutions, overcrowding, effective rehabilitation, inmate correction, inmate attitudes.*

## **I. Introduction:**

The first correctional institution in Nigeria (then known as a prison) dates back to the Pre-colonial period (1861-1900) with the opening of 300 inmate capacity Broad Street Prison in Lagos in 1865 (Onyekachi, 2016; Labo, 2018; Sanni, 2019). This, according to (Labo), also marks the beginning of modern Nigeria prisons. This was followed in the Lord Lugard Era (1904 to 1938) by the enactment of 21 new prison ordinances which empowered the "then colonial governors to declare any building as a prison, make regulations for their operations and ensure uniformity in its administrators with deterrence, public safety and retribution as a goal" (Labo, 2018, p002). Directors of prisons were also appointed and native authorities were empowered to

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established police and court reforms in the prisons. The criminal justice system consists of the police, the court and the prison.

The post Lugard era (1938-1985), witnessed the opening of Borstal- like prisons in Enugu in Nigeria. According to Labo, (2018) the most notable, re-form of the Nigerian correctional system occurred during the tenure of Robert Dolan (1946-1955). Hence he is usually referred to as the father of modern Nigerian correctional institutions. He introduced a ten-year development plan for the institutions with a shift towards Reformation, Rehabilitation and Reintegration (the three Rs). Since Dolan's era the Nigerian correctional system has been undergoing various forms of reformation and in 2018, the Prisons Act (Repeal and Enactment) Bill, and 2018 (SBS 125; 288 & 308), established for the federation, the Nigerian correctional service (in this Bill referred to as "the correctional Service"), which provides custodial and non-custodial services (The Senate Federal Republic of Nigeria, 2018, p.1). The Nigerian correctional service currently has two hundred and fifty (250) institutions and Seventy-four thousand (74,000), Inmates spread across the thirty-six (36) States and the Federal Capital Territory Abuja. (Voice of America (VOA) news, 2019). Also, VOA news reports that the prison where Nnamdi Kanu was on death row houses more than 4,000 inmates whereas it was built for 804. According to Cap 366 law of the Federation of Nigeria, 1990, the Nigerian correctional institutions have constituent powers which include the power to take into "lawful custody all persons certified by courts of competent jurisdiction to be kept, to be reformed as well as to produce such in court as and when due". Retributivists and utilitarian philosophers argue that punishment exists to maintain a social equilibrium, which is a concern of society. It always prioritizes and aims at peace and social order.

Thus retributivists and utilitarian philosophers further argue that because crime is an unhealthy activity that disrupts or threatens social order, society sets and enforces punishment as retribution on offenders who break its moral codes and laws. As a result, according to Obioha (1995) and Maculan (2020), the role of punishment is that of prevention and reformation about offenders/criminals and social equilibrium. The correctional institution is therefore an apparatus for transforming the individual criminal into a normal, law-abiding citizen (Obioha, 1995; Maculan, 2020). It is meant to transform the individual's attitude to work, his physical training, moral attitude, state of mind and moral conduct among others (Dambazau, 2011; Awopetu 2011; Kratcoski, 2017). This follows that the fundamental ideology of the correctional institution is not just to punish and isolate the offenders from other members of society but also, from everything that motivates or facilitates the offender's criminal activities: and based specifically on rehabilitation and other reformation processes, such an offender will not return to crime when released from the institution (Goffman, 1999; Esiri, 2013; Amah & Hussein, 2016). Through incapacitation (imprisonment), constant supervision and watch over the offender, the society hopes that he/she will no longer be in a position to commit a crime (Bohn & Haley, 1999; Robinson & Crow 2009).

However, various studies have revealed that there are some major problems associated with correctional institutions in Nigeria which they identified as the high number of persons awaiting trial, overcrowding, poor infrastructures and inadequate rehabilitation programmes and facilities (Obioha 2002 & 2011; Onyekachi, 2016; Sanni 2019). According to Kratcoski (2017), when correctional institutions became overcrowded, alternatives to the handling of criminal offenders had to be found and this resulted in greater emphasis in treatment and counselling in corrections and growth of the use of tried and trustworthy older approaches in community corrections (Kratcoski, 2017, viii). The current emphasis in correction also embraces

many of the original goals though they have been expanded and new approaches to providing supervision and treatment terms have been added. The universal application of overcrowding is in terms of the relationship between the total capacity of a correctional institution or centre and the actual number of admissions of offenders. However, the overcrowding in Nigeria correctional institutions has been observed to be in terms of available facilities and not in terms of space (Aloysius, 2010; Awopetu, 2014).

