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Hypothetical analysis of mediating roles of cultural identity on drug problem control in Nigeria: Managerial and policy implications for stakeholders

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Abstract

Illegal narcotic drugs flow from different hidden sources within and outside a territory. Over the years, national, regional and global organizations have documented a wide variety of drugs including cannabis, heroin, pharmaceutical opioids, cocaine, tranquilizers and sedatives, amphetamines, methamphetamine, ecstasy, hallucinogens, solvents and inhalants, and cough syrups as being commonly misused. Literature is equally replete with several studies on how stakeholders are addressing the challenge with mixed outcomes. This study joins the conversation by investigating the mediating roles of severe personal and social marginalization as well as economic and educational inequalities on drug problem control in Nigeria. A Hypothetical approach, with the adoption of system dynamics and quantum-like model as research methods, was employed for the examination of the relationship between these cultural identities and drug problem control. The findings provide valuable insights for policymakers, practitioners, and other stakeholders working to address the issue of drug abuse in Nigeria, and contribute to the broader understanding of the complex dynamics of drug problem control in the context of cultural identity theory of drug abuse.

Keywords: Cultural Identity; Drug Abuse; Drug Problem; Nigeria

1. Introduction

The United Nations Office on Drugs and Crime and other sources have documented a wide variety of drugs including cannabis, heroin, pharmaceutical opioids, cocaine, tranquilizers and sedatives, amphetamines, methamphetamine, ecstasy, hallucinogens, solvents and inhalants, and cough syrups as being commonly misused around the world (United Nations Office on Drugs and Crime, 2018; Jatau, Sha'aban, Gulma, Shitu, Khalid, Isa, Wada & Mustapha, 2021). The problem is prevalent and has been on the rise in both developed and developing countries, driven by illegal activities of state and non-state actors who profit from the illegal trade of these drugs (United Nations Office on Drugs and Crime, 2018; Jatau, et al. 2021). In West Africa, with Nigeria as one of the countries, drugs such as cannabis, cocaine, amphetamines, heroin, diazepam, codeine, cough syrup and tramadol are commonly abused (Jatau, et al. 2021).

Tackling the challenge remains one of the greatest problems being experienced by governments and stakeholders in the family, school and educational systems. This has largely explained why various scholars and practitioners have continued to suggest better ways of controlling flows and misuse of the drugs. Brocklesby (2016) argues that systems modelling has a great potential of helping collaborative law enforcement agencies in thinking strategically about ways of improving their capacity to deal with the complexity of transnational and/or organized crime such as illicit drug trade and sexual violence. Considering the challenges being faced by Nigerian agencies in charge of illicit drug flow control and protection of women's sexual right, adopting systems modelling for identifying critical issues isolating actors such as parents, guardians, schools and religious organisations in relation to their interest would not be a bad idea. As

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suggested by Brocklesby (2016), in another setting, concerned stakeholders are not finding appropriate means and processes for ensuring successful collaboration. For instance, operational task agencies of the NDLEA, NAFDAC, the Nigeria Police Force and the Nigeria Custom Services seem to be having significant issues with total control and containment of illicit drug flow. Though there is collaborative system culture in the Acts and other policy documents that establish functions of these agencies, it has not translated to concrete outcomes over the years. This suggests that finding a viable collaborative system remains elusive. This is also applicable to the integration of media, family and other systems into the law enforcement agency system required for sustainable solutions (Magliocca, McSweeney, Sennie, Tellman, Devine, Nielsen, Pearson & Wrathall, 2019).

Apart from the expected roles and functions of agencies and social institutions, most notably the family, the Nigerian government has not been decisive in its intent over the years of providing an enabling socioeconomic environment capable of discouraging people from trading and abusing various substances. Therefore, it is necessary to examine these issues holistically, using approaches that establish how abusers exploited the problems in order to seek and advance specific cultural identities, which continue to be impediments for the government in adequately controlling and containing the drug problem across the country.

2. Literature review

Ordinarily, illegal narcotic drugs flow from different hidden sources within and outside a territory. Illegal drugs flow through borders, through pharmacies/patent medicine shops, open drug markets, drug hawkers, fellow drug abusers, friends, and drug pushers (Jatau, et al., 2021). When the flow becomes difficult to manage, it degenerates into many issues that eventually make sexual violence and other forms of anti-social behaviour normal for everyone, especially the youths (Letourneau, Schaeffer, Bradshaw & Feder, 2017). In Nigeria, abusing drugs is most common among undergraduates and secondary school students, youths, commercial bus drivers, farmers, and sex workers (Jatau, et al. 2021). The complexity of the approaches being used by the players in the illicit drug market, drug abuse and its related crime ecosystems has over the years led to political and social uncertainties. Hence, the need for a process-based integrative evaluation of the market and ecosystems towards creation of sustainable solutions to the emerging consequences (Uzuegbu-Wilson, 2019; Vashchilko, Agarwal & Osiyevskyy, 2022). Using this background, I examine the body of research on the factors that affect the efficacy and inefficacy of various drug problem management strategies employed by security agencies and the Nigerian government in particular. The importance of social and family support is also considered. Where these are lacking, I contend that they may have contributed to the abusers' intention to seek out ways to associate with or relate to people whose norms and values would eventually make it difficult to contain the flow of illicit drugs across the country.

