# Impact of Drug and Psychoactive Substance Abuse on Violence and Crime in Bayelsa State

**[1]Wisdom Selekekeme Krokeyi & [2]Ifeanyi Chukwu Otodo**

[1]*Department of Economics, Faculty of Social Sciences,*
[2]*Department of Sociology, Faculty of Social Sciences,*
*Niger Delta University, Wilberforce Island, Bayelsa State.*

*Corresponding Author:*
Wisdom Selekekeme Krokeyi

**A b s t r a c t**

Violence and crime are twin evils that the world struggles with especially as they affect all continents. What is responsible for violence and crime has been situated to the breakdown of family life where people never enjoyed proper care and love by members of a family. This paper examines the impact of Drug and Psychoactive Substance (DPS) Abuse on violence and crime rates in Bayelsa State. A sample of 97 respondents was drawn for the study. Logistic and Probit regression techniques were employed. The results reveal that, increase in Drug and Psychoactive Substance (DPS) consumption leads to a significant increase in violence and crime rates in Bayelsa State. It was also found that how often DPS is taken also significantly determines the violence and crime rates in Bayelsa State. The age, use of DPS without a medical doctor's prescription and source of income of the DPS consumer also significantly determine the violence and crime rates. Continuous sensitisation of especially younger population and unemployed on the negative effect of DPS abuse is recommended. It is further recommended that appropriate laws/punitive measures be instituted to curtail/prevent drug and psychoactive substances abuse which shall assist in reduction of violence and crimes in Bayelsa State.

**Background to the Study**
Violence and crime are twin evils that the world struggle with as they both affect all continents. The increase of these menace is unimaginable. Countries that had enjoyed less violence and crime are surprisingly witnessing speedy increase. What is responsible for violence and crime has been situated to breakdown of family life where people never enjoy people care and love by members of a family. The United State National Center for the Analysis of violent crime issued a report listing factors that ignited violence to include; turbulent parent-child relationship, parents who are unable to recognise problems in their children, lack of closeness, parents who set few or no limits on a child's conduct, among others (Awake, 2008).

Drug abuse is the use of drugs for purposes other than medical reasons, thus affecting the individual drug consumer negatively either socially, cognitively or physically (Kuria, 1996). Drug enters the body through chewing, inhaling, smoking, drinking, rubbing on the skin or through injection.

Psychoactive drugs are substances that when taken in or administered into one's system, affect mental processes, e.g. perception, consciousness, cognition or mood and emotions (WHO, 2022). Drug abuse and addiction lead many people, young people mostly into downward spiral of hopelessness that in some cases ends fatal. They range from glue-sniffing street children and teenager ecstasy users, to hard core heroin and cocaine addicts (Nacada, 2005). Drug abuse leads to loss of wages, destruction of properties in schools, increasing healthcare expenditure and family problems. The need for scientifically proven effect of drug abuse in order to prevent negative effects becomes imperative in Bayelsa State.

Nigeria in 2018, for instance, 14.3 million drug users and close to 3 million suffered from a drug use disorder. More worrisome is the revelation by the Chairman of Bayelsa State Drug Abuse Prevention and Rehabilitation Committee, Mrs. Faith Zibs-Godwin, who revealed that Bayelsa State recorded the highest cases of drug abuse among South-South States in a survey conducted by the United National Office on Drug and crimes (UNODC, 2021).

In Bayelsa State, both youth and old indulges in drug abuse. It, therefore, becomes imperative to investigate the socio-economic effects of drug abuse of individuals, parents, families and Bayelsa State. Though, reasons have been advanced as to the reason behind drug abuse. Some are of the opinion that is it a result of lack of parental training and caring. Others adjudged it to disappointment on job related and pleasure purposes. The effects of drug and psychoactive substance abuse could be social, economic, political and medical. However, what aspect of life has it affected in Bayelsa State? Is there an impact of drug and psychoactive substance abuse on violence in homes and rising crime rate in Bayelsa State?

Though, there is copious literature on the relationship between drug and psychoactive substance abuse and violence and crime in Nigeria with little attention to Bayelsa State. It is in a bid to provide for this gap that has motivated the study to examine the impact of drug and psychoactive substance abuse in Bayelsa State with specific objectives of: (i) to examine the impact of drug and psychoactive substance abuse on violence in Bayelsa State and, (ii) to determine the impact of drug and psychoactive substance abuse on crime rate in Bayelsa State.