According to Odjukwu & Briggs (2005), Ojo & Akunola (2014) and Onyekachi (2016), the system of correctional institutions in Nigeria are underdeveloped while the population of the institutions have continued to grow since the establishment of the first one. Adeola, (1994) placed the overcrowding rate of Nigerian correctional institutions between 10% and 58% and noted that overcrowding is endemic in Nigerian correctional institutions. He went on to add, that the overcrowding is compounded by the “awaiting trial persons” who are invariably left in circumstances of idleness” often without options of fine and without prompt trials. Civil Liberties Organisation (CLO) 1995 provides evidence that the population of correctional institutions in Nigeria is twice their capacity. Dambazau (2011), reports that as of May 2005, those awaiting trial constituted 65% of the population of the Nigerian correctional institutions (Dambazau, 2011,p-208).

Also, the department of foreign affairs and trade (DFAT) Country Information Report in Australia (2018) reveals that seventy-seven per cent (77%) of detainees in Nigerian correctional institutions are in pre-trial detentions and described these institutions as "severely overcrowded". Human Rights Watch (2019) reveals the same degree of overcrowding in detention cells. Though reasons for overcrowding have included delays in the administration of justice, over-use of prison sentences by judges, overcriminalization, and lack of adequate resources to build new institutions (Aduba, 1993), it is most relevant at this point to note that increase in the rate of growth of inmates relative to the installed capacities of the institutions has resulted in overcrowding which in turn produces negative impacts on the inmate's correctional system and the maintenance of its facilities (Prison and Penal reform fact sheet (PRAWA), 2,000). Overcrowding, therefore, does not only seem to have become a defining characteristic of the Nigerian prisons over the years but also seems to be majorly responsible for inmates return to crime after serving their terms and are released from correctional institutions. Such recidivism has been ascribed to the fact that crime continues in the overcrowded institutions and criminal gangs do not only exist but flourish in them (Freeman 2003; Esiri 2013; Otu, 2015).

Otu(2015), had emphasized that the correctional institutions were “witnessing” an enormous increase, people relapsing into crime and criminality, and this development has challenged the practicality and feasibility of rehabilitation programmes in the institutions. On his part, Kratcoski pointed out in 2017, that the “notion of correctional rehabilitation as a return to a point in an individuals’ development where his or her behaviour was satisfactory has been challenged by those who have observed that many of the offenders never experienced anything in their lives resembling satisfactory adjustment” (Kratcoski, 2017, p.2). According to Onyekachi 2016, statistics from 19 prisons across Nigeria show that 60% of inmates are recidivists. Hence this study attempted to provide answers to the questions: Is poor rehabilitation programmes in Nigerian correctional institutions responsible for lack of correction of its inmates? OR Is overcrowding negating the rehabilitative efforts of the Nigerian correctional system? The study aimed to highlight the major factor responsible for the ineffectiveness of correction or failed correction among inmates of correctional institutions in Nigeria.

## II. Conceptual Framework

Correctional institutions are also known as correctional centres were formerly known as prisons before the Prisons Act Bill 2018. A correctional institution has been described as a place/space used to confine criminals or people convicted and awaiting trial and which includes the land, the house and every other structure located within the institution used for detention (Onyekachi, 2016). Other meanings and definitions from the structural and functional perspectives include those by Carney (1980) and Orakwe (2011). According to Carney(1980), a correctional institution is a punitive instrument for unmitigated punishment and restraint of a wrongdoer. Orakwe (2011), submits that a correctional institution is a location outlined and avowed as such by the rule of the state and established to guarantee captivity and confinement of individuals convicted of disrespecting the rule of the criminal code of the state. Webster(2020) defines correctional institutions as buildings which usually have cells where convicted criminals, especially those serving longer sentences are kept.