2.1. Critical Stakeholders and Drug Problem Control

Restricting people from misusing various substances, especially those discussed previously, is the responsibility of the government through its varied organizations supported by enabling laws, regulations and policies in times of crises and when there are no crises (Zaami, Marinelli & Vari, 2020). From police to military and border guards, illicit drug flow restriction is possible when the security agencies work in unison. In Nigeria, the National Drug Law Enforcement Agency, the National Agency for Food, Drugs and Administration Control and Nigeria Customs Service are solely responsible for coordinated actions against illicit drug flow. The Nigeria Police Force and other security agencies are basically responsible for arresting and prosecuting offenders. However, the NDLEA also has the function of arresting and prosecuting violators of illicit drug flow and use in the country. Like other countries in the world, Nigeria is not exempted from the countries where the agencies and personnel saddled with the responsibility of ensuring arrest and prosecution are also participating in illegal drug trade. Personnel of the Nigeria Police and the NDLEA have over the years been found to conspire with drug barons. In some situations, the personnel are also abusers of various narcotic drugs.

While these constituted positive and negative outcomes of various inputs of the control agencies towards containing illicit drugs spread, they can only be prominent when the media accord it the right placement and prominence in their reportage. Also, without constant reportage, perpetrators might not see reasons for ending their anti-social and economic behavior. Since media use different frames and agendas to issues prominent to the extent that concerned stakeholders will consider them necessary and require urgent attention, media has critical roles to play in controlling and containing illicit drug trade and its consequences (Montagne, 2011; Weatherred, 2017). Constant framing of drug abuse as dangerous to the society would reinforce the need to take decisive actions by every stakeholder (Chiazor, Ozoya, Udume & Egharevba, 2016; Weatherred, 2017; Sacks, Ackerman & Shlosberg, 2018). As noted previously family, which has been identified as the most important agent of socialization for infants and young children, also has important roles to play. In the study conducted by Atadokht, Hajloo, Karimi & Narimani (2015), to investigate how expressed

emotion and perceived social support among families help in predicting addiction relapse, the outcome reveals a positive relationship between family expressed emotions and the frequency of relapse. A significant negative relationship between perceived social support and the frequency of relapse was also found. These results suggest that members of family seem not to be providing the needed supports to abusers in terms of proper psychological needs. Furthermore, the multiple regression analysis explained that perceived social support from family and the family expressed emotions significantly accounted for 12% of the total variance of relapse frequency. This shows that where the family as an institution is strong in offering social and emotional support to victims and drug abusers, there is a high possibility that both will be mended. It has been indicated that parents and family members affect, no matter how small its effect may be, the successes and failures of their children. As established by Shelton (2008), humans are most likely to turn out like their parents and the family plays a big role in young people's understanding and interpretation of their society and social roles in their formative years. Nwagu, Dibia & Odo (2017) in their study of socio-cultural norms and roles in the use and abuse of alcohol among members of a rural community in Southern Nigeria observed that social influences and cultural norms in local communities can predispose young people to alcohol use. The focus group discussion conducted among male and female adults and youths were on socio-cultural norms, roles, beliefs, values and practices that influence use of alcohol. The thematic analysis of the findings showed that nine sociocultural factors can adequately define whether a young person in a rural community where alcohol is produced will take and abuse alcohol.

In the submission of Obiechina & Isiguzo (2016), use and abuse of drugs and alcoholism are traced to parental background of a child since poor parenting strategies build up to define what an adolescent becomes in life. They listed broken homes, poverty, parental neglect, cultural influence, lack of parental affection and inability to meet up responsibility as factors that trigger drug use and abuse. Where a family is struggling to promote good values and family life is threatened, youths drink and use illicit drugs, engage in crimes and violence, live to social miscreants and ultimately armed robbers. To control and prevent this problem, Obiechina & Isiguzo (2016) recommended that parents should discourage children from buying or patronizing cigarette and alcohol shops. They should create a friendly environment where a complete child is raised free of drugs. Civil society groups and government need to raise awareness and train parents on the negative effects of drugs and their abuse; where parents are models of a drug-free society, it may not be difficult to socialize the child in the right way.

It is important to emphasize that while it is not bad to anticipate that identified parents and guardians as well as members of the civic space will play critical roles in containing the growth and abuse of illicit drugs, achieving the goal would not be fully attained as long as the problems of poverty, unemployment, lack of empowerment, and inadequate education persist across the country. As literature establishes equipping citizens with better education could easily facilitate solutions to unemployment that has been the key factor facilitating participation in illicit drug trading and abusing (Sanni & Aransi, 2020). Since the right norms, values, and ethics are learned and applied later in life for personal and collective socioeconomic well-being, both family and school settings for collective knowledge exchange toward transforming individuals for the betterment of society should be utilized significantly in reducing or eliminating the problem (Kivelä, 2017; Kools, Stoll, George, Steijn, Bekkers & Goudard, 2020). However, it is depressing that schools are among the places where children learn how to use sedatives, alcohol, and psychoactive drugs (Adesina, Adebayo & Iken, 2020). The use of these substances has been found to be correlated with the abusers' age (adolescents in school), their mothers' educational level, and occupation status (Adesina, et al., 2020). Another study found that both secondary and primary school students, as well as those who did not, abused cigarettes, cannabis, alcohol, inhalants, tranquilizers, opiates, and hallucinogens for reasons ranging from social/peer pressure, rebellion, overwork/learning, shyness, fear, parental influence, fun, and a lack of role models (Sarkingobir & Dikko, 2020). Amoo, Adekeye, Omumu, Akinpelu, Ajayi, Olawande & Adeusi (2020) found risky sexual behavior among students who had previously used drugs or alcohol. Children from households where one or both parents have a history of substance abuse or where there is marital strife are more likely to engage in substance abuse as well as other social vices (Obiechina & Isiguzo, 2016; Jatau, et al., 2021). In other words, when there is insufficient parental supervision, kids start using drugs and engaging in sexual offenses. When there is a lackluster response from the media in terms of identifying and reporting consequences, these situations become more dangerous.

