Alcohol and alcohol-related Crime and Violence in Bayelsa State, Nigeria.

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Abstract: In Nigeria, particularly in Bayelsa State, alcohol consumption is increasing. A steady increase in alcohol production has also been observed in the country, together with a rise in alcohol-related violence and harm. Alcohol consumption is not only linked to acts of violence, but to the escalation of violence and the resulting severity of injuries. Crime reports in the country indicate that approximately six in ten incidents of alcohol-related violence resulted in injury to the victim. Despite these trends, Nigeria's policies on the sale and consumption of alcoholic beverages are weak compared with those of other countries in the world, especially, its policies on taxation, drink driving laws, alcohol sale to minors and marketing licenses. The authors of this research draw attention to the urgent need for public health professionals Law-enforcement Agencies and other government officials in the state as well as the entire country to prioritize population surveillance, research and interventions designed to reduce alcohol use disorders.
Key Terms: Alcohol, Crime, Violence, Late Night, Entertainment, Bayelsa, Sttate.

I.   INTRODUCTION

Alcohol and violence are culturally and historically linked . In Nigeria, alcohol consumption is increasing faster. Data from recent decades show a steady increase in alcohol production and consumption and in rates of alcohol-related conditions. Drinking alcoholic beverages has been traditionally accepted in Nigeria during major social events, such as the festival, wedding ceremonies and birthday parties. However, the rapid changes in Nigerian society has been accompanied by noticeable changes in the drinking behaviour of the

 population. Furthermore, alcohol consumption has been a popular leisure activity among Nigerians; however, despite the provision of leisure, employment and government taxes, alcohol use has also become associated with chronic health   problems, crime, public disorder and violence. Alcohol use contributes to a number of deleterious health and social outcomes, including traffic crashes, increased risk for disease, risky sexual behavior, homicides, suicides, crime, unintentional injury (Borowsky, Ireland, & Resnick, 2001; Dunn, Bartee, & Perko, 2003; Greenfeld, 1998; Gyimah-Brempong, 2001; National Highway Traffic Safety Administration, 2005; National Institute on Alcohol Abuse and Alcoholism, 2000; Smith, Branas, & Miller, 1999; Sorenson & Berk, 2001), and is the third leading actual cause of death (i.e., nongenetic, modifiable factor contributing to death; McGinnis & Foege, 1993) in Nigeria (Mokdad, Marks, Stroup, & Gerberding, 2004). Recent research has shown that exposure to alcohol during adolescence can have detrimental effects on brain development, intellectual capabilities, and increases the likelihood for later addiction (Brown, Tapert, Granholm, & Delis, 2000; Monti et al., 2005). Further, a number of studies provide evidence for increased risk for these problems and earlier age at alcohol initiation (DeWit, Adlaf, Offord, & Ogborne, 2000; Ellickson, Tucker, & Klein, 2003; Guo et al., 2002; McGue, Iacono, Legrand, Malone, & Elkins, 2001; Stueve & O'Donnell, 2005; Warner & White, 2003). Notwithstanding risks, alcohol remains one of the most widely used substances during early- and late-adolescence (Johnston, O'Malley, Bachman, & Schulenberg, 2008).

High alcohol outlet density is a reliable predictor of violent and other crimes. A study conducted in Los Angeles County, for example, found that an increase of one outlet was associated with 3.4 additional violent incidents in a year.   Adding one bar to a block in Bayelsa State was estimated to result in 3.38 more crimes being committed on that block in a year.   Similarly, in an examination of alcohol availability and homicide in Nigeria, a 10 percent higher off-sale outlet density was predicted to result in a 2.4 percent higher homicide rate. In Bayelsa State, Nigeria, a reduction in the density of alcohol outlets by just under one percent would likely result in a reduction in crime by one percent.

Over the last few years in Bayelsa State, alcohol outlets have developed from tent like taverns to very large well constructed liquor trading places referred to as Car Washes. In recent times there has been a proliferation of smaller nightclubs and bars especially designed to cater for patrons interested in late-night entertainment.