**Literature Review**
**Theoretical Literature**
**The Social Learning Theory by Albert Bandura in 1977**
The social learning theory of substance use was proposed by Albert Bandura in 1977. The theory states that social behaviour is a phenomenon that is learned through observation and imitation of behaviour of other members of a society. According to the theorist, people learn a great deal from watching other people and seeing the rewards and/or punishments received. It emphasizes the importance of observing, modelling, and imitating the behaviours, attitudes, emotional reactions of other members of an environment or society. The social learning theory of substance abuse suggests that people use and abuse drugs and psychoactive substances in a society by learning, observing and imitating the behaviour of other drug and psychoactive substances abuser within their environment. This theory explains the reason for the wide spread behaviour why people abuse drugs and psychoactive substances in our society which might have led to violence, several crimes, divorces in marriages, joblessness and lowered standard of living of abusers and associates.

**Empirical Literature**
Keoikantse and Kennedy (2015), conducted a study on stressful life events and substance use in Nigeria. The nexus between stressful life and alcohol use in university in Botswana was examined. The result shows that stressful life events are strong predictors of alcohol use among young adults at university levels. The paper recommends policies for intervention to curtail adverse effects of stressful life events at university level and to teach students better coping strategies and bitter education on alcohol use.

Ediomo-Ubong (2015), investigated the negative effects of alcohol consumption on people and the individual drinker in terms of domestic violence in Oron, Nigeria. The study found that men's awareness of the effects of drinking on members of their families provides leverage for policy and actions to address harm to families from a member's drinking. Gboyega and Awopetu (2017) who studied drug use effects among police officers in Akwa-Ibom state found that the younger a policeman in the job, the greater the use of drugs. The results of their study also found that there is a relationship between drug use and various domains of work behavior as well as counterproductive work performance, which shows that policemen who are higher on drug use are also more likely to be involved in counterproductive work performance. Ineme, Ineme, Gboyega, Alimi, Ukpong, Akpabio and Inemesit (2020), investigated the relationship among

nicotine dependence, demographic variables and Internet gambling addiction. It was concluded that a good understanding of the relationship between nicotine intake and Internet gambling is important for developing regulatory initiatives, awareness, and prevention programmes for responsible Internet use.

Nyaga, Mwaura, Mutundu, Njeru, Juma and Were (2021) evaluated the types of drugs, the socio-economic and health consequences of drug abuse among the inhabitants of Gachie sub-location, Kiambu Country a town within Nairobi suburbs. A snowballing sampling method was used to elicit information from 246 respondents aged between 15-65 years. The paper utilized SPSS version 21 in data analysis and found that over-counter prescription drugs such as Benzhexol and traditional heroine were the major abused drugs reported in the study. The results of drug abuse, according to the findings were; failed marriages, conflictual-family and communal relationships, unemployment, life of destitution and poverty were the main socio-economic consequences.

Zamani, Dahiru and Monday (2020) investigated the relationship between substance abuse, conflict and development. The result showed that illicit drugs engenders low productivity, spread acquired immunodeficiency syndrome (AIDS) and environmental decay. The paper recommended that efforts should be geared toward curbing the spread of illegal drugs in circulation in Nigeria. The reviewed literature above reveal that no study has investigated the impact of impact of Drug and Psychoactive substance abuse on violence and crime in Bayelsa State. This was the gap that needed to be closed.

**Methodology**
**Study Area**
The study was conducted in Yenagoa metropolis, Bayelsa State. Yenagoa is the head quarter of Yenagoa local government area and the capital city of Bayelsa State. It is bounded by Mbiama communities of Rivers State on the North and East, Kolokuma/Opokuma Local Government Area on the South East and Southern Ijaw on the South West. There are Twenty (21) communities within the study area which are: Igbogene, Yenigwe, Akenfa, Agudama-Epie, Akenpai, Edepie, Etegwe, Okutukutu, Opolo, Biogbolo, Yenizuegene, Kpansia, Yenizue-Epie, Okaka, Azikoro, Ekeki, Amarata, Onopa, Ovom, Swali and Yenagoa. English is the official language, however, Epie/Atissa language is the major local language spoken in Yenagoa. The 2006 report of national population commission, Yenagoa has a population of 352,285 which is made of 182, 240 males and 170,045 females clustered in twenty-one (21) communities that made up the Yenagoa metropolis (Annual Abstract of Statistics, 2012). In order to investigate socio-economic impact of drug and psychoactive substance abuse in Yenagoa metropolis Bayelsa State, the study utilized and administered 399 questionnaires to primary respondents in 21 communities within Yenagoa metropolis.

**Data Collection**
The data were drawn from both primary and secondary sources. Three hundred and ninety-nine questionnaire obtained using Taro Yamane were administered in all the

twenty-one communities to generate the primary data as 19 questionnaires were administered in each community. The questionnaire was tailored towards gathering information of impact of drug and psychoactive substance abuse on violence and crime rates in Bayelsa State.