It has been established above that lack of socio-psychological and community support for victims of drug abuse can escalate dangerous negative outcomes. As a matter of fact, there is a possibility that after rehabilitation and successful treatment, patients can fall back into drug abuse (Rahman, Rahaman, Hamadani, Mustafa & Shariful Islam, 2016). The researchers identified various psychological and social factors associated with relapse of drug addiction in Bangladesh, noting that "negative emotion" is a big factor of relapse, while "peer pressure," "self-efficacy," and "lack of assertiveness" moderately associate with relapse. The "parental discord" and "relation with parents" factors showed no relationship with relapse. As submitted above, stakeholders working with victims of substance abuse need to identify socio-psychological support systems that can prevent victims from relapsing into substance abuse. The agents of socialization and medical experts have a lot to do while monitoring and helping victims of substance abuse to overcome relapse and

be properly integrated into the normal society. Where churches and mosques invest in public enlightenment to change the behaviours, attitudes and beliefs of members about sexual assault and drug abuse, Eze (2013) has noted in his study that the scourge is reduced. In about 150 studies reviewed on drug and alcohol abuse, highly religious people have less probability to use substances; where spirituality is also combined with religion, victims of substance abuse quickly respond to treatment and are less likely to face re-lapse.

2.2. Key Factors Impeding Effective Control of Drug Problem

People and organizations involved in the illicit drug trade or movement have identified issues and challenges in the public economic subsystem. For example, the yearly dwindling of various industries and sectors as a result of uncertainties from national and global economic initiatives has been identified as a contributing factor to the illicit drugs market boom (Okpa & Ukwayi, 2017). One recent study discovered significant direct relationships between unemployment and drug trafficking, as well as between unemployment and illicit drug trade (Adeniyi, Eneji & Okpa, 2019). Adeniji, et al. (2019) found a strong correlation between drug trafficking and a lack of key entrepreneurial skills among the drug traffickers they studied. These macroeconomic and microeconomic indices provide enough evidence to suggest that it would be challenging for the security services to completely control and contain the drug trade because of the perpetrators' continued involvement due to their precarious economic situation. Whereas control and containment of substance abuse and sexual violence require strong social and political institutions. If social system is strong enough, there is tendency for the perpetrators of illicit drug trades and sexual violence of rethinking before involving in the activities of sabotaging collective well-being of the society. They would retard when political system is sophisticated enough and enhance effective initiation of policies and implementation of various programs and the initiated policies. The weak political system has over the years remains one of the core issues affecting criminal justice policies or programs implementation (Marsh & Wager, 2015; Chiazor, Ozoya, Udume & Egharevba, 2016; Letourneau, Schaeffer, Bradshaw & Feder, 2017; Seth & Srivastava, 2017).

Personnel from the National Drug Law Enforcement Agency and the Nigeria Customs Service have been noted as the primary security agencies that aid drug traffickers in their operations at the various Nigerian borders in numerous empirical studies (see Abuchi, Basse & Dauda, 2019; Dike, 2021). The Nigeria Police Force participates in activities to ensure the approval and recurrence of illicit drug trafficking within the country (Nnam, Owan, Idike, Ibiam, Agboti, Kanu & Okechukwu, 2020). This activity is consistent with Giommoni, Aziani & Berlusconi's (2017) assertion that the configuration of heroin supply to European countries from Africa is made possible by corruption, social challenges, and geographic proximity. Clarke (2016) previously stated that weak administrative structures, law enforcement, and customs significantly increase the success of illicit drug traffickers along many routes, particularly in countries where the informal economy is the dominant economic activity. Carey & Marak (2018) add to the discussion by stating that the use of kingpin strategy and interdiction for managing the free flow of illicit drugs has failed to deliver the desired results for governments and other stakeholders. The evidence that drug smugglers and state agencies collaborate because of the substantial profit that would accrue to them is the failure. According to the scholars, the elimination of cartel heads in some countries has significantly increased the number of illicit drug syndicates, and when the illicit drugs were seized, the personnel of state agencies found it difficult to destroy them due to their interest in the syndicates. When state agencies, on the other hand, use sophisticated approaches such as quick operations at border posts and automated responses, it usually results in severe violence at borders with multiple casualties (Carey & Marak, 2018). The study of Giommoni et al., (2021) notes state agencies use targeted and uncoordinated interventions at strategic locations to control and contain cocaine and heroin flow along various routes. Targeting countries based on their respective positions in the illicit drug flow network, according to Giommoni et al., (2021), disrupts drug flows. Interventions targeting specific trafficking routes, on the other hand, are expected to be effective when the network's actors are well-connected (Giommoni et al., 2021).