Today there appears to be growing support for addressing the link between alcohol and violence   through interventions in the various contexts in which it occurs (e.g., physical, social, etc.).   This includes interventions in the alcohol environment, focusing on how, when and where alcohol is sold and consumed.   However, developing appropriate interventions requires careful attention to the complex, interactive relationship between alcohol and violence. This paper examines this relationship.

II.   The Use of Alcohol in Crime

Internationally, [particularly in Nigeria, Australia, United Kingdom (UK) & the United States of America (US)] it has been established that alcohol has been involved in about 40% - 70% of homicides, assaults and street disturbances (Cookson, 1992; Davey & French, 1995; Dingwall, 2006; Greenfeld, 1998). Self-reports and surveys of prisoners and convicted offenders have consistently demonstrated that a substantial proportion of this group are young males (about 40-60%) and they have consumed alcohol prior to, or at the time of committing their offence (see Dingwall, 2006; Greenfeld, 1998; Indermaur & Upton, 1988; National Institute of Justice, 1991).   In 1996, over a third (36%) of all convicted offenders (some 5.3 million) under the control of US correctional agencies were estimated to have been under the influence of alcohol at the time of the offence (Greenfeld, 1998). Similar findings have been reported in a Canadian prisoner population in which 38% were found to have used alcohol at the time of their most serious offence (Pernanen, Cousineau, Brochu, & Sun, 2002). Furthermore, this study found alcohol to be involved with 44% of violent offences. A study in New Zealand found that 50% of prisoners at the time of their imprisonment were alcohol dependent (Bushnell & Bakker, 1997). A number of Australian prisoner studies conducted between the 1960s and 1980s reveal similar results to the findings in UK, US, New Zealand and Canada. In the state of Victoria, Australia the proportion of prisoners reporting the use of alcohol prior to their offence had increased by 22% between 1968 and 1985 (from 59% to 81%, Bartholomew, 1985).

In addition, while Bartholomew (1985) found that alcohol use preceded a variety of offences, it was more commonly used prior to violent offences. Prisoner surveys undertaken in Tasmania and Western Australia also indicate that a substantial proportion of the prisoners report alcohol being associated with their offending (Indermauer, 1990; White & Boyer, 1985). Although it was found in a Western Australian prisoner sample that 52.4% of them thought alcohol was connected to their imprisonment, only 26.8% of the same sample was concerned about their alcohol use (Indermaur & Upton, 1988).

Studies in the 1990s and early 21st century examining the use of alcohol in connection with offending also record a high correlation between alcohol and crime (see Dingwall, 2006; Pernanen et al., 2002; Richardson & Budd, 2003; Rossow, 2004; Rossow, 2001). Offenders who are prone to repeatedly offend have been found to consume alcohol at high levels during the six month period prior to the offence, and also drink more heavily on the day before the offence (Zamble & Quinesy, 2001). A significant proportion of victims are also likely to have consumed alcohol prior to being victimised (Makkai, 1997; Collins & Messerschmidt, 1993; Quigley & Leonard, 2000). In relation to homicide offences in Australia, some 34% of the perpetrators and 31% of the victims were affected by alcohol at the time of the incident (James & Carcach, 1997).

The vast majority of research clearly demonstrates that it is young males who are more likely to be involved in alcohol-related violence and crime (Dingwall, 2006). However, some recent research suggests that in recent decades the gap between young females and young males is narrowing in regards to some types of offences involving alcohol, particularly drink driving (Schwartz, 2008). Young females are also more likely to binge drink and become involved in alcohol-related fights compared to their mother's generation (Buddie & Parks, 2003; Hughes, Anderson, Morleo & Bellis, 2007).