Again, correctional institutions in Nigeria have been categorized in terms of types of inmates, structural features, and security arrangement as well as for administrative purpose. For example, Damdazau (2011) classified the institutions in general terms as maxi-maxi security, maximum security, medium security, and women prisons while David (2020), lists them as female-only prisons, security prisons, military prisons, juvenile/minor correctional facilities and psychiatric prisons. The term "factors" implies the things, facts or circumstances that influence or affects correctional institutions (Jack Macmillan 2009-2020).

The terminology, correctional, emanates from the concept, "correction". In general, it refers to changing a mistake made by another. But the concept assumes a wider framework about correctional systems. It implies to change a condition that is considered undesirable and to bring it back to a state that is considered desirable or appropriate, thus embracing the concepts of correctional programmes, correctional counselling and correctional treatment. Correctional counselling has been defined as the concern with improving the behaviour of criminals in/outside the correctional institution through the work of correctional counsellors while the term correctional treatment refers to specific planned intervention techniques used by counselling treatment specialists or case managers to bring about desired changes in the of the inmates (Braswell & Mongold, 2014; Katcoski,2017).

Studies have defined overcrowding concerning space. Obioha (2011) opined that overcrowding is a concept used in the correctional system to describe a situation where a correctional institution or centre is accommodating an unusual population of inmates than were initially planned for, thereby leading to an overstretch of facilities beyond their limit. On his part, Awopetu (2014), referred to overcrowding in a Nigerian correctional institution as the condition when the number of inmates surpasses its size to the extent that inmates cannot be accommodated in a caring, healthy and psychological manner. Penal reform International (2019), acknowledge that overcrowding is 'arguably the biggest simple problem facing prison systems and its consequences can at worst be life-threatening or at best prevent prisons from fulfilling their function".

The term inmates in correction is a multi-dimensional concept. According to Amali & Hussein (2016), inmates consist of three persons: awaiting trial inmates (crime suspects), convicted inmates (crime suspects), convicted inmates (criminals) and lodgers (inmates in transit accommodated in a constitutional institution). For

Omoni & Ijeh (2011), inmates are individuals confirmed capable of an offence supposed against him/her, who have been condemned to punishment by incapacitation.

Rehabilitation is a concept used to describe the entire process of getting inmates to return to normal life and to become useful. That is, it encompasses the goals of reformation and reorientation (Kratceski, 2017). Within this context Onyekachi (2016), observed that the "reformatory capability of the correctional system, is the number of inmates who remain outside the correctional institution wall after completing their terms of incapacitation" (Onyekachi, 2016, p.6). Allen (1994), presented the theoretical basis of rehabilitation as a complex of ideas that assumes human behaviour to be a product of antecedent causes that are part of the physical and social. According to him, this idea presupposes that given knowledge of the causes of human behaviour, it is possible to control human behaviour scientifically and as such measures designed to treat criminals should serve a therapeutic function and should effect changes in his or her behaviour that will be in his or own best interest. Correctional rehabilitation involves work and educational programmes and activities, counselling, and treatment, while recidivism in criminology and penology refers to a person's relapse into criminal behaviour often after such a person receives sanctions or undergoes intervention for a previous crime (National Institute of Justice, United States, 2018).

### **III. Theoretical framework and theory development**

Researches in the area of the correctional institution have often made use of the deterrence theory and the Risk Need Responsivity Model (RNR). This study applied the Risk Need Responsivity Model which has been used in the United Kingdom and Canada especially and other developed countries (Andrews, Bonta & Hoge, 1990; Blanchette & Brown, 2006; Ward, Mesder & Yates, 2006; Andrews & Bonta 2010). It has also been used by Amali et al, 2016. Criminologists often use the RNR model to develop a recommendation for how inmates of correctional institutions should be assessed based on the risk they present, what they need and what kinds of environments they should be placed in to reduce recidivism.