Given the nature of the growth or movement of illicit drugs, it is critical that the public, school, and family systems collaborate to address the constant changes in people, groups, and organizations' behavior that typically enhance the easy movement and abuse of the drugs. Controlling and containing substance abuse, sexual violence caused by illicit drug use, and managing victims of the two problems should be top priorities for all stakeholders in the three systems. The systems are interconnected to the point where when one system lacks necessary elements to function, it affects other systems. The review of existing literature reveals that the public system is multi-layered, which adds to its complexity for public and private managers interested in controlling and containing illicit drug flow, rapid sexual violence, and less attention to treatment and rehabilitation of victims (Zaami, Marinelli, & Var, 2020). It has subsystems that contribute directly or indirectly to its effectiveness or ineffectiveness. For instance, the security system, which is a part of the public system, needs to be strong in order to successfully apprehend drug pushers or traffickers, seize illicit drugs, convict offenders, and prosecute them. When the security agencies cooperate, from the police to the military and border patrol, it is possible to reduce the flow of illicit drugs. The National Agency for Food, Drugs and Administration

Control, Nigeria Customs Service, and the National Drug Law Enforcement Agency are solely in charge of organizing efforts to stop the flow of illegal drugs in Nigeria. However, in recent years, these agencies and others tasked with ensuring the complete containment of the illegal trade in criminalized drugs and sexual violence have given a variety of excuses for underperforming expected statutory functions. Several studies from scholars in the security have documented failures with the little successes of the agencies (Nelson, 2018; Olomu, Oladimeji & Adewunmi, 2019; Dike, 2021; Babajide & Opakunbi, 2022). Moving the drugs into the country and its successful cultivation of farmlands have been primarily linked with porous borders, political corruption and compromised security system (Olomu, et al., 2019; Babajide & Opakunbi, 2022). These are practically established issues within the institutional logics of the agencies, departments, and ministries saddled with the responsibility of controlling and managing the outcomes of actors' activities, which require structural analysis with consideration of how varied cultural elements shape the actors' and other stakeholders' involvement at the meso, micro, and macro levels. Aside from these challenges, inadequate equipment and a lack of robust intelligence gathering have been identified as additional factors contributing to the failures of the NDLEA, Nigeria Customs Service, and Nigeria Police Force (Olomu, et al., 2019). Nelson (2018) discovered, in particular, that police crackdowns on street cannabis users did not produce the desired results. According to the scholar's research, the approach only displaced cannabis markets rather than reducing the substance's use (Nelson, 2018). This is consistent with Olomu et al (2019) 's finding that intelligence agencies are understaffed. Expectedly, this study would provide alternative findings to the existing ones because of the quantum-like model approach, which has the tendency to reveal structural issues more than what previously used approaches have revealed.

2.3. Some Cultural Aspects of Drug Abuse in Nigeria

Since individuals are products of the society in which they live, which has specific cultural norms, values and practices, the examination of the key factors impeding effective control and management of the problem as well as the victims has shown that culture cannot be separated from how the abusers and people with the responsibility of controlling and/or managing the problem are behaving. This leads us to consider some cultural aspects of the problem in Nigeria, where Yoruba, Hausa and Ibo are the dominant ethnic groups. These groups and other minor ones differed culturally. This has largely explained how the people, most importantly, have abused various substances and are still abusing them (Owonikoko, Suleiman, Maibaka & Tasiu, 2021; Asekun, 2022). Apart from the culture of the dominant ethnic groups that has been extensively researched alongside the problem, scholars have also investigated the place of subculture, which is primarily copied from the West by the abusers (Anetor, 2019). The acceptance of foreign norms and practices of abusing illicit drugs is mainly described in the literature as being antithetical to local cultural elements that forbid engaging in the act (Owonikoko et al., 2021; Ugwu & Dumbili, 2022).

For instance, the three dominant ethnic groups have different types of folklore and fables capable of warning abusers and establishing personal and societal consequences before the encroachment of modernization. However, the level at which these have been used in recent times has diminished due to the increase in fighting for personal freedom and the easy creation and sustenance of subcultures discussed earlier. Nigerian society, being a society where social stigmatization and human rights abuse are on the rise every day, gives room for abusers' participation in some cases (Anetor, 2019; Ugwu & Dumbili, 2022). These patterns are explained by the cultural identity theory of drug abuse that guided the study. The theory warns society against ignoring the abusers' cultural needs.

3. Theoretical framework

According to existing research, individuals involved in the illegal drug trade and those who abuse substances do so in order to achieve certain benefits. This participation is largely driven by shortcomings in socioeconomic and political systems. The cultural identity theory of drug abuse, which serves as the basis for the current study, posits that an individual's engagement with socially and culturally constructed institutions, meanings, and symbols leads to drug abuse. The theory comprises of eight concepts, which aim to identify who is most susceptible to developing a drug abuse problem. The theory posits that individuals who are most likely to abuse drugs are those who experience severe personal and social marginalization, which exacerbates their discomfort with their own identity. These individuals also tend to have little power to create a fulfilling identity for themselves. They are more likely to live in areas with limited employment and educational opportunities and environments that foster the development of drug subcultures (Anderson, 1998).

The cultural identity theory of drug abuse is being used as the foundation for this study because it is a drug management theory that was developed through a thorough examination of various other theories, including problem behavior theory, the theory of reasoned action, social learning, social control, self-derogation, the integrated delinquency model, social development, and the theory of triadic influence. These theories share assumptions and propositions that align with managing drug problems (Anderson, 1998). This theory is considered appropriate for the current study because

it consolidates the key assumptions and propositions of the eight theories, specifically those that pertain to an individual's potential to adopt and commit to a specific identity in relation to drug abuse. Identity exploration can be triggered after one experience a lot of discrimination from social and institutional support systems (Gazis, Connor & Ho, 2010; Miller & Miller, 2022; Martell, 2022). Therefore, drug abusers are likely to engage in the act (abusing drugs), when it is clear to them that they would find comfort in their new subculture groups. This suggests that being employed and having family as well as community support are necessary in reducing problem of drug abuse and also rehabilitating the abusers.