III.   The Relevance of Time, Place and Socio-Demographics to Alcohol-related Crime

Hot spots of Crime, Disorder and Violence

Some types of crime, particularly offences related to disorder and violence seem more likely to occur in certain places. This phenomenon has been observed by criminologists and sociologists since the late 19th century and throughout the 20th century (Burgess, 1916, Glyde, 1856; Mayhew, 1968; Shaw & McKay, 1931). These early researchers noted that the clustering of specific types of crime occurred in distinguishable geographical areas that were more likely to be populated by individuals from poor social economic backgrounds (low education & low employment rates). More recent research has continued to find that some places within communities are more likely to experience a higher rate of criminal activity referred to as 'Crime Hot Spots' (Roncek & Maier, 1991; Sherman, Gartin, & Buerger, 1989). For example, Sherman et al. (1989) analysed spatial data related to calls for police over a 12 month period in Minneapolis, Minnesota of the US. It was discovered that 50% of the calls were located in only 3% of the locations, indicating that a small number of locations produced the most calls.

More recently the development of computer crime mapping and geographical referencing (for a review see Lersch, 2004) has allowed the occurrence of crime to be analysed in a more sophisticated and technical manner at the temporal and spatial level. This kind of analysis has demonstrated that most crime is not a random event

(Block & Block, 1995; Jochelson, 1997) but occurs in concentrated places at certain times, especially where alcohol is available (Teece & Williams, 2000). Using crime mapping technology, Jochelson (1997) studied incidents of assaults and robberies recorded by police over a 2-month period in inner Sydney, Australia and found that there were specific 'Hot Spots' of crime. In a number of early US studies investigating crime 'Hot Spots', it was observed that residential blocks with bars and taverns had a larger proportion of crime compared to residential blocks without bars and taverns (Roncek & Bell, 1981; Roncek & Maier, 1991). The Roneck and Maier (1991) study analysed cross sectional data from 4,396 residential blocks of Cleveland from 1979 and 1981. The authors concluded that a variety of violent and property related crime was statistically significantly associated with areas more densely populated with bars and taverns.

Density of Alcohol Outlets and Crime

Over the last few decades the relationship between the density of Alcohol outlets and crime has been extensively examined (Treno, Gruenewald, Remer, Johnson, & LaScala, 2007). The research literature draws a distinction between alcohol purchased and consumed on premises (referred to as on-premise sales) and alcohol purchased from premises that must be taken away and consumed elsewhere (referred to as off-premise sales) (see Treno et al., 2001). Alcohol outlets therefore refers to both the on-premise purchase and consumption of alcohol in places such as bars, clubs, restaurants, taverns, and hotels and to off-premise alcohol sales such as alcohol sold at liquor stores and grocery stores.

There is a broad range of research comprised of cross sectional, longitudinal and ecological studies examining the spatial relationships of alcohol outlets and crime, particularly crimes associated with violence and disorder (see Livingston, Chikritzhs, & Room, 2007; Scribner, MacKinnon, Dwyer, 1995; Speer, Gorman, Labouvie, & Ontkush, 1998; Stevenson, Brewer, & Lee, 1998). Some of these studies have been conducted at City/Town and county level utilising large population samples and aggregate data (Gorman, Speer, Labouvie, & Subaiya, 1998; Scribner et al., 1995) while other studies have focused on smaller geographical units in which local residential blocks are compared (Gorman, Speer, Gruenewald, & Labouvie, 2001; Scribner, Cohen, Kaplan, & Allen, 1999; Speer et al., 1998). Additionally, a number of studies have also examined the impact of socio-demographic characteristics (residential stability, race, age, education, income and employment) of areas surrounding a cluster of pubs, clubs and hotels (Nielson & Martinez, 2003; Gruenewald, Freisthler, Remer, LaScala, & Treno, 2006) as well as the impact of alcohol outlets on surrounding areas (Gorman et al., 2001; Zhu, Gorman, & Horel, 2004).