The risk principle indicates that the development of service should match the level of the offender's risk to re-offend. In the over-crowded correctional institutions of Nigeria, hardened criminals are placed in the same cells with first-time offenders or offenders with less serious crimes. The concept of risk is associated with the seriousness of the crime. While the Need principle highlights the importance of criminogenic needs in the design and delivery of treatment, the responsivity principle maximizes the offender's ability to learn from a rehabilitative intervention by providing cognitive behavioural treatment and tailoring the learning style to the motor abilities and strengths of the offender. Facilities for reformation towards rehabilitation and vocational training (for example workshops for skill acquisition) and other education programmes are either not sufficient or lacking. Insufficient facilities and the inability of inmates to access rehabilitative services or programmes seem to be associated with correctional institutions in Nigeria. Penal Reform International (2019), submits that overcrowding compromises the provisions and effectiveness of rehabilitation programmes.

Prison overcrowding and rehabilitation programmes are among the several factors that are of much concern in the correctional process as some studies have identified them as plausible predictors of several indicators of correctional institution effectiveness. For instance, Nkosi, and Maweni (2020).reported that prison overcrowding has negative effects on rehabilitation programs, and on the physical, social, and psychological

lives of offenders. Using a meta-regression, Baggio, Peigne, Heller, Getaz, Liebrezn, and Wolff (2019) observed that prison violence was higher when overcrowding and turnover increased. In a strongly controlled analysis of correctional effectiveness, Farrington and Nuttall, (1980) observed a strong tendency for the more overcrowded prisons to be less effective. In a longitudinally study, Glazener and Nakamura (2018) observed that prison crowding resulted in increases in misconduct rates and that the association reduced when crowding gets to a certain threshold. However, a meta-analysis conducted by Franklin, Franklin, and Pratt, (2006) revealed that prison crowding has a little substantive impact on inmate misconduct. Kurzfeld (2017) reported that reducing prison crowding by 10 percentage points leads to a reduction in the rate of assault and battery of approximately 12% to 15%. Igbinovia and Omorogiuwa, (2019) reported that rehabilitation programmes were worthwhile, as they influenced inmates' behaviours and inventiveness. In an experimental study, Balafouta, Garcia-Gallego, Georgantzis, Jabber-Lopez, and Mitrokostas, (2020) reported that rehabilitation intervention has a large and significant impact as it increases pro-sociality towards the out-group. However, in a study of correctional programmes in curbing reoffending, Gona, Megari and Zondayi (2014) provided elaborate descriptive statistics indicating failure of the rehabilitation programmes among 24 offenders.

### **Hypotheses**

1 Overcrowding will have a negative influence on (a) effective rehabilitation, (b) violence attitude, (c) entitlement attitude, (d) antisocial attitude and (e) associates attitude of inmates of correctional institutions in Nigeria

2 Rehabilitation programmes will have a positive influence on (a) inmate correction, (b) violence attitude, (c) entitlement attitude, (d) anti-social attitude, and (e) associates attitude of inmates of correctional institutions in Nigeria

## **IV. Method**

### **Sample and procedure**

The sample used for data analysis was two hundred and eighty inmates drawn from six prisons in Delta State Nigeria. This sample consists of 247 males and 33 females, that have been convicted. The adopted sample size falls within the range that has been adjudged adequate for correlational studies (Schönbrodt & Perugini, 2013). A total of 300 questionnaires was distributed to the inmates through the prison wardens. Within one week 292 of the surveys responded to were received. However, the sorting of the retrieved questionnaires revealed that twelve were not appropriately completed. In addition to the 280 inmates that provided the data for analysis, the measures on overcrowding and rehabilitation programmes were also administered to 30 staff of the six correctional centres used for the study (five from each of the centres). The data from the staff on the two variables were used to check the reliability of the data from the inmates on the variables, as correlation analysis was applied to the data. Four-point Likert scale format was adopted as it has been widely noted to produce adequate variability in response that increases the validity of statistical outputs.

### **Measures**

The predictor variables for this study are overcrowding and rehabilitation programmes, while the criterion variables are effective rehabilitation and inmates correction. For this study, a five-item measure was

developed and used to collect data on overcrowding. Sample items are: “there are too many inmates in this prison” and “this prison is overloaded with inmates”. Data on rehabilitation programmes were collected with five items developed on rehabilitation programmes identified in the work of Igbinoia, and Omorogiuwa (2019). A sample item is: “I participated in skills acquisition rehabilitation programme” and “I participated in social intervention services for inmates rehabilitation”.