In his further explanation of the theory, Anderson (1998) submits that the theory has three levels with the potential of identifying the relationship between individual and environmental factors that explain drug abuse and drug-related identity change towards improved prevention and treatment strategies formulation. The first level entails personal marginalization, ego identity discomfort and lost control in defining an identity. This level is more described as a micro-level with the submission that it resonates with the abusers more than macro-level, which proposes some higher constructs for understanding how abusers seek new identities in order to furthering their interest with the possibility of getting continuous desired benefits. As noted previously, when abusers feel being neglected by the family members, especially parents and guardians, they begin developing interest in associating with norms and values considered to be relevant to theirs. Theory further notes that a person is more likely to abuse drugs the more marginalizing experiences, characteristics, or statuses they possess. The theory further states that each one's salience or level of stigma also matters. For instance, youths with the parents and guardians of history of drug abuse and economic challenges are likely to be stigmatized and developed interest in abusing drugs when coping with the stigmas becomes difficult. As the theory proposed, lost control in defining an identity which states that abusers usually find ways of continuing the act when the stigmatization become inescapable and are struggling with who they are, and also act on that sense, in a way that has continuity and sameness. According to the theory, there are some experiences, statuses, and personality traits that are stigmatized more than others; consequently, the greater the stigma, the higher the risk of drug abuse in the long run (Anderson, 1998). In line with these theoretical positions, it is necessary to hypothetically ask thus:

Hypothesis 1: a) Perversity and unemployment significantly relate to the drug problem as associated with the immediate effects of family and local environment; and b) increases in poverty and unemployment increase the magnitude of the drug problem.

Situating this hypothesis within the theory suggests that people's desire to solve their personal and socioeconomic problems, which is often difficult when there are no social supports and/or cultural values are against them and a strong political environment, may lead to continued illicit drug abuse. The final hypotheses take into account constructs from the meso and macro levels of the theory. The meso level includes concepts such as social exclusion and association with a drug subculture, while the macro level looks at factors such as economic and educational opportunities, and the influence of broader cultural trends. The theory posits that social marginalization, like personal marginalization, occurs when individuals face economic and educational disadvantages. This can lead to a greater likelihood of identifying with a drug subculture, as people may turn to drugs as a result of limited economic opportunities stemming from a lack of education. (Anderson, 1998). They also participate in the act as a result of the level of popular cultural content to which they are exposed through the media. This, according to the theory, enhances the tendency of identifying with a drug subcultural group (Anderson, 1998). The theory maintains that social marginalization results negatively and directly from both economic and educational opportunities. It consequently accurately predicts affiliation with a drug subculture. As a result, it acts as a mediating variable between the micro and macro levels. Therefore, the study hypothetically asks thus;

Hypothesis 2: a) Public intervention and control have a mediation effect on direct relationship between the drug problem and unemployment; and b) increases in the control mechanisms decrease the level of the drug problem.

Hypothesis 3, a) There is a significant relationship between unemployment and the drug problem, wherein b) public intervention and control have a mediation effect on the direct relationship, such that when the control mechanism is high, the level of the drug problem is low.

These hypotheses take into account public institutions' efforts in terms of arrest, prosecution, treatment, and rehabilitation, as well as media and educational institutions' roles in eliminating the problem using their resources as part of macro indicators for revealing how the problem is managed in Nigeria by examining the interrelationships and interdependence that exist among stakeholders when confronted with the challenge of growing drug abuse subcultures.

4. Method

A review of existing literature and research has shown that drug abuse is a structural and systemic issue that affects the world as a whole. Previous studies in social sciences and management have paid relatively little attention to the use of quantum-like models and system dynamics. Therefore, it is important to apply these two methods in Nigeria in order to better understand the phenomenon of drug abuse and its consequences. The use of these methods in addressing complex issues in business, personal lives and society at large has been emphasized by a number of scholars, particularly those in the sciences and technology disciplines and more recently in the social sciences (see Coyle, 2001; Wendt, 2015; Der Derian & Wendt, 2020). Murphy (2022, p.1) who has written extensively on the need for a quantum-like model when dealing with social problems, highlights the importance of using these methods in managing complex situations thus:

By approaching structural violence as a quantum-like social phenomenon, homologous to the concept of destructive interference, we gain an important conceptual model. In instances of structural violence, entangled social wavefunctions of social structures interfere destructively with constituent individuals and groups by limiting the spectrum of future potentialities. Conversely, structural privilege describes the constructive interference of those same social structures extending the spectrum of future potentialities for other constituent individuals and groups. To account for multiple and intersecting elements of identity and social standing, intersectional accounts of structural violence recognize the complex interaction of constructive and destructive interferences at play in delimiting spectra of future potentialities.

