

**MOTIVATIONAL ENHANCEMENT THERAPY AND CANNABIS USE  
AMONG UNDERGRADUATES IN PRIVATE UNIVERSITIES IN  
SOUTHWESTERN, NIGERIA**

**BY**

**OLUWAFIKAYOMI OPEYEMI BANJO**

**Diploma, B.Ed., M.Ed. (Ibadan)**

**Matric No: 96907**

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**CERTIFICATION**

I certify that this study was carried out by Oluwafikayomi Opeyemi BANJO (Matric No: 96907) in the Department of Adult Education, University of Ibadan

---

**Supervisor**  
**K.O. Kester,**  
**B.ED., M.ED. Ph.D (Ibadan)**  
**Professor of Industrial Education and Training**  
**Department of Adult Education**  
**University of Ibadan, Nigeria**

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## **DEDICATION**

This thesis is dedicated to the Almighty God, my sustainer and redeemer, who has been my help in ages past and makes all things beautiful in His time and to my parents Elder Sunday Adetunji and Mrs Julianah Olusola Afolabi, both gave life to me and nurtured me to become who I am today by the grace of the Almighty God.

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## ABSTRACT

The abuse of cannabis among undergraduates comes with adverse health and psychosocial consequences on the adolescents and the society at large. Previous studies have focused largely on its predisposing factors and the general treatment of its associated depression and disorder symptoms with little emphasis on how to encourage abstinence among undergraduates. This study, therefore, was designed to determine the effect of Motivational Enhancement Therapy (MET) as well as the moderating effects of gender and age at on-set on cannabis use among undergraduates in private universities in southwestern Nigeria.

The study was anchored to the Domain Model and Social Cognitive Theory, while the mixed method of survey and pretest-posttest, control group quasi experimental design of 2x2x2 factorial matrix was adopted. Two private universities (Babcock and Adeleke) in the Southwest, Nigeria that conduct drug screening for students were purposively selected and randomly assigned to MET (Babcock- 25) and control (Adeleke-15). Treatment lasted for eight weeks. Clinical drug screening kit, Adolescent Cannabis Problem Questionnaire (CPQ-A) ( $r=0.73$ ), MET guides and non-participant observation (for four weeks) were used for data collection. Data were analysed using, descriptive statistics, Analysis of covariance and content analysis at 0.05 level of significance.

Participants were mostly male (75.0%) with mean age of  $20 \pm 2.8$  years. Participants' mean age at on-set for cannabis use was  $17 \pm 2.7$  years. Treatment had a significant main effect on cannabis use among undergraduates ( $F_{(1; 39)}=23.45$ , partial  $\eta^2=0.45$ ). Participants in MET had a higher post-treatment mean score (63.123) than those in control group (58.41). Gender had a significant main effect on cannabis use ( $F_{(1; 38)}=10.790$ , partial  $\eta^2=0.27$ ), while age at on-set had none. Male participants had a higher post-treatment mean score (62.73) than female (59.74). The two-way and three-way interaction effects were not significant. Some of the participants made informed decisions of quitting cannabis use completely and others hinged their temporal abstinence on the fear of the consequences of being reprimanded.

Motivational enhancement therapy was effective in bolstering internally motivated cannabis abstinence among undergraduates in selected private universities in southwestern, Nigeria. The intervention should, therefore, be incorporated as part of the universities' drug rehabilitation policy to encourage drug abstinence among students who are challenged with drug use, particularly the female students regardless of their age at commencement of cannabis usage.

**Keywords:** Cannabis abuse in universities, Adolescent drug use, Nigerian private universities, Motivational enhancement therapy

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## LIST OF ACRONYMS

WHO	-	World Health Organisation
MET	-	Motivational Enhancement Therapy
MI	-	Motivational Interviewing
NDLEA	-	National Drug Law Enforcement Agency
UNODC	-	United Nations Office on Drug and Crime
SAMHSA	-	Substance Abuse and Mental Health Services Administration
EMCDDA	-	European Monitoring Centre for Drugs and Drugs Addiction
JAMB	-	Joint Admission and Matriculation Board
OAS	-	Office of Applied Statistics
OED	-	Observatorio Español sobre Drogas

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## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background to the study**

Social difficulties linked with the growth starting from adolescence to adulthood particularly those related to drug use are many and multifaceted. The abuse and use of drugs have intensely increased globally, predominantly in developing nations (Reddy, Rensnicow, Omardien and Kambaran, 2007; Deressa, 2011; Babalola, Ogunwale and Akinhanmi, 2013). Literatures had revealed that drug usage is widespread amongst university students and is becoming progressively prevalent in several African nations (Makanjuola, Daramola and Obembe 2007). Majority of sub-Saharan Africa countries are undergoing swift societal, cultural and economic changes that had produced encouraging environment for improved and socially disrupting drug use (Tesfaye, Derese and Hambisa, 2014).