Effective rehabilitation of inmates and inmates correction was assessed with Measures of Criminal Attitudes and Associate developed by Mills, Kroner, and Forth, (2002). The measure has two parts (A and B). However, part A was not adopted Therefore data were collected on the four dimensions of part B. The violence dimension (12 items), measures tolerance toward, and attitudes supportive of, violence, the entitlement dimension (12 items), evaluates attitudes focusing on a right to take whatever is believed to be deserved, the antisocial Intent (12 items), reflects beliefs concerning probable prospective commissions of antisocial acts, while the fourth sub-scale, associates (10 items), indicates attitudes favourable to having antisocial friends. This measure was appropriate for the present study as effective rehabilitation” and “inmate correction” will reflect on inmates’ attitudes. In other words, effective rehabilitation and inmate correction are essentially about positive attitudes of inmates. Therefore, inmates’ violence, entitlement. anti-social and associates attitudes adequately serve as a gauge for effective rehabilitation and inmate correction. Theories (Ajzen, 1991; Ajzen & Fishbein, 2000) and empirical studies (Boduszek, Hyland, Pedziszczak, & Kielkiewicz, 2012; Chuia, & Cheng, 2017) have proposed and confirmed respectively the influence of attitudes on criminal behaviour: and the aim of providing prisoners with programmes such as educational services, and drug abuse treatment is to improve their attitudes and behaviour, both while in the prison and after release from prison (Duwe, 2017). The MCAA scales showed predictive validity for the outcomes of general and violent recidivism. Also, the MCAA significantly improved the prediction of violent recidivism over an actuarial risk assessment instrument alone (Mills, Kroner, & Hemmati, 2004). The MCAA has been adopted for several studies (e.g.O’Hagan, 2015; O’Hagan, Brown, Jones, & Skilling, 2018) with a satisfactory report of psychometric properties

### **Design and statistics**

The design of this study is cross-sectional as data were collected from the sample at one point in time. Convenience sampling techniques were used to select the inmates as they were sampled based on availability. Both descriptive and inferential statistics were applied to the data. The adopted inferential statistics was regression analysis. This statistical tool was appropriate for the study as the hypotheses were on the predictive relationship and as the basic assumption for the use of the statistics were met in the data. For hypothesis 1a through e, prison overcrowding is expected to influence effective rehabilitation negatively. Therefore, a positive correlation between overcrowding and violence, entitlement anti-social and associates attitudes indicates a negative impact, while the negative correlation between overcrowding and the variables indicate positive influence. For hypothesis 2a, through e, rehabilitation programmes are expected to influence inmate correction positively. Therefore, a positive correlation between rehabilitation programmes and violence, entitlement, anti-social and associates attitudes indicates negative influence, while the negative correlation between rehabilitation programmes and the variables indicate positive influence.

### Common method variance

Since the self-report measure was the sole method of data collection, several procedural controls were incorporated in the design that addressed the problem of common method variance. The measures implemented include the presentation of the four variables in a different sheet of papers which helps to achieve physical gap and reduced flow of thought from one variable to the other. The respondents were informed of their anonymity and confidentiality and this has the potential to reduce evaluation apprehension and consequently enhance honesty in response. (Podsakoff, MacKenzie, & Podsakoff, 2012).

### Control variables

Gender (male =0, females =1), age (in years) marital status (married =1, single =2) were included as control variables in data analysis in line with the extant literature.

## V. Results

### Descriptive statistics

Cronbach's alpha was adopted for the test of internal consistency reliability. For prison overcrowding, rehabilitation programmes and the attitudes measure alpha of .67, .73 and .71 were observed respectively. The alpha statistics that ranged between .67 to .73 indicate sufficient reliability coefficients for the measures. Analysis of data from the statement “how satisfied are you with the rehabilitation programmes in this prison” revealed that 18% reported “very satisfied” 20% “satisfied” 10% “dissatisfied” 52 “very dissatisfied” Table 1 shows the means, standard deviations, and zero-order correlation coefficients on the variables studied. On a four-point Likert format scaling, the observed means for the continuous variables range between 2.62 and 2.88, and these indicate moderate scores The correlation coefficients for the continuous variables showed that the relationships were positive The observed moderate correlations indicate the absence of multicollinearity in the model (Field, 2018).