**Specification of Model**

The logistic regression model was employed to analyze objective one, which examines the impact of drugs and psychoactive substance abuse on the rate of violence in Bayelsa State. The functional model is:

$$Logit(Violence_i) = f(DPS\_Consum, DPS\_Frequnce, DPS\_Woutpres, Age, Education, Gender) \qquad (1)$$

where $Violence_i$ is the likelihood of a DPS consumer in the $i^{th}$ household being violent after consumption of the DPS, and $p_i/(1 - Violence_i)$ is the odds ratio (OR) for a DPS consumer being violent after DPS consumption. $DPS\_Consum$ is the DPS (most) consumed, and $DPS\_Frequnce$ measures how often DPS is consumed. $DPS\_Woutpres$ is the use of DPS without a Medical Doctor's prescription by a DPS consumer, $Age$ is the age of the DPS consumer, $Education$ represents the level of education of the DPS consumer, and $Gender$ is the gender of a consumer? The explanatory variables are expected to have an inverse relationship with the dependent variable. Equation (1) is re-specified as:

$$Logit(Violence_i) = \varphi_0 + \varphi_1 DPS\_Consum + \varphi_2 DPS\_Frequnce + \varphi_3 DPS\_Woutpres + \varphi_4 Age + \varphi_5 Education + \varphi_6 Gender + e_{1i} \qquad (2)$$

Where $e_{1i}$ is the error term?

Probit model was estimated to perform a robustness check of the estimates. The model is as follows:

$$Probit(Violence_i) = \beta_0 + \beta_1 DPS\_Consum + \beta_2 DPS\_Frequnce + \beta_3 DPS\_Woutpres + \beta_4 Age + \beta_5 Education + \beta_6 Gender + e_{2i} \qquad (3)$$

Where $Prob(Violence_i)$ is the probability of a DPS consumer in the $i^{th}$ household being violent after consumption of the DPS? $\beta_i$ $(i = 1, 2, 3, ..., 6)$ are the parameters, while $e_{2i}$ is the error term. Also, the logistic regression model was employed to analyze objective two, which examines the impact of drugs and psychoactive substance abuse on crime rate in Bayelsa State. The functional form of the model is:

$$Logit(Crime) = f(DPS\_Consum, DPS\_Frequnce, DPS\_Woutpres, Age, Education, Gender, Income\_Source) \qquad (4)$$

where $Violence_i$ is the likelihood of a DPS consumer in the i$^{th}$ household being violent after taking DPS, and $p_i/(1 - Violence_i)$ is the odds ratio (OR) for a DPS consumer being violent after DPS consumption. $DPS\_Consum$ is the DPS (most) consumed, and $DPS\_Frequnce$ measures how often DPS is consumed. $DPS\_Woutpres$ is the use of DPS without Medical Doctors' prescription by a DPS consumer, $Age$ is the age of the DPS consumer, $Education$ represents the level of education of the DPS consumer, $Gender$ is the gender of a DPS consumer, and $Income\_Source$ is the source of income of the DPS consumer. The explanatory variables are expected to have an inverse relationship with the dependent variable. Equation (4) is re-specified as:

$$Logit(Crime) = \varphi_0 + \varphi_1 DPS\_Consum + \varphi_2 DPS\_Frequnce + \varphi_3 DPS\_Woutpres + \varphi_4 Age + \varphi_5 Education + \varphi_6 Gender + \varphi_7 Income\_Source + e_{3i} \qquad (5)$$

Where $e_{3i}$ is the error term?

Probit model was estimated for a robustness check. The Probit regression model is:

$$Probit(Crime) = \beta_0 + \beta_1 DPS\_Consum + \beta_2 DPS\_Frequnce + \beta_3 DPS\_Woutpres + \beta_4 Age + \beta_5 Education + \beta_6 Gender + \varphi_7 Income\_Source + e_{4i} \qquad (6)$$

Where $Prob(Violence_i)$ is the probability of a DPS consumer in the i$^{th}$ household being violent after the use of DPS? $\beta_i$ $(i = 1, 2, 3, ..., 7)$ are estimation parameters, while $e_{4i}$ is the error term.

The models were estimated using the covariance-formula estimator based on the maximum likelihood theory, which is efficient to estimate the models appropriately. The merit of the Maximum likelihood estimator is based on the fact that it is asymptotically unbiased and normally distributed with variances (Jędrzejczak & Kubacki, 2013). The Probit models was also estimated, employing the quasi-maximum likelihood estimator (QLME) associated with Papke & Wooldridge (2008).

**Results and Discussion**
**Demographic Statistics of the Respondents**
The demographic characteristics of the respondents are reported in Table 1.