Two prominent cross sectional city/town level studies (Scribner et al., 1995; Gorman et al., 1998) examined the relationship between assaults and variables such as alcohol outlet density and socio-demographics in cities with a population base of over 10,000. The Scribner et al. (1995) study involved 74 cities in Los Angeles and the Gorman et al. (1998) study involved 223 cities in New Jersey. While the Scribner study found that alcohol outlet density was significantly related to the rate of assault independent of socio-demographic variables, the Gorman study found that alcohol outlet density did not predict an increase in assault rates independently of socio-demographic variables.

Although the Gorman study was designed to replicate the Scribner study, there were some differences in the way the data was analysed. For instance, the Scribner study used a least square regression analysis and univariate and bivariate analyses to study the relationships among variables, while the Gorman study relied upon hierarchical regression analysis. It should also be noted that the types of alcohol outlets examined as well as the size and number of cities examined differed between both studies. For example, there were 74 cities in the Scribner study which also compared two groups of on and off-premise sales, while the Gorman study examined 223 cities and compared three different groups involving on-premise sales, off-premise sales and a combined on and off-premise sales group.

However, following these sophisticated and innovative large scale studies there have been a number of other cross sectional studies (State/City & small neighbourhood block analysis) that have consistently verified the strong and positive nexus between alcohol outlets and antisocial activities (Alaniz, Cartmill, & Parker, 1998; Gorman et al., 2001; Gruenewald, Millar, Treno, Yang, Ponicki, & Roeper, 1996; LaScala, Gerber, & Gruenewald, 2000; Speer et al., 1998; Stevenson et al. 1999). It therefore appears that the contrasting finding by Gorman et al. (1995) could be an aberration. Nevertheless a number of cross sectional studies have been criticised for their failure to consider the affects of other factors on violence and criminal behaviour such as socioeconomic disadvantage, age, race and low education (see Stockwell & Gruenewald, 2004).

In addition, some studies including Gorman et al. (1998) and Speer et al. (1998) failed to control for spatial autocorrelation (data in adjacent areas impacting on the area under investigation) among geographic areas. Autocorrelation has been found to bias statistical estimates resulting in inflated standard errors in the case of positive spatial autocorrelation and deflated standard errors in the case of negative spatial autocorrelation, especially when the sample is based on small geographic areas such as contrasting residential blocks (Gruenewald et al., 1996; Lipton & Gruenewald, 2002).

A number of more recent studies have used sophisticated spatial techniques taking into account the social fabric

of local communities when examining the impact of areas densely populated with alcohol liquor outlets (Alaniz et al., 1998; Lipton, Gorman, Wieczorek, & Gruenewald, 2003; Lipton & Gruenewald, 2002; Gruenewald et al., 2006; Gruenewald et al., 1996; Neilson & Martinez, 2003; Scribner et al., 1995; Speer et al., 1998; Zhu, Gorman, Horel, 2006). While the socio-demographics of particular areas are considered to be related to increased levels of disorder and violence (Krivo & Peterson, 1996) the addition of high levels of alcohol outlets seem to exacerbate the level of disorder and violence (Gorman et al., 2001; Neilson & Martinez, 2003). Studies specifically controlling for the effects of socio-demographic factors have found that the density of alcohol outlets and the associated violence is independent of the socio-demographic characteristics of surrounding areas (Gorman et al., 2001; Scribner et al., 1995; Speer et al., 1998). In the Gorman et al. (2001) study, data was collected for 98 roup blocks and the multivariate regression analysis revealed that alcohol outlet densities (more violence in high density compared to low density areas) explained close to 20% of the variability in violent crime rates across block groups. In other words, alcohol outlet density was more likely to explain the increase in violence rather than neighbourhood characteristics. Although Gorman et al. (2001) along with Lipton andGruenewald (2002) found that socio-demographic characteristics in local and adjacent areas influence the levels of violence, the most important predictor seems to be the density of alcohol outlets. In addition, using a spatial population model Gorman et al. (2001) found that while high alcohol outlets impacted adversely on violence in areas where they were located, adjacent block groups were not adversely affected. However, in contrast Zhu et al. (2004) found that high alcohol outlet areas did have an adverse impact on violence in adjacent neighbourhood areas. While the aforementioned studies clearly demonstrate the importance of alcohol outlet density to the levels of disorder and violence, the socio-demographics of nearby neighbourhoods seem to interact with outlet density related violence.