**Table 1: Mean, SD and Correlation coefficients on study Variables**

		X	SD	1	2	3	4	5	6	7	8	9	10
1	Age	33.67	11.79	1									
2	Gender	1.12	.327	.002	1								
3	Marital status	1.51	.49	.36	.005	1							
4	Crowding	2.88	.62	.004	.03	.18	1						
5	Effective rehabilitation	2.62	.31	.46	.07	.03	.41	1					



6	Rehabilitation programme	2.62	.92	.01	.03	.03	.09	.04	1				
7	Inmate correction	2.62	.31	.46	.07	.03	.41	1	.04	1			
8	Violence	2.68	.42	.48	.001	.01	.20	.57	.09	.57	1		
9	Entitlement	2.62	.37	.24	.002	.62	.70	.67	.11	.67	.22	1	
10	Antisocial	2.64	.40	.26	.05	.05	.33	.74	.22	.74	.48	.47	1
11	Associates	2.65	.41	.15	.02	.07	.07	.08	.09	.08	.16	.006	.04

### Hypotheses testing

Table 2 shows simple regression analyses on the relationship between prison overcrowding and effective rehabilitation as assessed with violence, entitlement, anti-social and associates attitudes. Analysis of data on hypothesis 1a (composite test) revealed that prison overcrowding has a negative and significant influence on effective rehabilitation as the beta statistic for the predictor and the criterion variables were positive ( $\beta = .40, t = 8.50, p = 0.001$ ). The confidence interval statistics that did not include zero value also indicate a statistically significant relationship. Therefore, hypothesis 1a was supported by both point and interval estimates. The observed  $R^2$  signifies that overcrowding explained thirty-nine per cent variance of effective rehabilitation (composite of violence, entitlement, anti-social and associates attitudes). The  $R^2$  indicates a large effect size (Cohen, 1988). The difference between  $R^2$  and adjusted  $R^2$  which is small means that the model possible applies to other samples. The  $B$  value observed means that for every one-unit increase in overcrowding, effective rehabilitation decreases by .20 units.

For hypotheses, 1b (dimensional test) analysis shows that prison overcrowding has a negative and significant influence on violence attitude as the beta statistic for the predictor and the criterion variables were positive, ( $\beta = .17, t = 3.45, p = 0.001$ ). The confidence interval statistics that did not include zero value also indicate a statistically significant relationship. Therefore, hypothesis 1b was supported by both point and interval estimates. The observed  $R^2$  signifies that overcrowding explained twenty-nine per cent variance in violence attitude. The  $R^2$  indicates a medium effect size. The difference between the  $R^2$  and adjusted  $R^2$  which is small means that the model possible applies to other samples. The  $B$  value observed means that for every one-unit increase in overcrowding, violence attitude increases by .12 units.

For hypotheses 1c (dimensional test) analysis shows that prison overcrowding has a negative and significant influence on entitlement attitude as the beta statistics for the predictor and the criterion variables were positive ( $\beta = .70, t = 17.08, p = 0.001$ ). The confidence interval statistics that did not include zero value also indicate a statistically significant relationship. Therefore, hypothesis 1a was supported by both point and interval estimates. The observed  $R^2$  signifies that overcrowding explained fifty-five per cent variance in

entitlement attitude. The  $R^2$  indicates a medium effect size. The difference between the  $R^2$  and adjusted  $R^2$  which is small means that the model possible applies to other samples. The  $B$  value observed means that for every one-unit increase in overcrowding, entitlement attitude increases by .42 units.

For on hypothesis 1d (dimensional test) revealed that prison overcrowding has a negative and significant influence on anti-social attitude as the beta statistics for the predictor and the criterion variables were positive, ( $\beta = .32, t = 5.52, p = 0.001$ ). The confidence interval statistics that did not include zero value also indicate a statistically significant relationship. Therefore, hypothesis 1d was supported by both point and interval estimates. The observed  $R^2$  signifies that overcrowding explained nineteen per cent variance in antisocial attitude. The  $R^2$  indicates a medium effect size. The difference between the  $R^2$  and adjusted  $R^2$  which is small means that the model possible applies to other samples. The  $B$  value observed means that for every one-unit increase in overcrowding, antisocial attitude increases by .21 units.