**Table** 1: Descriptive Data of the Respondents

|  | Frequency | % |
|---|---|---|
| **Gender** | | |
| Male | 55 | 56.70 |
| Female | 42 | 43.30 |
| **Total** | **97** | **100.00** |
| **Age** | | |
| Below 30 years | 18 | 18.56 |
| 30 to 39 years | 12 | 12.37 |
| 40 to 49 years | 8 | 8.25 |
| 50 to 59 years | 51 | 52.58 |
| 60 years and above | 8 | 8.25 |
| **Total** | **97** | **100.00** |
| **Marital status** | | |
| Single | 29 | 29.90 |
| Married | 43 | 44.33 |
| Divorced | 12 | 12.37 |
| Widowed | 13 | 13.40 |
| **Total** | **97** | **100.00** |
| **Level of Education** | | |
| FSLC | - | - |
| WAEC/WASSC | 9 | 9.28 |
| B.Sc. | 39 | 40.21 |
| Masters | 10 | 10.31 |
| PhD | 4 | 4.12 |
| OND | 6 | 6.19 |
| HND | 24 | 24.74 |
| Others | 5 | 5.15 |
| **Total** | **97** | **100** |

**Source**: Authors' computation

55 or 56.7% of the respondents were males, while the rest 42 or 43.30% were females. This mean that majority of the respondents are males. And 18 or 18.56% of the respondents were below 30 years of age, between the ages of 30 to 39 years were 12 or 12.37%. Similarly, 8 or 8.25% of the respondents were between the ages of 40 to 49 years; between 50 to 59 years of age were 51 or 52.58%. Those who were 60 years of age and above were 8, representing about 8.25% of the total respondents. Concerning the marital status of the respondents, single was 29, representing 29.90% of the total respondents. Also, 43 or 44.33% of the respondents are married, while 12 or 12.37% of the respondents are divorced. Those who are widowed were 13, which is 13.40% of the total respondents.

The respondents' level of education showed that none of the respondents had a first school living certificate as the highest level of education attained. While, 9 or 9.28% of the respondents had a senior school certificate as the highest level of education, while those whose highest education level is B.Sc. were 39 or 40.21%. on the same vein, 10 of the respondents, representing 10.31% of the total respondents had a Master's Degree as the highest level of education attained; 4 or 4.12 had a PhD; 6 or 6.19 had an ordinary national diploma; and 24 or 24.74% had a higher national diploma as the highest certificate attained. Also, 5 or 5.15% of the respondents had other forms of educational qualifications.

Other characteristics presented in Figure 1 shows that 5 or 5.15% of the respondents are of the view that Heroin is the most consumed DPS; 2 or 2.06% believe that Cocaine is the most consumed DPS, while 3 or 3.09% of the respondents considered Crack as the most consumed DPS. Those who saw Marijuana as the most consumed DPS are 2 or 2.06% and 2 or 2.06% also pointed to Inhalants as the most consumed DPS. Also, 1 or 1.03% of the respondents considered Hallucinogens as the most consumed DPS, 54 or 55.67% of the respondents believed that Alcohol is the most consumed DPS, while those who believed that Tobacco is the most consumed DPS were 25 or 25.77%. Also, 1 or 1.03% of the respondents said Codeine/Cough Syrup is the most consumed DPS, and 2 or 2.06% of the respondents considered Shisha as the most consumed DPS. Thus, majority of the respondents believed that Alcohol is the most consumed DPS.

Concerning the DPS that affect consumers negatively most, 9 or 9.28% of the respondents said Heroin; 34 or 35.05% were of the view that Cocaine affect consumers negatively most; 8 or 8.25% pointed to crack as having the most negative effect, while 22 or 22.68 believed that Marijuana has the most negative effect. Those who considered Inhalants to have the most negative effect were 5 or 5.15% of the total respondents, 5 or 5.15% of the respondents also believed that Hallucinogens have the most negative effect, while another 5 or 5.15% of the respondents were of the view that Alcohol has the most negative effect. Also, 4 or 4.12% believed that Tobacco has the most negative effect, 3 or 3.09% of the total respondents considered Codeine/Cough Syrup to be the DPS that has the most negative effect, while 2 or 2.06% said Shisha has the most negative effect among all the DPS. This reveal that majority of the respondents considered Cocaine to be the DPS that has the most negative effect among all the DPS.