There has remained a stable upsurge in regular incidence of drug usage and the aforementioned related significances in the past thirty years (Ihezue, 1988; Dewing, Pluddermann, Myers and Parry, 2006; Oshodi, Aina and Onajole, 2010). A number of literatures have discovered that adolescents as well as young adults stand sullyng their lives over illegal drug use (Degenhardt, Chiu, Sampson, Kessler and Anthony, 2008; Fareo, 2012). An assessment of other emerging nations shows that Nigeria is rated amongst the highest consumers of illicit drugs which include tobacco, cannabis, benzodiazepines, cocaine and opioids (Ihezue, 1988). In Nigeria, a significant fraction of the country financial quota for health is utilised for treatment, recuperation and reintegration of adolescents and young people having drug use challenges (Adelekan, 1996). This increasing vulnerability of adolescence to drug usage has been associated with the belief that drugs lead toward tension reduction, stress elimination, a sense of power and enhanced self-esteem (Ashford and LeCroy, 2010). The disturbing substantiation in the occurrence of drug misuse, the impacts besides repercussions of drug misuse amongst undergraduates has raised an alarm for anxiety as well as dare every human service jobs/occupations to create approaches and methods of providing youths with expertise of living without the usage and misuse of drugs.

Presently in Nigeria, effect of drug misuse is life-threatening, including severe and protracted health, which includes social and psychological problems. It also involves interference of interpersonal relationships, mostly in the family, relegation, criminal behaviour, low academic performance, career problems and inability to accomplish average teenage landmarks. However, these young people remain anticipated towards being the frontrunners of this nation in the yet to come in which the young people don't even need

some motivation in lieu of the yet to come. Jessor and Jessor (1987) claim that delinquent behaviour, like drug usage, has been connected with youths' effort to affirm self-freedom in addition to becoming more grown-up.

Drug abuse and chemical dependency among young people have been a social problem and remains toward being some of the greatest noteworthy medicinal, societal plus financial challenges disrupting manhood (Obianwu, 2005). Globally, 3.0% of the world's population, that is 185 million people, are described to have used at most one illegal drug or the other the previous year (World Drug Report, 2004). A drug denotes a substance that might bring practically an alteration in genetic make-up over organic reactions (Okoye, 2001). A drug could furthermore been seen as a material that alters awareness, intellect, temperament, conduct as well as overall physique roles (Balogun, 2006). They might, therefore, remain seen for example, biochemical changers of the bodily nerves which might result into physiological and developmental variations (Nnachi, 2007).

Drug addiction remains the foremost communal well-being challenge everywhere in the universe. World Health Organisation (2015) describes drug reliance as the "injurious" or dangerous usage of psychoactive materials, comprising both illegal medications in addition to alcohol. The usages as well as abuse of medications by youths have grown into some of the furthestmost alarming medical -associated problems now in this country and some other climes. National Agency for Food Drug Administration and Control (NDLEA) (2000), as cited by Halandu (2003) and Fareo (2012) viewed the word abuse of drug by way of extreme as well as insistent self-usage of one medication lacking respect to the therapeutically otherwise socially conventional designs. Abuse of drug may possibly remain regarded by way of the usage of one medication just before required level which might hinders well-being in addition to societal role of a person. World Book Encyclopaedia (2004) defines abuse of drug as the lack of prescribed usage of any medication which impedes the health and productivity of life. It is also extreme, poor adaptation or habitual usage of medications that is not intended for medicinal use (Manbe, 2008). It might similarly be seen to be the usage of drugs to the degree which affects the well-being and societal role of a person. It may also be viewed in place of random addiction otherwise misuse of a specific medication either through or lacking a previous therapeutic finding as of trained medical physicians. In essence, is unlawful overdose of drugs (Abdulahi, 2009).

The menace of drug abuse is severe and has been examined among selected groups without boundaries or social class globally and in Nigeria (Odejide, 1979; Ogunremi and Rotimi, 1979; Agunlana, 1999; Ubom, 2004; Obiamaka, 2004; Okorodudu and Okorodudu,

2004). It hinders the growth of every society because it's hazardous to life, wellbeing, self-worth and success of all persons. Adolescents are tarnishing their lives over the abuse of drugs (Fareo, 2012; Imam, 2004). Nigeria, the greatest populated nation in Africa stands the greatest one-year frequency level of cannabis usage (14.3%) in the continent also positions 3rd by means of esteem in the direction of a year dominance degrees of cocaine (0.7%) besides heroin usage (0.7%)(World Drug Report, 2011).

Drug abuse has been a critical issue amongst undergraduates. Abuse of drug and alcohol has remained widely recognised as being problematic on university campuses (Dejong, Larimer, Wood and Hartman, 2009). It has been seen that, in several tertiary establishments in the country, there have remained continuous undergraduate unrest, riot, crime and cultism, several of that remained straight or circuitously connected with misuse of drugs (Aluede, Jimoh, Agwinede and Omoregie, 2005; Yusuf, 2010). Gureje, Degenhardt, Olley, Uwakwe, Udofia, Wakil, Adeyemi, Bohnert and Anthony (2007) have shown the general use and misuse of drugs within lifespan sizes of drug usage as: alcohol (58%), tobacco (17%), tranquillizers (14%), stimulants (2.4%) as well as cannabis (3%).

The biggest percentage of youthful populace of this country is students (Okafor, 2011). Adolescence is considered as per the era in the middle of childhood and initial adulthood; and most undergraduates fall into this category. Adolescence is an era of crisis, struggle for uniqueness and yearning for trial. The aforementioned is likewise a time at what time parent supervision appears not toward being sufficient besides, the influence of friends remains all that matter utmost (Oshodi, Aina and Onajole, 2010).