For hypothesis, 1e (dimensional test) analysis revealed that prison overcrowding has a negative and significant influence on associate attitude as the beta statistics for the predictor and the criterion variables were positive, ( $\beta = .20, t = 7.30, p = 0.001$ ). The confidence interval statistics that did not include zero value also indicate a statistically significant relationship. Therefore, hypothesis 1e was supported by both point and interval estimates. The observed  $R^2$  signifies that overcrowding explained twenty per cent variance in associates attitude. The  $R^2$  indicate medium effect size. The difference between the  $R^2$  and adjusted  $R^2$  which is small means that the model possible applies to other samples. The  $B$  value observed means that for every one-unit increase in overcrowding, associate attitude increases by .18 units.

**Table 2: Simple Regression of prison cell overcrowding on effective rehabilitation, violence, entitlement and anti-social attitudes**

	$B$	$SE$	$\beta$	$R^2$	$Adj R^2$	$T$	$P$	$95\% CI$	
								LB	UB
Effective rehabilitation	.20	.02	.40	.39	.38	8.50	.001	.15	.26
Violence attitude	.12	.03	.17	.29	.28	3.45	.001	.05	.19
Entitlement attitude	.42	.03	-.70	.55	.54	17.08	.001	.37	.47
Anti-social attitude	.21	.04	.32	.19	.18	5.52	.001	.14	.28
Associates	.18	.04	.20	.25	.24	.30	.001	.12	.22

Table 3 shows simple regression analyses on the relationship between rehabilitation programmes and inmate correction as assessed with violence, entitlement, anti-social and associates attitudes. For hypothesis, 2a (composite test) analysis revealed that rehabilitation programmes have a negative influence on inmate correction as the beta statistic for the predictor and the criterion variables were positive ( $\beta = .03, t = .67, p = .50$ ). The confidence interval statistics that included zero value also indicate statistically non-significant relationship. Therefore, hypothesis 2a was not supported by both point and interval estimates. For hypothesis 2b (dimensional test) analysis revealed that rehabilitation programmes have a negative influence on violence attitude as the beta statistic for the predictor and the criterion variables were positive ( $\beta = .17, t = 3.19, p = 0.002$ ). The confidence interval statistics that did not include zero value also indicate a statistically significant relationship. Therefore, hypothesis 2b was not supported by both point and interval estimates. Foy hypothesis 2c (dimensional test) analysis revealed that rehabilitation programmes have a negative influence of entitlement attitude as the beta statistic for the predictor and the criterion variables were positive ( $\beta = .16, t = 2.68, p = 0.001$ ). The confidence interval statistics that did not include zero value also indicate a statistically significant relationship. Therefore, hypothesis 2c was not supported by both point and interval estimates. For hypothesis 2d (dimensional test) analysis revealed that rehabilitation programmes have a negative influence on anti-social attitude as the beta statistic for the predictor and the criterion variables were positive, ( $\beta = .21, t = 3.77, p = 0.001$ ). The confidence interval statistics that did not include zero value also indicate a statistically significant relationship. Therefore, hypothesis 2d was not supported by both point and interval estimates. And for hypothesis 2e (dimensional test) analysis revealed that rehabilitation programmes have a negative influence on associates attitude as the beta statistic for the predictor and the criterion variables were positive ( $\beta = .08, t = 1.46, p = 0.14$ ). The confidence interval statistics that included zero value also indicate statistically non-significant relationship. Therefore, hypothesis 2e was not supported by both point and interval estimates.