**Figure** 1: Other Characteristics of the Respondents
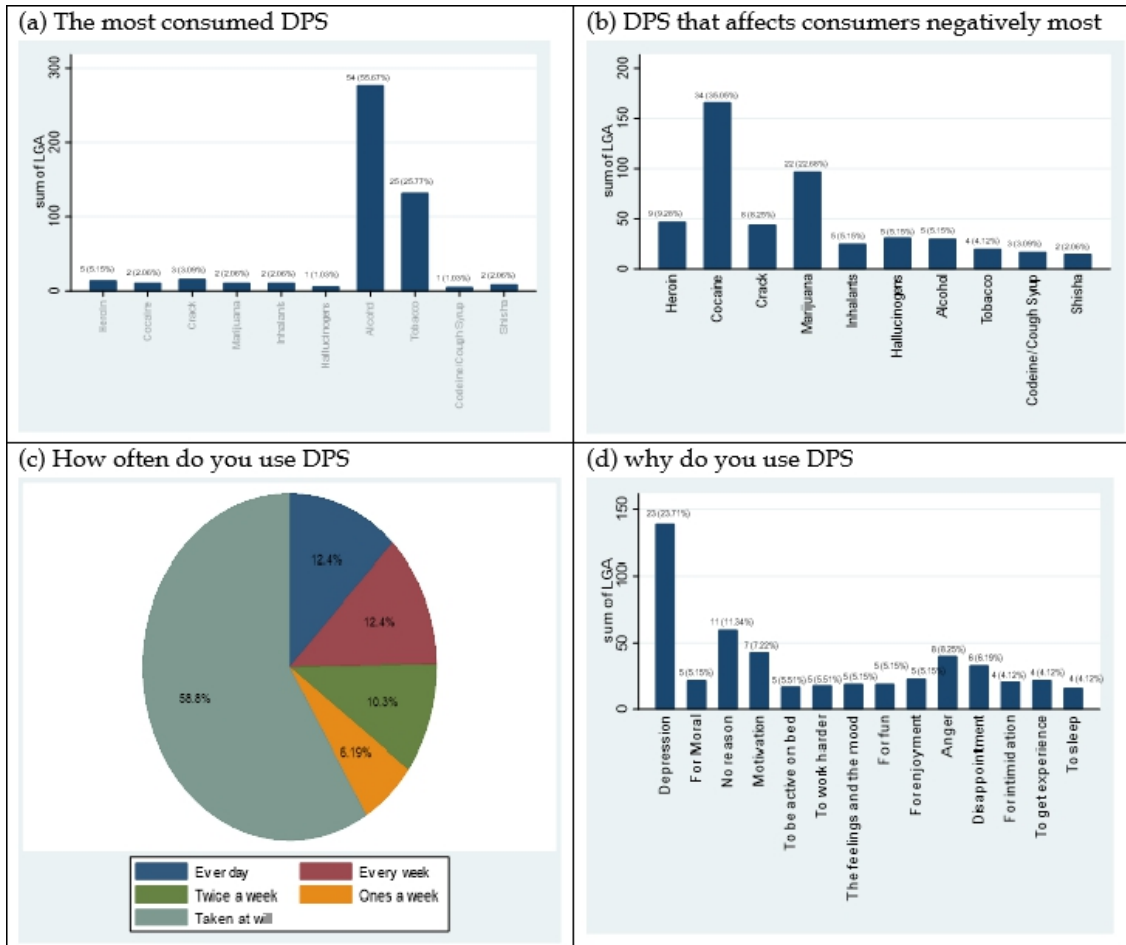


**Source**: Plot by the authors

Concerning how often DPS is taken, the analysis shows that 12 or 12.37% of the respondents believed that DPS is used on an everyday basis, another 12 or 12.37% of the respondent said DPS is used every week, while those who said DPS is used twice a week were 10 or 10.31% of the total respondents. Also, 6 or 6.19% of the respondents are of the view that DPS is used once a week, and 57 or 58.76% of the respondents said DPS is taken at will. This is an indication that majority of respondents agree that DPS is used or taken at will.

An examination of the reasons for the use of DPS showed that 23 or 23.71% of the respondents said it is used because of depression, 5 or 5.15 believed it is used for moral reasons, 11 or 11.34% of the respondents were of the view that it is used for no specific reasons, while 7 or 7.22% of the respondents said it is used for motivation. Also, 5 or 5.15 believed that it is taken to be active on the bed, another 5 or 5.15 said that DPS is used to work harder, while 5 or 5.15 also considered feelings and mood as reason for the use of

DPS. Similarly, 5 or 5.15 said it is for fun, and another 5 or 5.15% said it is for enjoyment. While, 8 or 8.25% of the respondents said it is taken at times of anger and 6 or 6.19 of the respondents believe that the reason for the use of DPS is because of disappointment, 4 or 4.12 saw the reason to be intimidation, another 4 or 4.12 said it is taken just to get experience, while 4 or 4.12 were of the view that it is taken to sleep. This mean that majority of the respondents believed that DPS is taken when the consumer is depressed.

**Drug and Psychoactive Substance Abuse on Violence**
The impact of drug and psychoactive substance abuse on violence was examined with the Logistic and Probit models. See the Table 2 for the regression estimates. Column (1) is the odds ratios of the logistic regression with the z-values and p-values in parenthesis. Column (2) on the other hand, presents the coefficients of the Probit regression with the z-values and p-values shown in parenthesis.