Murphy (2022) further emphasizes that, similar to quantum revolution in physics, quantum like model is a powerful model for understanding social world which he describes as a quantum revolution with the capacity to explain social phenomena such as illicit drugs flow, its abuse and consequences in Nigeria. Aligning with Murphy's (2022) position, Der Derian & Wendt (2020) had earlier note that for the fact that people are living in a society that keeps becoming complex every day due to changes in human behavior, survival of any system depends on causal links between established nodes and edges [emphasis added]. Therefore, there is a need for constant rethink of how people and organizations behave in relation to existing challenges and/or needs towards making a central social system functional or not for everyone (Wendt, 2015). System dynamics as the second research method was considered on the basis that it combines qualitative and quantitative approaches of generating and analyzing data towards understanding roles of hidden variables in a complex system (Kunc, 2017). It also has the capacity to help stakeholders in thinking strategically about ways of improving their capacity to deal with the complexity of illicit drugs flow, its abuse and consequences in Nigeria (Brocklesby, 2016; Kunc, 2017).

Survey was the research method while data were gathered through questionnaire, which was developed in line with the identified variables in the literature and propositions of the theories that underpinned the study. Specifically, the methods of transporting illicit drugs, socioeconomic issues that enhance its effectiveness as well as control measures of the security agencies were measured. Copies of the questionnaire were distributed using online and physical approaches. The online approach entailed development of the questionnaire in Google Form and sent the link to people within the researcher's social network (family members, friends and colleagues). The physical approach was executed by printing hard copies of the questionnaire and distributed to people who did not have access to the online type. The physical distribution was carried by field data collectors trained by the researcher. A total of 563 citizens across the country participated in the study. In other words, the study used the pool sampling technique due to the non-availability of a comprehensive database of citizens, which should have helped in using one of the probability sampling procedures. Meanwhile, the majority of the participants were parents and guardians who had adequate knowledge about the problem. Suffice to note that the main goal of the study was to quantify the identified variables, without considering a qualitative research approach. The gathered data were analyzed using simple frequency count percentages and multiple regression analysis.

5. Results

The demographic data of the 563 respondents in this study shows that the majority (60%) are male. The largest age group is those between 31 and 40 years old (50.40%), followed by those between 21 and 30 years old. Regarding marital status, over 70% of respondents are married and 21% are unmarried. The majority of respondents (60%) have a first degree education, while 18% have a second degree. Of the respondents, 62.20% are employed, with 29.30% being self-employed, while 8.50% are unemployed. These findings have several implications. For example, the high level of education among the respondents suggests that they have a good understanding of drug problems. Additionally, their economic power as employed individuals may contribute to their understanding of the factors that contribute to the continued flow of illicit drugs across the country. The high percentage of married respondents suggests that their

responses regarding the role of family in managing and containing drug problems will be valid for drawing relevant conclusions.

Table 1 Demographics of the respondents

Characteristics		
Gender	N	%
Male	339	60.20
Female	224	39.80
Total	563	100
Age		
Less than 20	13	2.30
21-30	126	22.40
31-40	284	50.40
41-50	100	17.80
51-60	31	5.50
61 above	9	1.60
Total	563	100
Marital Status		
Single	123	21.80
Married	411	73.00
Divorced	18	3.20
Separated	11	2.00
Total	563	100
Education		
Primary school leaving certificate	6	1.10
Senior secondary school certificate	55	9.80
First degree	352	62.50
Second degree	105	18.70
PhD	45	8.00
Total	563	100

5.1. Model 1 Test Results: The Direct Effect

In testing Model 1, the analytical results firstly showed the *Direct Relationship* between the illicit drug problem (DV) and poverty and unemployment (IV). The results also showed there was a significant linear relationship between the drug problem and poverty (and underemployment). In the test, each measure (of IV, DV, and MV- mediating variables) had encompassed, at least, four aggregated relevant items, derived from the extant literature in the immediate research area. Second, individual isolation, depression, and other personal issues directly related to the drug problem, though the problem initially associated with family backgrounds and immediate social environment ($b = 0.199$, $e = 0.029$, $p < 0.001$). The findings support Hypothesis 1: *a) Perversity and unemployment significantly relate to the drug problem as associated with the immediate effects of family and local environment; and b) increases in poverty and unemployment increase the magnitude of the drug problem.*

5.2. Model 2 Test Results: The Mediation Effect

In testing Model 2, the analytical results showed the mediation effect of both public intervention and control mechanisms, while the researcher sought if they might create a mediation effect and hence drive the value-changes in the direct relationship. First, the results showed, although the public strategy and funds etc. applied, which, in effect, had no statistical significance for reducing the problem. Second, the mediation variable of agent, community, and religious associations significantly impacted the direct relationship, yet the drug problem did not decrease ($b = 0.142, e = 0.045, p < 0.002$). Third, the mediation variable of punishment impacted the direct relationship, but the effect was only marginally significant, signaling that the drug problem was lessened but was not significantly reduced ($b = 0.121, e = 0.073, p < 0.097$). Further, several variables, including individual isolation, depression, and other personal issues associated with the drug problem ($b = 0.199, e = 0.029, p < 0.001$), though the drug problem related to family background and local environment initially, and was the causal result of the independent variable of poverty and local environment. The findings support Hypothesis 2a but Hypothesis 2b is only partially supported. Hypothesis 2: a) *Public intervention and control have a mediation effect on direct relationship between the drug problem and unemployment; and b) increases in the control mechanisms decrease the level of the drug problem.*