However, the extent of the influence of neighbourhoods surrounding areas with an over abundance of pubs, bars and nightclubs remains controversial. The interactive relationship between alcohol outlet density and the socio-demographics factors require further exploration in order to discover whether the socio-demographics of a particular area encourage the density of alcohol outlets or whether the level of alcohol outlet density affects the social fabric of the nearby communities. The complexity of the alcohol outlet density/violence and disorder relationship is amplified by the fact that different types of alcohol outlets seem to impact on violence and disorder to varying degrees. The present study is therefore an attempt to examine whether there is a relationship or not between high density of alcohol outlets and crime in Bayelsa State.

IV.   Guiding Hypotheses

(1)   There is a significant difference between Alcoholics and non-Alcoholics in committing crimes in Bayelsa State
(2)   High alcohol outlet density is a reliable predictor of violent and other crimes

Methodology

This study adopts a descriptive research design. A simple random sampling technique was adopted to select 300 respondents in Bayelsa State. In so doing, discreet numbers are allocated to each element in the sample frame and all are placed into a basket. With eyes closed, we randomly selected 300 respondents (one at a time) to form our sample size. This study depended on both primary and secondary sources of data collection. The primary sources of data included the use of self-designed questionnaires while the secondary sources of data were derived from the works of other scholars.

Data Presentation and Analysis

Data presentation is based on the relevant objectives and hypotheses outlined above. The objectives are measured with simple percentage analysis, while the research hypotheses are tested using the chi-square statistical tool.

Table 1: Types of Crimes committed by Alcoholics in Bayelsai

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Type of Crime	Frequency	Percentage
Violent Crimes	63	21.0
Property Crimes	96	32.0
Drug Related Crimes	125	41.7
Others	16	5.3
Total	300	100

As per the above table, 63 (21.0%) of respondents' offences were identified as violent crimes, 96 (32.0%) were identified as property crimes, 125 (41.7%) were drug related and 16 (5.3%) were identified as other crimes.

Table 2: Alcoholics commit more crimes than non- Alcholics

Answer Alternatives	Frequency	Percentage %
Agree	207	69.0
Undecided	15	5.0
Disagree	78	26.0
Total	300	100

A Table 2 indicates, 207 (69.0%) of respondents agreed that Alcoholics commit more crimes than non-Alcoholics, while 15 (5.0%) remained undecided and 78 (26.0%) disagreed.

Table 3: High alcohol outlet density is a reliable predictor of violent and other crimes

Answer Alternatives	Frequency	Percentage
Agree	44	14.6
Undecided	50	16.7
Disagree	206	68.7
Total	300	100

As Table 3 reveals, 44 (14.6%) of the respondents agreed that High alcohol outlet density is a reliable predictor of violent and Bayelsa State, while 50 (15.7%) were undecided, and 206 (68.7%) disagreed.

Test of Hypotheses
H1: There is a significant difference between Alcoholics and non-Alcoholics in committing crimes in Bayelsa State.
Table 4: X^2 Calculation for Hypothesis 1

Respondents	Agree	Disagree	Undecided	Total
Female	62 (75.6)	46 (32.76)	18 (17.64)	126
Male	118 (104.4)	32 (45.24)	24 (24.36)	174
Total	180	78	42	300

From the above table, the chi-square X^2 calculated value for Hypothesis 2 is as follows:

Chi-square $X^2 = 2e$
Where o = Observed frequency,   e = Expected frequency
Expected value is calculated by multiplying the row total by column total for each response and then dividing by the total number of respondents.