University life is a period when undergraduates undergo freedom in addition to liberty on or after straight grown-up as well as kinfolk's control, personal choice making, besides strong educational stresses. They also share hostels with unknown others, establish fresh societal sets, equalise communal activities using academic as well as further lifespan duties, also may be open toward standard principles valued via the adolescence philosophy which is different on or after parent principles (Joseph, 2003; Makanjuola, Daramola and Obembe, 2007; Deressa and Azazh, 2011; Steyl and Philips, 2011; Gebreslassie, Feleke and Melese, 2013; Tesfaye, Deres and Hambisa, 2014). These perceived norms inspire the adolescence to cosset in harmful conducts, for example drug usage as well as alcohol (Deressa and Azazh, 2011; Steyl and Philips, 2011). Undergraduates create the shift after the controlled lifetime supervised through parentages toward an additional self-managed lifetime inclined through the college setting (Olley, 2008). Therefore, the menace of material usage remains very high in college settings (Makanjuola, Abiodun and Sajo, 2014).

Abuse of drug remains a big communal well-being delinquent everywhere in the universe (UNODC, 2005). The abuse as well as use of medications by youths has developed into some of the utmost alarming menace of medical-related problems in the country and everywhere globally (NDLEA, 1997). Majority of undergraduates in universities in this nation are customarily in the ages of 14-25 years old. Adolescence remains the period where discovery, examination, inquisitiveness in addition to individuality quest. Such expedition pursuit comprises specific adventuresome, comprising usage and misuse of psychoactive materials that are the medications that majorly impacts the brain causing torpor, spur or alteration in the disposition of a person. Youths are also confronted by the enormous charge at forming a sagacity of distinctiveness. The fresh mental abilities of growing teenagers provide the capacity toward mirroring at their uniqueness in addition to whatever creates their exceptionality. Selfhood consists of two categories- personal-notion and personal-regard (American Psychological Association, 2002). It remains normal for adolescents in universities to make new friends and develop autonomy but the reality of fresh relational, educational and communal imposition as well as beliefs might lead to the destructive use of drug (Schlumberg, 2002). Drug abuse may be seen to facilitate the transition to university, giving a feeling of maturity or a way of coping with university's stress (Larimer, Kilmer and Lee, 2005).

Johnson, O'Malley, Bachman and Schulenberg (2004) say drug usage and mis-use amongst undergraduates have the following prevalence pattern: alcohol (84.7%), cannabis (32.8%) and cocaine (6%). This shows that, apart from alcohol, which most people see as "reasonably normal," cannabis (marijuana) seems to be the greatest universally mis-used drug by adolescents (United Nations on Drug and Crime (UNODC, 2011). Abuse of drug on one occasion got to prevalent magnitudes amongst students (Abudu, 2008) and cannabis remains the greatest commonly consumed illegitimate drug globally (UNODC, 2014). The usage of cannabis by adolescents remains a call for concern, with approximately 80% of them consuming cannabis before reaching the age of 21 years (Fergusson and Boden, 2008); nonetheless, most of the problematic usage of cannabis is probable to be limited to 10-15% of the youth populace that consume cannabis on a substantial as well as addictive manner (Patton, Coffey, Carlin, Degenhardt, Lynskey and Hall, 2002).

Cannabis have been steadily revealed as the greatest frequently consumed illegal drug among different populations round the world, mainly among young people (European Monitoring Centre for Drugs and Drug Addiction, 2004; Substance Abuse and Mental Health Services Administration, 2005). Usage and abuse of drugs, particularly cannabis, give solid



charm for adolescents that are just starting their strive in lieu of freedom in place of the quest intended for selfhood, inborn inquisitiveness as well as longing in place of fresh independence, which make them predominantly vulnerable towards the 'drug knowledge'

In Nigeria, there are those who posit that alcohol is most widely used amongst the undergraduates (Adewuya, 2005), while others strongly defer to that cannabis remains widely distributed the greatest generally consumed unlawful drug by way of usage of 4% equated to 1% of entirely additional mis use of drugs joined (Obianwu, 2005). While alcohol may be the widely used, cannabis remains the drug majorly frequently abused amidst most university students in Nigeria (Oshikoya and Alli, 2006). This is because it is cheap and readily obtainable, ranging from ₦20-₦100 per wrap. The occurrence of cannabis usage disorders (CUD) amongst a section of 100level university undergraduates stayed projected to remain 9%, one out of ten received freshmen were measured, by medical explanation, of having at least one cannabis usage disorder leading to attention complications (40.1%), frequently placing selves at jeopardy (24.3%), driving after usage (18.6%) as well as sleeping too long, thus exhibiting truancy (14%) (Caldeira, Arria, O'Grady, Vincent and Wish, 2008).

Besides, Adams, Berzonsky and Keating (2006) posit that colleges offer an institutionalised suspension where youths could reflect and try-out through several parts as well as choices in their struggles toward creating a steady as well as logical state of selfhood. Nigerian universities are faced with the peculiar situation of having mid to late adolescents, who are prone to experimentation on different university campuses. This is due to the minimum age requirement of 16 years for admission to the nation's universities (Joint Admissions and Matriculation Board Brochure, 2006/2007).