Table 3 Results of Model and Hypotheses Test

	Model 1 (Direct effect)			Model 2 (Mediation effect)			Model 3 (Model total effect)		
	Beta	Std. Error	Sig.	Beta	Std. Error	Sig.	Beta	Std. Error	Sig.
(Constant)	3.438	(0.331)	0.001	3.817	(0.406)	0.001			
Corruption, media	0.165	(0.052)	0.002				0.102	(0.511)	0.473
Public system gaps	-0.079	(0.036)	0.029						
Curriculum inability	0.113	(0.046)	0.014				0.466	(0.455)	0.306
Isolation, depression	0.199	(0.029)	0.001				0.414	(0.434)	0.001
Poverty, unemployment	0.382	(0.048)	0.001	0.49	(0.035)	0.001	0.254	(0.034)	0.001
Intervention, juridical, political				0.045	(0.037)	0.217	0.045	(0.036)	0.217
Public fund, strategy				-0.024	(0.047)	0.618	-0.236	(0.473)	0.617
Religion, community				0.142	(0.045)	0.002			
Regulation, destruction				0.012	(0.072)	0.872	0.613	(0.095)	0.521
Persecution, control*punish				0.121	(0.073)	0.097	0.121	(0.728)	0.967
Personal							0.296	(0.042)	0.001
Social							0.752	(0.047)	0.001
Educational							0.358	(0.413)	0.001
Public intervention*control							0.204	(0.925)	0.277
F-value	191.43			106.65			106.65		
Adjusted R ²	0.632			0.530			0.535		
df	562			562			562		
Sig.	0.001			0.001			0.001		

Note: In the test each measure encompasses four aggregated categorical data variables (or items)

5.3. Model 3 Test Results: The Total Direct and Mediation Effect

In testing Model 3, the study sought total model effect, specifically, how public intervention and control, in effect, had reduced the drug problem. First, the results showed perversity and unemployment significantly related to the drug

problem ($b = 0.414, e = 0.434, p < 0.001$). Second, although the public strategy and funds etc. were in place, which, in effect, had no statistical significance for reducing the problem. Third, the mediation variables were also in place, but the effect of regulation, punishment were insignificant for reducing the drug problem ($b = 0.613, e = 0.095, p < 0.521$), and the effect of control and persecution were insignificant for reducing the drug problem ($b = 0.121, e = 0.728, p < 0.967$). The results only partially supported Hypothesis 3, a) *There is a significant relationship between unemployment and the drug problem, wherein b) public intervention and control have a mediation effect on the direct relationship, such that when the control mechanism is high, the level of the drug problem is low.*

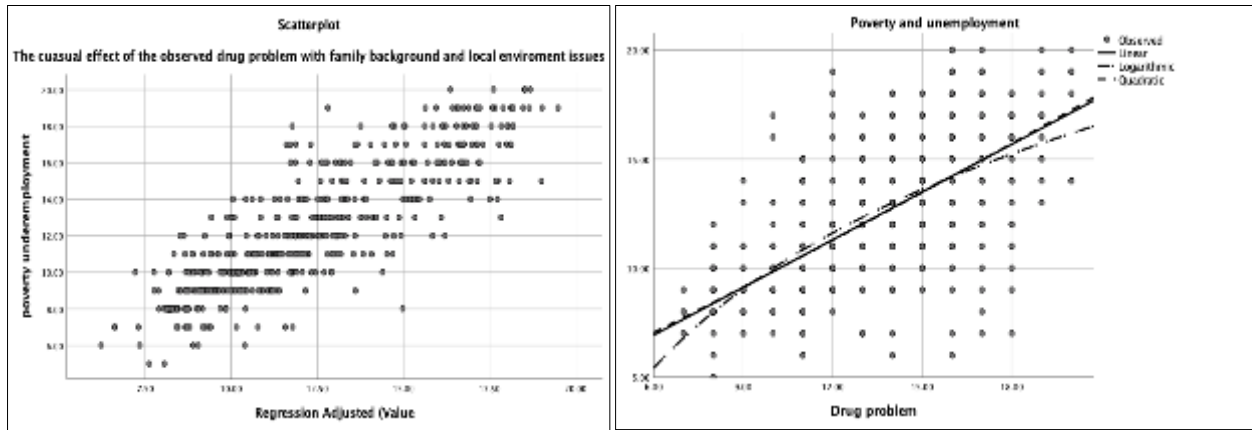


Figure 1 (a) Poverty and Unemployment with the Drug Problem Distribution, and (b) the Linear Distribution of the Drug Problem with Unemployment and Financial Issues

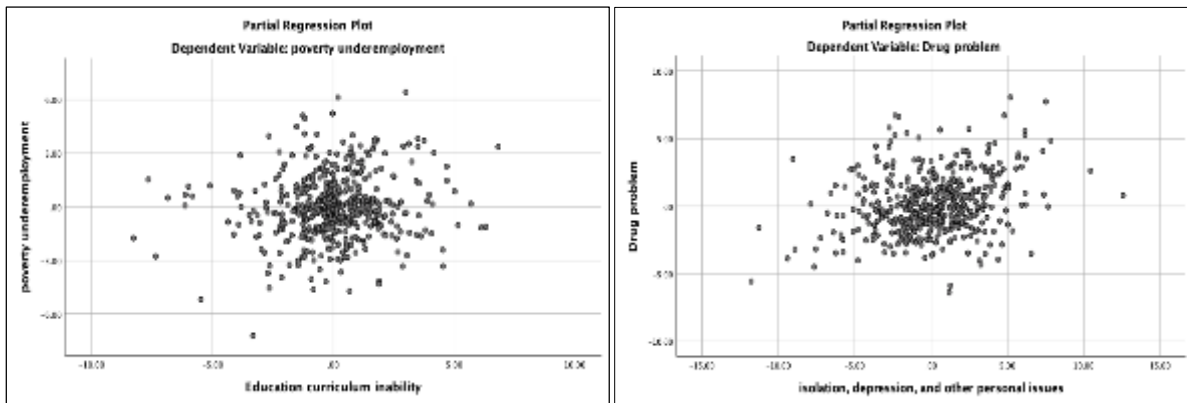


Figure 2 (a) Unemployment and Poverty Issues with Education Curriculum Inability, and (b) The distribution of Problem with Individual of Depression, Isolation and other Personal Issues