Chi-square $X^2 = 2e$
$= \frac{(62-75.6)^2}{75.6} + \frac{(118-104.4)^2}{104.4} + \frac{(46-32.76)^2}{32.76} + \frac{(32-45.24)^2}{45.24} + \frac{(24-24.36)^2}{24.36} + \frac{(18-17.64)^2}{17.64}$
$= 2.45+1.77+5.35+3.87+0.007+0.005 = 13.5$
Chi-square (X^2) calculated value = 13.5
To compare calculated value with table value, Degree of Freedom (DF) is ascertained thus: DF = (R-1) (C-1)
= (2-1) (3-1)
= 1x2
DF = 2
At 2 DF, the table value of X^2 at 0.05 level of significance = 5.99
Decision Rule: The general acceptable decision rule for the application of the Chi-square test states: accept the null hypothesis if the calculated value is less than the table value and reject null hypothesis if the calculated value is greater than the table value. In this study, since the calculated value of X^2 is 13.55 and the table value is 5.99, the hypothesis which states that there is a significant difference between Alcoholics and non-Alcoholics in committing crimes in Bayelsa State is accepted.
H2: High alcohol outlet density is a reliable predictor of violent and other crimes in Bayelsa State.
Table 5: X^2 Calculation for Hypothesis 2

Respondents	Agree	Disagree	Undecided	Total
Female	60 (73.92)	46(35.28)	20 (16.8)	126
Male	116(102.08)	38 (48.72)	20(23.2)	174
Total	176	84	40	300

From the above table, the chi-square X^2 calculated value for Hypothesis 1 is as follows:
Chi-square $X^2 = 2e$

Where o = Observed frequency

e = Expected frequency

Expected value is calculated by multiplying the row total by column total for each response and divided by total respondents.

Chi-square $X^2 = 2e$

$= \frac{(60-73.92)^2}{73.92} + \frac{(116-102.08)^2}{102.08} + \frac{(46-35.28)^2}{35.28} + \frac{(38-48.72)^2}{48.72} + \frac{(20-23.2)^2}{23.2} + \frac{(20-16.8)^2}{16.8}$

$= 2.62+1.90+3.12+2.32+0.60+0.44 = 11.0$

Chi-square (X^2) calculated value = 11.0

To compare calculated value with table value, Degree of Freedom (DF) is ascertained thus: DF = (R-1) (C-1)

$= (2-1) (3-1) = 1 \times 2$

DF = 2

At 2 DF, the table value of X^2 at 0.05 level of significance = 5.99

Decision Rule: The general acceptable decision rule for the application of the Chi-square test states: accept the null hypothesis if the calculated value is less than the table value and reject null hypothesis if the calculated value is greater than the table value. In this study, since the calculated value of X^2 is 11.0 and the table value is 5.99, the hypothesis which states that High alcohol outlet density is a reliable predictor of violent and other crimes in Bayelsa State. is accepted.

V.   Discussion of Findings

The extant literature substantiates many immediate consequences of alcohol use among underage youth that include, but are not limited to, increased risk for: criminal activity, alcohol-related traffic crashes, fatalities, and risky driving behavior, unintentional injury, risky sexual behavior, delinquency, and depression. Additionally, alcohol use during adolescence has also been shown to contribute to a number of more distant consequences, such as: diminished neurocognitive functioning, various cancers, cardiovascular disease, increased risk for alcohol abuse and dependence, other illicit drug use, and alcohol-related traffic crashes. Data concerning this objective was presented in Table 1. The data shows that drug related offences are the most common type of Alcoholics offence with 41.7% of respondents having committed at least one drug related crime. Other types of crimes prevalent among the Alcoholics included violent crimes against persons at 8% and property crimes at 32.3%. These findings, that Alcholics in Bayelsa State are most often involved in drug related crimes, support previous findings by Ekpenyong and Aakpege (2014) and Makinde (2007), who discovered in Port Harcourt that studentswho consume Alcoho are more prone to drug related offences .