Nevertheless, cannabis (marijuana) seems to remain the main universally mis-used drug amongst adolescents (UNODC, 2011). Cannabis remain available at all places throughout Nigerian cities, motor parks, local street shops, joints and corners within university grounds, incomplete houses and underneath bridges. An investigation of a street in Benin City (Ring Road), Lagos (Ajegunle), Abuja (Mabushi), Onitsha under bridge showed an amazing number of young adults tangled with the consumption of cannabis as well as additional drugs (Abudu 2008; Oshodi, Aina and Onajole, 2010). Abuse of cannabis and other drugs is a significant factor causing the disruption of family life, crime, violence and other social ills (Obianwu, 2005). Cannabis abuse has been linked to low educational achievement and college drop-out (Williams, Davies, Jonhson and Williams, 2007). There is a linkage between cannabis abuse, risky sexual behaviours and cultism on university campuses (Akinade, 2001; Izugbara, 2005; Popoola and Alao, 2006). The regular use of

cannabis by undergraduates is a reason for alarm, as intoxication significantly changes thinking and impede learning. General practitioner as well as those that labour with kids also teenagers approve the usage of cannabis is detrimental in addition may hinder psychological then perhaps physical development (Obarisiagbon 1999, Petersen, 2009).

Studies also have shown that heavy cannabis use among adolescents or young adults could lead to complications starting with retention and thoughtfulness due to brain activities (Kelvin, Meschan, Trim and Chassin, 2006) and school drop-out (Monti, Miranda, Nixon, Sher, Swartzwelder, Tapert, White and Crews, 2005). Patton, Degenhardt, Lynskey, Hall, and Wayne (2002) claim consistent cannabis usage remains linked by a bigger danger of uneasiness as well as despair among undergraduates. Gordon, Conley and Gordon (2013) describe connection atwix intake of cannabis in addition to bigger danger of contamination linked through change in body resistant reaction. There might be link with the incidence of cardiovascular and respiratory complications with cannabis usage. Cannabis use is also connected with lung infection, infection of the large airways, and enlarged airway resistance. Regular cannabis users are likely prone toward recounting signs of prolonged lung infections than those who don't consume cannabis (Tashkin, 2013; Volkow, Baler, Compton, and Weiss, 2014). Moreover, cannabis use has been linked with vascular disorders that might cause stroke, myocardial infarction and transient ischaemic spasms during cannabis inebriation (Thomas, Kloner and Rezkalla, 2014). Dougherty, Mathias, Dawes, Furr, Charles, Liguori and Acheson (2013) highlight some problematic effects of cannabis use, such as damage of short-range memory, which continues even after non-use for six weeks and happens in a smaller period of usage in the adult life; and greater tendency for impulsivity in adolescents. The same effect on memory which occurs in both casual and frequent users was found by Crane, Schuster, Fusar-Poli and Gonzalez (2013).

Cannabis use among undergraduates has numerous effects on the various facets of life which equally are short-term and long-standing effects, and may possibly disturb the growth and lifespan in adulthood. Although cannabis abuse among youths has existed for decades, studies in Nigeria show that undergraduates are found to make up the great possibility assembly for cannabis abuse (Odejide and Olatuwura, 1977; NDLEA 1991, 1992; 1996; NDLEA/UNDCP, 1999; Odejide, 2000). The encumbrance of usage and result of cannabis as well as further psychoactive materials among adolescents is supposing a hazardous proportion (Pela, 1989; Eneh and Stanley, 2004). Odejide (2000) warns those users of cannabis and other drugs who show signs of anxiety, dejection, stress, behaviour alterations, exhaustion in addition to defeat otherwise growth of craving must be managed through

therapeutic professionals as well as counsellors toward protecting cannabis users undergoing fatal maladies. The disturbing substantiation about the regularity of usage of cannabis as well as mis-usage, besides the outcomes and magnitudes of cannabis usage amongst undergraduates are a great concern to all human services professions with respect in mounting approaches of preparing undergraduates with abilities of living without drug abuse, especially cannabis use.

Therefore, addressing the problem of cannabis abuse and use amongst undergraduates in the university setting, demands some speciality and uniqueness of “high quality and effective treatment” approaches that may be different from those used with other drug abuse populations or adolescents in general. This is because scholars have established that cannabis usage as well as usage of additional illegitimate drugs commonly peaks at teenagers and early adolescents, and then drops in advanced years (Dierker, Stolar, Lloyd-Richardson, Tiffany, Flay, Collins, Nichter, Nichter, Bailey and Clayton, 2008). In addition, cannabis use is assumed to be predominantly restricted to public universities, which are seen as “the commoner schools”.

The private universities, prior to now, are viewed as “elite school”. Therefore the undergraduates in such schools are taken to be perfectly morally upright and above board compared to their contemporaries in the public universities. Anecdotal evidence has indicated that the moral decadency with respect to cannabis use seems to be of equal proportion, if not even higher than what exists in public universities. This is because most private universities take a step further by doing drug screening for their students. Cannabis use among young people, particularly undergraduates in Nigerian private universities, remains a major concern for parents, government, society at large and the emphasis of on-going research, predominantly concerning its effect on cognitive growth, which lingers into a person’s early twenties. Cleveland, Harris, Baker, Herbert and Dean (2007) are of the opinion that undergraduates who are involved with cannabis use and abuse cannot successfully graduate from the university owing to the effect of the abuse; thus, they are unlikely to be gainfully employed. It is therefore imperative that Nigerian universities, particularly private universities embrace interventions that will aim at risk reduction and focus at treatment and possible rehabilitation.