**Table 2:** Estimates of the Impact of Drug and Psychoactive Substance Abuse on Violence

| Violence | (1) Logistic Regression | (2) Probit Regression |
|---|---|---|
| Consumption of DPS | 1.0738 (z = 2.56) (p = 0.000) | 0.0459 (z = 2.62) (p = 0.000) |
| How often DPS is used | -0.8398 (z = -2.08) (p = 0.019) | -0.0969 (z = -2.05) (p = 0.021) |
| The use of DPS without medical doctors' prescription | 1.5328 (z = 2.85) (p = 0.000) | 0.2639 (z = 2.88) (p = 0.000) |
| Age | -0.6796 (z = -2.94) (p = 0.000) | -0.2381 (z = -2.04) (p = 0.042) |
| Education | -1.5773 (z = -3.47) (p = 0.001) | -0.2804 (z = -3.61) (p = 0.000) |
| Gender | 1.9034 (z = 1.34) (p = 0.181) | 0.3950 (z = 1.37) (p = 0.171) |
| Constant | 0.3659 (z = -0.77) (p = 0.443) | -0.6833 (z = -0.87) (p = 0.384) |
| | **Logistic Regression** | **Probit regression** |
| Pseudo R2 | 0.6440 | 0.5438 |
| LR chi2(11) | 19.18 | 19.16 |
| Prob > chi2 | 0.0039 | 0.0039 |
| _hat | 1.25 (z = 3.82) (p = 0.000) | -1.20 (z = -4.10) (p = 0.000) |
| _hatsq | -0.47 (z = -1.81) (p = 0.071) | -0.73 (p = -1.74) (p = 0.081) |
| **Probit model goodness-of-fit test** | | |
| Pearson chi2(2301) | 83.53 (p = 0.1875) | 82.98 (p = 0.1988) |

**Source**: Authors' computation

A percentage increase in Drug and Psychoactive Substance – DPS consumption brings about a 1.07% significant increase in violence in column (1). This means that the more DPS is consumed, the more the level of violence. Similarly, the coefficient is positive and significant in column 2. This means that an increase in the consumption of DPS brings about increase in violence. How often DPS is taken also significantly determines the violence level. As shown in column (1), if DPS is used once a week, the impact of DPS on violence is 0.84% significantly less than when DPS is used every day, every week or twice a week. The result is similar in column (2). If the DPS is consumed once a week, the impact of DPS on violence significantly reduces by 0.10% compared to when it is consumed every day, every week or twice a week.

The use of DPS without a medical doctor's prescription also impacted significantly on the violence level in Bayelsa State. The result shows that any consumption of DPS without a medical doctor's prescription leads to an increase in the level of violence by 1.53% in column (1). This implies that DPS abuse is more with DPS consumption without medical doctors' prescription than with medical doctors' prescription, resulting in higher negative impacts such as violence. The result in column (1) does not differ from column (2). An increase in the use of DPS without medical doctors' prescription brings about 0.26% significant increase in violence. The coefficient for age is -0.6796 with a z-value of -2.94 in column (1). This means that the impact of DPS consumption on violence is about 0.68% significantly less if the DPS consumer is 60 years and above, than the impact of DPS consumption on violence if the consumer is below 30 years of age, 30 to 39 years, 40 to 49 years, or 50 to 59 years of age. This also mean that the higher the age of the DPS consumer, the lower the negative impact in the form of violence. Column (2) also confirms the result in column (1), with a negative coefficient and a significant z-value.

Concerning the level of education in column (1), as shown by the negative and significant z-value, the impact of DPS consumption on violence is significantly lower by about 1.58% if the DPS consumer is a PhD degree holder, than the impact on violence if the DPS consumer's highest level of education is senior school certificate, ordinary national diploma, etc. That is, DPS consumed by a more educated person could result in less violence than if DPS is consumed by a less educated person. Also, in column (2), the result confirms that the impact of DPS consumption on violence is inversely related to the level of education of the DPS consumer. The gender coefficient in both columns are positive and statistically insignificant at the 5% level. It shows that the impact of DPS consumed by a male on violence is 1.90% insignificantly higher than the impact of DPS consumed by a female on violence. The Pseudo $R^2$ presented in column (1) indicates that, variables in the model account for about a 64.40% change in violence rate. The likelihood chi-square value of 19.18 (p = 0.0039) points out that the variables jointly significantly affect the violence rate. Also, the p-value for hatsq is 0.071. The non-significant hatsq means good regression model adequacy. Also, the insignificant Hosmer-Lemeshow goodness of fit test is a confirmation of the overall goodness of fit of the regression model. The test results in column (1) are similar to column (2).