5.4. Robust Checks: The Linear Distributions of the Observed Problems

The study tested the probabilistic and slopes of distributions, based on bootstrap for 1000 sample computed. First, in using the adjusted Residual values of both DV and IV, the findings showed the plotted results, where financial and unemployment directly related to the drug problem (Fig. 2A), and the slopes of distributions show the relationship was in linear distribution (Fig. 1B). The drug problem ($b = 0.27, p < .001$) was at the 95.0% Confidence Interval for Lower Bound and Upper Bound CI [0.204, 0.337]. Second, the findings showed the plot results, where financial and unemployment rest on the issue in some education curriculum inability and the slope suggested that probability distribution was significant ($b = 0.11, p < .001$) and the significance was at the 95.0% Confidence Interval for Lower Bound and Upper Bound CI [0.023, 0.175], (Fig. 2A). And consequently, individual issues in depression, isolation significantly increased ($b = 0.28, p < .001$) and significance was at the 95.0% Confidence Interval for Lower Bound and Upper Bound CI [0.011, 0.183], while both the slope and density of scattered data could also suggest (Fig. 2B). The plotted results based on the robust checks were consistent with earlier findings, and lent further support to both Hypothesis 1 and Hypothesis 2.

6. Discussion

The study findings reveal that the traditional methods of control, regulation, persecution and security agencies crackdowns have not had a significant impact on reducing the drug problem. This result is consistent with previous research in the field. Studies such as Nelson (2018) and Olomu et al (2019) have also found that police crackdowns on street cannabis users have not produced the desired results. Also, several studies have documented how the weak political system has over the years remains one of the core issues affecting criminal justice policies or programs implementation (Marsh & Wager, 2015; Chiazor, Ozoya, Udume & Egharevba, 2016; Letourneau, Schaeffer, Bradshaw & Feder, 2017; Seth & Srivastava, 2017). The finding suggest that these approaches could not be relied on as the main methods for addressing drug problem in Nigeria. Therefore, other alternatives such as public health interventions, educational programs, and addressing the social and economic root causes of drug abuse should also be considered.

The study's results indicate a clear link between poverty, unemployment, and drug problem. The research conducted by Adeniji et al. (2019) supports this relationship by revealing a strong correlation between drug trafficking and a lack of entrepreneurial skills among those involved in the activity. This implies that addressing economic issues such as poverty and unemployment may be an effective way to combat drug trafficking. This outcome further reinforces the submission that concerned stakeholders need to address the problem beyond using legal and policy instruments specifically formulated for control and containment purposes. Instead, strategies and tactics that have the tendencies of addressing the souls of the participants in the illicit drug trading and abusing need to be developed and implemented rather than those that punish bodies absolutely. This submission is better understood from the findings of the study which establish association between various forms of personal and social marginalization identified in the cultural identity theory of drug abuse and drug problem in the country (Anderson, 1998; Rahaman, et al., 2016). The findings further substantiate some propositions of the theory that guided the study. For instant, the lack of adequate social inclusion and low economic opportunities which lead to increase mental health challenges and poverty the study establishes align with the theory. Despite the theory's caution over neglecting the cultural needs of the abusers, the study suggests that the three dominant ethnic groups are not using their different folklore and fables to their advantage.

7. Conclusion and recommendations

The findings discussed in this study establish a direct relationship between poverty, unemployment and drug problems. The correlation between drug trafficking and lack of entrepreneurial skills among drug traffickers and abusers further reinforces the need for a shift in focus from control and containment strategies to addressing the root causes of drug abuse, such as poverty and unemployment. The cultural identity theory of drug abuse also highlights the importance of addressing personal and social marginalization in tackling drug problems. These are the key contributions to the existing knowledge and further substantiation of the place of the cultural identity theory of drug abuse in managing the problem in Nigeria.

The Nigerian government at all levels needs to implement programs and policies that address poverty in a holistic way as a means to reduce drug problems. A coordinated framework that considers each ethnic group's cultural differences is imperative for sustainable poverty eradication programs and policies. The programs and policies that only addressed the medium- and short-term effects of the problem need to be replaced with supportive entrepreneurial skills development among individuals who are at risk of getting involved in drug trafficking. Control and management agencies need to revisit their strategies and tactics in line with the results of this study by developing and implementing strategies that focus on addressing the underlying personal and social issues that lead to drug abuse rather than just punishing individuals for drug offenses. In order to effectively reintegrate the victims into society, community-based rehabilitation programs that focus on addressing the underlying personal and social issues that lead to drug abuse must be pursued vigorously. These managerial and policy recommendations require effective collaboration between the government, private sector and civil society to address drug problems with a holistic approach because drug abuse is a structural problem.

Compliance with ethical standards

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Disclosure of conflict of interest

I declare that I have no conflict interest related to this work

Statement of informed consent

The research was conducted with a full compliance of research ethics norms. Informed consent was obtained from all individual participants included in the study.

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