Understanding some of the causes linked with the commencement of use of cannabis is vital for the progress of abstinence programmes targeted at adolescents. Onset age of abuse as well as sex has been extensively depicted as being connected to cannabis abuse treatment (Aiten, DeSantis, Harford & Cases, 2000; Kosterman, Hawkins, Guo, Catalano and Abbott,

2000; Poikolainen, Tuulio-Henriksson, alto-Setala, Marttunen, Anttila and Lonnqvist, 2001; von Sydow, Lieb, Pfister, Hofler and Wittchen, 2002). For cannabis usage specifically, little empirical research examining sex differences are available (Becker and Hu, 2008). Whereas males have a tendency to start using cannabis at a earlier age and in larger quantities, studies have established that, amongst set of challenging users, females are likely to use cannabis for less years before going in for treatment. This suggests that females experience a more speedy progress or a “telescoping” effect in progress of cannabis addiction (Hernandez- Avila, Rounsaville and Kransler, 2004).

The degree of cannabis use and its concomitant repercussions plainly show a public health challenge that necessitates methodical effort dedicated on intervention and prevention. Some studied have identified pharmacologic as well as psychological and social mediations for cannabis usage maladies. Behaviourally-based preventive programs produce substantial constructive outcomes on restraint besides decreases cannabis usage amongst youths. Behavioural managements, including Motivational Enhancement Therapy (MET), Cognitive-Behavioural Therapy (CBT), as well as Contingency Management (CM), including Family-Based Treatments in addition Community Approach were judiciously assessed. They revealed assurance in the management of cannabis misuse as well as addiction. An experimental sample of behavioural management for adolescent drug abuse concentrated on cannabis usage (Dennis, Godley, Diamond, Tims, Babor, Donaldson, Liddle, Titus, Kaminer, Webb, Hamilton and Funk, 2004). Five management models were experimented in a multisite research which comprises MET-CBT5, MET-CBT12, MET- CBT12 plus family-based support, communal strengthening and multidimensional family treatment (MDFT) (Liddle, Rowe, Dakof, Henderson and Greenbaum, 2001). Even though results were encouraging likened with previous treatment researches, two-thirds of the youth constantly experience substantial drug-related indications, signifying that youth managements could be enhanced in addition to new management prototypes that might be discovered (Compton and Pringle, 2004).

The family intermediations employ communal systems (parentages, educational systems, the legal structure, and further public organizations) to enable alteration as well as recognise problematic parts. MDFT similarly could discourse not well adaptive kinfolk configurations (for example, parental drug usage, parental-kid interactions, parental control, household guidelines and so on). Though it hasn't been evidently buttressed by the experiential literature, family methods may yield more effective and long-term results than those lacking family participation. A comparative constraint of contingence management is

the readiness of funds for serving as reinforcers, that is, serving as encouragements for not consuming cannabis (Kirby, Benishek, Dugosh and Kerwin, 2006; Ritter and Cameron, 2007).

To discourse motivational blockades variation, motivational enhancement techniques was produced as well as verified. Motivational Enhancement Therapy (MET) remains a methodical system of intermediation aimed at creating swift, internally inspired transformation. It doesn't try to cure the individual, but somewhat mobilise his/her own inner desires for transformation and commitment to treatment. The Motivational Enhancement Therapy centred on the motivational interviewing principle and method, discourses uncertainty almost stopping as well as try to find reinforcing impetus towards transformation (Miller and Rollnick, 2002). It is an improvement of the Trans theoretical ideal of alteration (TMC) (Prochaska, Di Clemente and Norcross, 1992), aimed at supporting counselees develop responsibility and influence behavioural change; similar to approaches like counsellee-centred therapy, cognitive treatment, systems concept, in addition to social psychology of persuasion (Miller and Rollnick, 2002). Motivational enhancement therapy (MET) remains a method which inspires changes in the use of psychoactive substances (Miller & Rollnick, 1991; 2002).

Motivational Interviewing (MI) aims at enhancing an individual's impulse to alter challenging behaviour by discovering and deciding his/her doubt about alteration which needs definite clinical preparation (Miller and Rollnick, 2002). Also, MI remains widely used in managing psychoactive material dependence difficulties. It was initially established in the 1980's in answer towards apprehensions around the indigenous challenging method used in dependence management. In difference about the indigenous method, MI assumes that users have "intrinsic motivation" to transformation (that is, they need their comportment to be changed). The aim of MI stands in enabling movement in the direction causing alteration and to be obligated to it (Miller and Rollnick, 2002).