In terms of crimes committed by Alcoholics, we sought some degree of measurability and so made use of agree, undecided and disagree as answer alternatives.In the data presented in Table 2, 69% of the respondents attested to the fact that Alcholics commit more crime than non- Alcoholics. A number of studies from the fields of sociology and criminology have found a positive correlation between alcohol and crime (Blount, Silverman, Sellers, & Seese, 1994; Bromley & Nelson, 2002; Greenfeld, 1998; Gyimah-Brempong, 2001; National Institute on Alcohol Abuse and Alcoholism, 2000; Parker, 1993; Parker, 1995; Parker & Cartmill, 1998; Roizon, 1997; Scribner, Cohen, Kaplan, & Allen, 1999; Stitt & Giacopassi, 1992; Valdez, Kaplan, Curtis, & Yin, 1995; Vanoers & Garretsen, 1993; Zhang, Welte, Wieczorek, & Messner, 2000). In an analysis of national, longitudinal data on the prevalence of alcohol involvement in crime, Greenfeld (1998) found that approximately 3 million violent crimes occur each year in which the victim perceived the offender to have been drinking at the time of the offense. Additionally, two-thirds of victims who suffered violence from an intimate partner reported that alcohol had been a factor. Further, among violent offenders, 41% of probationers, 41% of those in local jails, 38% of those in state prisons, and 20% of those in federal prisons were estimated to have been drinking when the crime was committed. More recently, Miller and colleagues (2006) estimated that 57% of violent crimes (e.g. rape, robbery, assault, murder), 67% of crimes against children (e.g. physical and sexual abuse), and 58% of property crimes (e.g. larceny, burglary, motor vehicle theft) were attributable to alcohol and other drug use. Moreover, the authors estimate that alcohol-attributable crimes have an economic cost of $84 billion, more than double the estimated $38 billion in costs due to other drug-attributable crimes (Miller, Levy, Cohen, & Cox, 2006).

In terms of whether high alcohol outlet density is a reliable predictor of violent and other crimes in Bayelsa State, we applied data collected from observations made during a field visit to the city. Data derived from this was presented in Table 3 and was measured using a three point Likert Scale question (agreed undecided and disagreed). According to the data, 68.7% of respondents felt that high alcohol outlet density is a reliable predictor of violent and other crimes in Bayelsa State. Nonetheless, fieldwork observations as well as the responses of the respondents to unstructured interviews clearly indicate high alcohol outlet density is a reliable predictor of violent and other crimes in Bayelsa State. This finding is consistent with the research by Ogborne, 2000 conducted in Los Angeles County that an increase of one outlet of Alcohol was associated with 3.4 additional violent incidents in a year.

VI. Conclusion and Recommendations

The expansion of alcohol production and consumption in Bayelsa State over recent decades has been followed by a predictable increase in both acute and chronic problems resulting from alcohol use, and the increase is likely to accelerate in the future. Whatever the exact cause and effect relationship, there is now consensus among researchers that alcohol contributes to acts of violence and that reducing availability and improving the environment in which alcohol is sold and consumed can result in a reduction of violent crime. The results of alcohol enforcement efforts in different localities suggest that targeted enforcement of liquor laws, combined with training alcohol outlet employees, improving outlet policies regarding alcohol service practices, increasing community involvement, and related strategies can result in a reduction of violence. The results also suggest that cooperation among enforcement and regulatory agencies at the local, state, or national level can enhance the effectiveness of these enforcement efforts.

This study suggests its potential for preventing violence and highlights the need for additional research to assess enforcement's impact and optimal design. The urgency of this prevention agenda is demonstrated by the staggering human, social, and economic costs of alcohol-related harm and the need for new and innovative strategies for its prevention. Insuring adequate resources for enforcing alcohol laws needs to be given a high priority among state and federal legislators, policy makers, governmental agencies, law enforcement personnel, community activists, and researchers.

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