**Drug and Psychoactive Substance Abuse on Crime Rate**

The impact of drug and psychoactive substance abuse on crime rate was also examined using the logistic regression model. For the robustness of findings, a Probit model was estimated. Table 3 reports the regression estimates. Column (1) is the odds ratios of the logistic regression with the z-values and p-values in parenthesis. Similarly, column (2) present the coefficients of the Probit regression with the z-values and p-values shown in parenthesis.

**Table 3:** Estimates of Impact of Drug and Psychoactive Substance Abuse on Crime Rate in Bayelsa State

| Crime | (1) Logistic Regression | (2) Probit Regression |
|---|---|---|
| Consumption of DPS | 1.1633 (z = 2.95) (p = 0.000) | 0.0720 (z = 2.82) (p = 0.000) |
| How often DPS is used | -0.9221 (z = -2.47) (p = 0.000) | -0.0574 (z = -2.57) (p = 0.000) |
| The use of DPS without medical doctors' prescription | 3.1726 (z = 2.83) (p = 0.000) | 0.7031 (z = 2.96) (p = 0.000) |
| Age | -1.2784 (z = -2.03) (p = 0.025) | -0.1355 (z = -2.99) (p = 0.000) |
| Education | -1.3841 (z = -2.44) (p = 0.015) | -0.1931 (z = -2.49) (p = 0.013) |
| Gender | 1.0501 (z = 0.09) (p = 0.926) | 0.0070 (z = 0.02) (p = 0.982) |
| Source of Income | -1.2276 (z = -2.44) (p = 0.660) | -0.1253 (z = 2.46) (p = 0.646) |
| Constant | 0.0051 (z = -2.85) (p = 0.004) | -2.9388 (z = -3.02) (p = 0.002) |
| | **Logistic Regression** | **Probit regression** |
| Pseudo R2 | 0.6368 | 0.1379 |
| LR chi2(11) | 15.14 | 15.26 |
| Prob > chi2 | 0.0342 | 0.0328 |
| _hat | 0.81 (z = 1.28) (p = 0.202) | 0.76 (z = 1.17) (p = 0.242) |
| _hatsq | -0.09 (z = -0.32) (p = 0.751) | -0.18 (p = -0.39) (p = 0.697) |
| **Probit model goodness-of-fit test** | | |
| Pearson chi2(2301) | 82.04 (p = 0.2704) | 80.91 (p = 0.2998) |

**Source:** Authors' computation

A percentage increase in Drug and Psychoactive Substance (DPS) consumption brings about a 1.16% significant increase in the crime rate in column (1). This means that the more DPS is consumed, the more the level of crime rate. Similarly, in column (2), the coefficient is positive and significant. This mean that an increase in the consumption of DPS result in increase in the crime rate. How often DPS is consumed significantly influence the crime rate in Bayelsa State. As shown in column (1), if DPS is used once a week, the impact of DPS on the crime rate is 0.92% significantly less than when DPS is used every day, every week or twice a week. The result in column (1) does not differ from column (2). If the DPS is consumed once a week, the impact of DPS on the crime rate significantly reduces by 0.06% compared to when it is consumed every day, every week or twice a week.

The use of DPS without a medical doctor's prescription also significantly influenced the crime rate. The result shows that any consumption of DPS without a medical doctor's prescription leads to an increase in the crime rate by 3.17% in column (1). This implies that DPS abuse is more with DPS consumption without medical doctors' prescription than with medical doctors' prescription, resulting in more crime rate. The result in column (1) is similar to column (2). A rise in the use of DPS without a medical doctor's prescription leads to about a 0.70% significant increase in the crime rate in Bayelsa State. The coefficient for age is -1.2784 with a z-value of -2.03 in column (1). This implies that the impact of DPS consumption on the crime rate is about 1.28%, which is less significant if the DPS consumer is 60 years and above, than the impact of DPS consumption on the crime rate if the consumer is below 30 years of age; 30 to 39 years; 40 to 49 years and 50 to 59 years. This also mean that the higher the age of the DPS consumer, the lower the negative impact in terms of the crime rate. Column (2) also has a similar result as column (1) with a negative coefficient and a significant z-value.

For the level of education in column (1), given by the negative and significant z-value, the impact of DPS consumption on the crime rate is significantly lower by about 1.38% if the DPS consumer is a PhD degree holder, than the impact on crime rate if the DPS consumer's highest level of education is senior school certificate, ordinary national diploma, etc. The result showed that DPS consumed by a more educated person could likely result in less crime rate than if DPS is consumed by a less educated person. Again, column (2) result show that the impact of DPS consumption on the crime rate is inversely related to the level of education of the DPS consumer. The gender coefficient in both columns is positive and statistically insignificant at the 5% level. Based on the result, the impact of DPS consumed by a male on the crime rate is 1.05% insignificantly higher than the impact of DPS consumed by a female on the crime rate.