**Table 3: Simple Regression of participation in rehabilitation programmes on inmate correction, violence, entitlement anti-social, and associates attitudes**

	<i>B</i>	<i>SE</i>	$\beta$	<i>R</i> <sup>2</sup>	<i>Adj R</i> <sup>2</sup>	<i>T</i>	<i>P</i>	<i>95 % CI</i>	
								LL	UL
Inmate correction	.11	.05	.13	.23	.22	4.33	.001	.12	.06
Violence, attitude	.15	.04	.17	.27	.26	3.19	.002	.24	.05
Entitlement attitude	.12	.04	.16	.09	.08	2.68	.001	.21	.03
Anti-social attitude	.09	.02	.21	.13	.13	3.77	.001	.04	.13

Associates	.03	.02	.08	.05	.03	1.46	.14	-.01	.09
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## VI. Discussion

The present study examined the predictive relationship prison overcrowding and rehabilitation programmes separately have with effective rehabilitation and inmate correction in correctional institutions in Nigeria. Hypotheses 1a, through e, were confirmed. Data analyses revealed that prison overcrowding has a negative and significant influence on effective rehabilitation, both as a composite and dimensions (violence, entitlement anti-social, and associates attitudes). Several related studies (Baggio, Peigne, Heller, Getaz, Liebrezn, & Wolff, 2019; Farrington, & Nuttall, (1980); Glazener & Nakamura, 2018) have reported similar results. This finding is expected as prison overcrowding represents deprivation, inadequacy, and frustration. The effect size statistics for the tested hypotheses were medium and this indicates that the impact of overcrowding on effective rehabilitation is consequential and of practical value. Results of hypotheses 2a, through were not confirmed. The hypotheses posited that rehabilitation programmes will have a positive influence on inmates correction, thereby expecting a negative correlation between the predictor and the criterion variables. Therefore the observed correlation which was all positive was unexpected and not in congruence with Igbinoia and Omorogiuwa (2019) and Balafouta, Garcia-Gallego, Georgantzis, Jabber-Lopez, and Mitrokostas, (2020) findings, among others. However, Gona, Megari, and Zondayi (2014) provided descriptive statistics indicating failure of correctional programmes. This unexpected result could be because the inmates' experience of rehabilitation programmes was not high as indicated by the mean of 2.62 scores on participation in rehabilitation programmes. Similarly, the high percentage of inmates dissatisfied with the rehabilitation programmes in their prison is another plausible explanation for the unexpected result. The dissatisfaction statistic means that the majority of the inmates do not identify strongly enough with the existing rehabilitation programmes for the programmes to yield the expected outcome, which for this study negative attitude towards violence, entitlement, anti-social and associates

## VII. Contribution

As a whole, the relationship between these variables has attracted some empirical investigation. However, in this research location, the extant literature is substantially built on theoretical and descriptive empirical works (e.g. Muasya, 2013; Gona, Megari, & Zondayi, 2014; Igbinoia, & Omorogiuwa, 2019). The present study takes the extant literature further as it examined the variables at the inferential level with the associated generalization potential. Consequently, this study contributes to expanding coverage of the literature. On the base of extant theories and empirical studies that proposed and confirmed the association between attitudes and behaviour, this study is a pioneer in the assessment of correctional institution effectiveness through inmates attitudes. Test of hypothesis one revealed that overcrowding impact negatively on effective rehabilitation and that the effect ranged between medium and large. This means that for positive change in inmates' attitudes and consequently behaviour (effective rehabilitation) facilities available in a correctional centre should proportionally match the number of inmates

### **Limitations and suggestion for Future Research**

This study has some limitations that imply an interpretation of the findings and future studies. First, the study adopted a cross-sectional research design. Cross-sectional research design does not identify nor allow interpretation of the cause-effect relationship. Therefore, future studies should explore longitudinal designs to achieve a causal explanation of the relationships. Second, a questionnaire was the sole method used to collect data from the participants. To improve on data, future study should adopt the mixed method of data collection and this could be a triangulation of questionnaire and interview. Third, although data were also collected from the staff to test for the reliability of the inmate's responses on prison overcrowding and rehabilitation programme, future study should use data from both the staff and the inmates for hypothesis testing. On the bases of theoretical proposals and confirmation from empirical studies on the satisfactory level of the predictive relationship between attitudes and behaviour, attitudes were adopted in this study as effective rehabilitation and inmate correction (the dependent variables). However, it is recommended that future studies adopt behavioural measures of the variables. The five rehabilitation programmes adopted in this study were analyzed as a composite. Future study should establish how each of the programmes relates to inmates criminal attitudes and behaviour.

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