Psychotherapists employ a non-challenging attentive method of counselling in assisting individual in the direction of obligation to and act towards change. Motivational enhancement therapy is carried out in 45–60 minute individual/group sessions, and might comprise 1 to 7 sessions. It is a counselling method that aids clients/users in resolving their uncertainty about seeking for treatment and abstaining from drug use. It targets at arousing quick and internally inspired transformation, somewhat than guiding the client/user step by step in the recovery progression. It comprises of a preliminary appraisal battery period, trailed using four to seven management periods by a counsellor. At the initial management

period, the psychotherapist/counsellor gives response on the preliminary appraisal, encouraging conversation about individual use of drugs and provoking self-inspirational testimonials. Motivational interviewing ideologies are employed in reinforcing inspiration as well as construct a strategy intended for transformation. Managing plans aimed at great hazard conditions remain recommended besides deliberation with the counsellee/user. Following consequent periods, the psychotherapist/counsellor observes variation, assesses the conclusion methods that is employed, in addition to staying by boosting obligation by alteration otherwise deliberately refraining from drug use.

From the description given of MET, it may possibly be carefully said to be a “decent suitable” for youths that are, otherwise have vulnerable, of drug usage difficulties, particularly cannabis (O’leary, Tevyaw and Monti, 2004). MET comprise: strategic manifestation of compassion, consideration, upshotting, assertion, and strengthening of self-worth, examination of the positives as well as negatives about drug usage, progressing using opposition, as well as building an objective strategy once equipped. However as effective as MET has been in reducing cannabis usage among adolescents in most other chimes, the therapy has been rarely adopted in treating cannabis reduction among young adults, particularly undergraduates in Nigeria who are known for high rate of experimentation with drugs. Besides, most previous studies have been largely on the general treatment of depression or malady signs connected to cannabis usage amongst undergraduates, using little emphasis on treatment to encourage abstinence particularly among early users. Early intervention during the transition year is better because cannabis involvement is highest in freshmen and then declines with each year passing (Dierker, et al, 2008). Therefore, this study is a contribution to finding solutions to the menace of cannabis usage among undergraduates in Nigerian universities.

## **1.2 Statement of the problem**

Cannabis remains a furthestmost commonly consumed illegal drug universally and its widespread of abuse among undergraduates is seemingly higher due to the reality of fresh relational, educational and communal requirements as well as anticipations. They take this to facilitate their easy transition to the university system with a feeling of maturity and autonomy as well as developing coping strategies for associated stress within the university. However, undergraduates who use cannabis are at greater danger of unfavourable well-being besides psychological and social penalties, comprising sexual intercourse communicated



diseases, early gestation, premature college failure, criminal behaviour, legal complications, violence, low cognitive abilities, lowered educational and occupational aspirations and failure to achieve normal adolescent milestones. This disturbing substantiation in the frequency of substance abuse, especially cannabis use, among undergraduates requires all human services professions to develop approaches of training youths and adolescents with abilities of living without the use and abuse of drug.

Given these attendant socio-educational and health consequences associated with cannabis usage among undergraduates, the problem of cannabis usage has been a major concern to all stakeholders. Presently, greater numbers of Nigerian youths and adolescents are drug addicts, however the country steadily moves through the position of a drug-using country to that of one that cultivates drugs. Adolescents from wealthy homes are progressively more associating with the “big boys” who practise the use of drugs for example, cannabis, heroin and cocaine (Staff, 2012). Also, it is sad that cannabis is frequently grown and produced in Nigeria, which makes it easily available for sale to students. The salient issue has always been how cannabis usage on university campuses among undergraduates can be curtailed. Previous studies have focused largely on its predisposing factors and general treatment of its associated depressions and disorder symptoms, with little or no emphasis at all on the treatment to encourage abstinence among early users in the university system. Also, the literature has shown that behavioural therapies such as MET, have been used to treat other substance addiction among adolescents generally but with little consideration for its use in the early management of cannabis usage amongst undergraduates who are known for high rates of drug experimentation.

This study remained, therefore, aimed to observe the effect of Motivational Enhancement Therapy (MET) on cannabis abstinence amongst undergraduates in two private universities in southwestern Nigeria. The moderating effects of gender as well as age at onset were also determined.

### **1.3 Objectives of the Study**

The key objective in the research was to examine effect of Motivational Enhancement Therapy (MET) on abstinence from cannabis usage amongst undergraduates in private universities in Southwestern Nigeria. The definite goals were to:

- (i) determine the effects of treatments on cannabis abstinence among the undergraduates; and

- (ii) ascertain the effects of gender and age at onset on cannabis abstinence among the undergraduates.

#### **1.4 Hypotheses for the research**

The subsequent null hypotheses were raised for this study at 0.05 level of significance.

- H0<sub>1</sub>: There is no significant main effect of treatment on cannabis abstinence among the undergraduates.
- H0<sub>2</sub>: There is no significant main effect of gender on cannabis abstinence among the undergraduates.
- H0<sub>3</sub>: There is no significant main effect of age at onset on cannabis abstinence among the undergraduates.
- H0<sub>4</sub>: There is no significant two-way interaction effect of treatment and gender on cannabis abstinence among the undergraduates.
- H0<sub>5</sub>: There is no significant two-way interaction effect of treatment and age on cannabis abstinence among the undergraduates.
- H0<sub>6</sub>: There is no significant two-way interaction effect of gender and age at onset among the undergraduates.
- H0<sub>7</sub>: There is no significant three-way interaction effect of treatment, gender and age at onset on cannabis abstinence among the undergraduates.