The coefficient for the source of income in both columns is negative and statistically significant. It means that an improvement in the source of income brings about a reduction in the crime rate. This is in line with the conventional belief that idle people with no meaningful source of income are most likely to commit crimes than people with reasonable sources of income. The Pseudo $R^2$ shown in column (1) indicates that the variables in the model account for about 63.68% change in crime rate. The likelihood chi-

square value of 15.14 (p = 0.0342) points out that the variables jointly significantly affect the crime rate. The p-value for hatsq is 0.751. The non-significant hatsq means good regression model adequacy. Also, the insignificant Hosmer-Lemeshow goodness of fit test is a confirmation of the overall goodness of fit of the regression model. The test results in column (1) are similar to column (2).

**Conclusion and Recommendations**

The paper examines the impact of DPS abuse on violence and crime rates in Bayelsa state. Based on the analysis, it is concluded that DPS consumption is responsible for the violence and crime rates in Bayelsa State. Therefore, an increase in the consumption of DPS gives rise to violence and crime rates. The frequency at which DPS is used also determines the violence and crime rates. More frequently DPS is consumed, more negative impact it would bring. DPS is abused more if consumed without a medical doctor's prescription, the higher and, therefore, the higher violence and crime rates. Violence and crime rates will be more if DPS is taken by a younger consumer than an older consumer. DPS consumed by a more educated person could likely lead to low violence and crime rates than if DPS is consumed by a less educated person. The gender of a DPS consumer is not a significant determinant of the violence and crime rates. Good income sources of a consumer would bring about reduction of violence and crime rates. Continuous sensitization of especially younger population and unemployed on the negative effect of DPS abuse is recommended. It is further recommended that appropriate laws/punitive measures be instituted to curtail/prevent drug and psychoactive substances abuse which shall assist in reduction of violence and crimes in Bayelsa State.

**References**

Amaegberi, M. & Krokeyi, W. S. (2022). Analysis of retirement Happiness in Nigeria, *KIU Journal of Social Sciences; Kampala International University ISSN: 2413-9580 8(3), 93-101*

Awake (2008). *An Awake publication of Jehovah's Witnesses*.

Ediomo-Ubong, E. N. (2015). Alcohol Use, intimate partner violence and family well-being: A qualitative study in Oron, Nigeria, *African Journal of Drug & Alcohol Studies, 14(2).*

Enueshike, P., Anyanwu, D. O., & Owa-Onibiyo, F. T. (2022). Effects of drug abuse on youths' education in Nasarawa State, Nigeria, *World Journal of Advanced Research and Reviews; ISSN: 2581-9615.*

Gboyega, E. A. & Awopetu, R. G. (2017). Drug use and multidimensional work performance in a sample of police men in Nigeria, *African Journal of Drug & Alcohol Studies, 16(2).*

Ineme, M. E., Ineme, K. M., Gboyega, E. A., Alimi, M. A., Ukpong, E. D., Akpabio, G. A. & Inemesit, E. U. (2020). The roles of Nicotine dependence and demographic variables on internet gambling addiction among youths in a Nigerian city, *African Journal of Drug & Alcohol Studies, 19(2).*

Ikhayere, J. I., Abdurrauf, B., & Muhammad, Y. (2020). Effect of substance abuse on Nigeria's economic performance, *International Journal of Social Sciences and Economic Review: 02(02), 33-46.*

Jędrzejczak, A. & Kubacki, J. (2013). Estimation of income inequality and the poverty rate in Poland, by region and family type; statistics in Transition new series, *Główny Urząd Statystyczny (Polska), 14(3), 359-378,*

Kaithuru, P. R. N, Asatsa, S., & Wanjiru, V. N. (2015). Alcoholism and its impact on work forces: A case of Kenya meteorological Service. Nairobi, *International Journal of Education and Research, 3(1)*

Keoikantse, K. M, & Kennedy, A. P. (2015). Stressful life events and alcohol use among University students in Botswana: *African Journal of Drug & Alcohol Studies, 14(2).*

Papke, L. E., & Wooldridge, J. M. (2008). Panel data methods for fractional response variables with an application to test pass rates. *Journal of Econometrics 145, 121–133*

Raimi, M. O; Abdulraheem, A. F., Major, I., Ebikapaye, O., Bilewu, O. O. (2019). Public health impact of substance use on adolescent: A snapshot of Yenagoa in Bayelsa State-Nigeria, *Am J Biomed Sci. & Res 4(3).*

Zamani, A. E, Dahiru, H. I., & Monday, A. (2020). Substance abuse, conflict and development in Nigeria, *International Journal of Advanced Research in Public Policy, Administration and Development Strategies (IJARPPADS), 4(1)*