#### **1.4 Significance of the study**

The findings from the research will remain a big significance to different categories of stakeholders of the Nigerian educational sector, especially the tertiary sector. First, it is hoped that the Motivational Enhancement Therapy would enhance cannabis abstinence amongst undergraduates in the Nigerian universities. Also, to a very large extent, the findings will provide a sound basis of informing tertiary institutions' officials/administrators on the most effective therapeutic techniques of managing cannabis abstinence among undergraduates. The findings will also go a long way in solving some of societal problems because cannabis use (drug abuse) is part of the social problems encountered by most adolescents and youths. Besides, it will reduce the amount of money spent in rehabilitation centres and psychiatric hospitals.

The findings will help decision-makers and policy makers in the Nigerian educational and social welfare systems to formulate policies that will promote a better school climate that will be conducive to learning. This will aid students' academic performance thereby



reducing risky behaviours among undergraduates. It will equally encourage and promote good interpersonal relationships and extra-curricular activities. Also, the society will enjoy peace as a result of cannabis reduction. It will as well help to achieve the Sustainable Development Goals (SDG) 3 and 4 geared towards good health, well-being and quality education. These identified SDGs have direct implications for the reduction of drug misuse.

The result of this study will also stimulate other researchers by using other behavioural modification methods or techniques in managing cannabis use abstinence. The findings will also provide both theoretical and empirical basis for adopting suitable methods of managing cannabis abstinence for counsellors, psychologists, social welfare officers, social workers, psychiatrists, clinical psychologists, mental health workers and all other stakeholders in managing cannabis abstinence. Finally, this study shall contribute to literature on Motivational Enhancement Therapy on cannabis abstinence among undergraduates in Nigerian universities.

### **1.6 Scope of the Study**

The research examined the effect of motivational enhancement therapy (MET) on the abstinence of cannabis usage amongst undergraduates in private universities in the Southwestern Nigeria. This study was restricted to cannabis usage, because it remains the greatest regularly consumed illegitimate drug amongst youths (Johnston, O'Malley, Bachman & Schulenberg, 2008). Besides, this research was further restricted to two private universities in the Southwestern Nigeria. The universities were Babcock University, Ilisan, Ogun State, and Adeleke University Ede, Osun State. These universities were selected because they are the only universities in Nigeria that are undergoing drug screening for their students randomly. This study was also delimited to undergraduates (freshmen and stale students) that tested positive to cannabis use during the university general drug screening exercises.

### **1.7 Operational definition of terms**

The subsequent are operationally defined in relation to this study.

**Cannabis:** remains the general term known for the group of material gotten through the grass "cannabis sativa". Its brown, green or grey combination of desiccated torn grasses, stalks, seeds as well as buds from hemp vegetation. Cannabis is a mind- altering psychoactive drug because of its delta-9-tetrahydrocannabinol. It could be ingested through eating, smoking and rarely intravenous injection of its oil.

**Cannabis use/abuse:** This is the use and misuse of cannabis without medical prescription.

**Onset age of cannabis use:** This is the age at which a cannabis user/abuser started using cannabis.

**Cannabis abstinence:** This is the ability of undergraduates to withdraw from or stop the usage of cannabis.

**Private universities:** These are higher institutions of learning established either by religious organisations or individuals under the permission of the Federal Government of Nigeria.

**Undergraduates:** These are students (undergraduates students) who tested positive to cannabis use during the drug screening exercises in the selected private universities.

**Motivational Enhancement Therapy:** It is a therapy aimed at assisting counsellees to oblige and reach behavioural transformation towards cannabis usage.

**Drug trigger:** These are persons/situations that make drug users to use drug again after stopping for sometimes.

**Drug refusal skills:** These are behavioural skills that are used in teaching undergraduates to withdraw from cannabis.

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## CHAPTER TWO

### REVIEW OF RELATED LITERATURE AND THEORETICAL FRAMEWORK

#### 2.1 Concept, history and Classification of drugs

Throughout the ancient times, and for many centuries afterwards, there was no clear difference between medicine and substances we know as drugs today. Though the usage/abuse of drugs is becoming persuasive issues in current decades, virtually all culture has consumed psychoactive materials intended for medicinal, spiritual, otherwise fun determinations. The want towards augmenting gratification or deed in addition to change an individual's awareness, whichever through psychoactive materials or through further means appears toward being inherent as well as possibly psychobiological founded human needs (Millman, 1988, Weiss & Millman, 1989). Peterson (1977), asserts that the use of some of these psychoactive substances, like mastication of plants otherwise smouldering the high pH base formula of the cocoa flower had remained recognized earlier the 6th epoch A.D. Ceremonial hallucinogen and cannabis usage was recorded in India in about the second millennium and 7th century, respectively (Aldrich, 1977). In the 13th century, owing to the introduction of drugs in the realm of Christendom by the Arabs, a new speciality, pharmacy, came into being; this soon split from medicine (Malpica, 2005). The transformation, which was half magical and half scientific, got to its peak during the Renaissance, particularly throughout the alchemist and physician Paracelsus(1493-1541).

Modern man resorts into taking liquor, tobacco in addition to many medications in mandate to satisfy his passion as well as /or break away from reality. He uses it for medical, pharmaceutical or religious and recreational purposes. Many people also hope to find in these drugs a 'healing of the spirit', through this they become ensnared. Pharmacologically, a medication is whichever material other than food that changes the organisation or operational running of a living being once it goes into the bloodstream. In view of this, everything from vitamins to aspirin is a drug. Sociologically, the word drug denotes any chemical material which has a straight consequence for the consumer's mental, bodily as well as logical capacity; has the possibility of being misused; as well as harmful significances on the person or community. A medication remains basically a material taken for healing resolutions which modify how the body works/functions. According to Carroll (1989), medication remains every material which changes any functions or structures of whichever creature once it is taken.

Abuse of drug is the using of drug than how it's recommended. Drug may be well understood as the usage of unlawful drugs, otherwise misuse of recommended or non-

recommended drugs. Carroll (1989) views abuse of drug as the intentional usage of organic materials intended for motives apart from projected medical reasons which might lead to consequences such as cognitive, physical, psychological or social impairment of the user.

In everyday use, drug is any substance taken as medicine to cure illness. The National Drugs Law Enforcement Agency (NDLEA, 1988) defines drugs as natural synthetic chemical substances which affect the body and its processes as well as behaviour and feelings. Also, Ray and Ksir (2004) conceive drug as whichever material, either synthetic or non-synthetic apart from diet which through its biochemical form changes the organization and roles within the creature. The International Convention of 1961 of Narcotic Drugs, viewed drugs as every materials as well as elements which must only be meant for medical and scientific research and not for any other purpose. If taken then, they should be referred to as unlawful drugs (Kassanye, Sherief, Fissehaye and Teklu, 1999). The United Nation International Drug Control Programme (UNIDP) (2000) affirms medications as elements that disturb the rational capacity which makes an individual to behave illogically. Drug is a substance when consumed by any living organism modifies the level of equilibrium or alters the way the organism functions (WHO, 1994). Agreeing with Bradley (1990), drug remains every material which produces alteration in a person's body structure, perception, emotions or interest. Unlawful drugs are those drugs that its possession, consumption and buying/selling are labelled illegitimate, subject to a particular society's classification (Omage, 2005). A drug denotes any substance that can result into an alteration of the biological functioning of the body through the chemical reactions (Okoye, 2001). It is likewise seen as a substance that alters awareness, thought, temper, actions and over-all bodily roles (Balogun, 2006). It might, therefore, view taken as any organic modifier of the body systems which might result into physiological and behavioural changes (Nnachi, 2007). It is every material that intended for management, prevention otherwise treatment of any infection within living organisms. Medications change ways the body functions either in a negatively or positively way subject to the body structure of the consumer, the kind of drug consumed, the quantity consumed and whether consumed as a single drug or as poly drugs (Fawa, 2003). Certain materials change the cognition and alter consumer's emotion, awareness as well as conduct once consumed since such apply pressure on the brain (Moronkola, 2003).

Owing to their impact on the psyche of individuals, drugs are usually called psychoactive substances. The personal and social harm that drugs promote in individuals include mental illness, feelings of surplus energy, euphoria, stimulation, depression, relaxation, industrial accident, hallucination, suicide, unemployment, temporary feelings of

well-being, drowsiness and sleepiness. Besides, drugs cause physical and or psychological addiction in the individual that consumes them when they become habitual and consequently, abused. In other words, the person who regularly consumes one or more drugs is known as an addict or as an individual with drug dependence. A drug could be considered addictive only when it produces physical symptoms of dependence; and psychological dependence (Miller, 2000). The misuse of drug as well as alcohol remains a communal challenge once it obstructs the health of persons as well as the communities within where they abode; that is, risking the well-being, security, occupation as well as educational achievement, kinfolk and friends.

Globally, 3.0% of the world population—185 million individuals attested to have consumed atleast one unlawful drug in 2003 (World Drug Report 2004). Drugs remain a communal challenge, not simply for their opposing outcome, however, due to their many undesirable repercussions of their usage to the community entirely – biological, chemical, psychological, sociological, historical, legal and even artistic. Every person remains a casualty of abuse of drug. Drugs add toward crime rates, complications among kinfolk; the economic cost of drug abuse is massive. Drug use has constantly been attached to occultism and undergraduates in higher institutions are severely associated with this exercise (Osayomi, 1999).

Drugs remain predominantly classified into two groups - Lawfully accepted drugs and unlawful or lawfully censured drugs. Lawfully acceptable drugs are drugs that over a long period of times have become a part of the society and have stayed (Ballas, 2006). Also, drugs are classified according to their characteristics and major effects on the human brain and body (Miller, 2002). Adolescents consume drugs due to various motives: for pleasure, due to inquisitiveness, a sense of belonging either to love or be loved because they want to stand out from other people. In some way, drugs could be classified as socially legal or illegal.

Table 2.1: Classification of drugs

Socially legal	Socially illegal
Alcohol	Stimulants e.g cocaine, crack and speed
Prescribed drugs	Hallucinogens (LSD,PLP, Ecstasy, Mescaline, Magic mushrooms)
Unprescribed cough syrup, cold, sleep as well as diet medications	Opiates (Heroin, Opium, Morphine)
Inhalants (glues, aerosols and solvents)	Marijuana (pot, weed, igbo, gbana )

Source: New Mexico State University, Department of Health and Human Services/Substance Abuse and Mental Health Services Administration, (2008).

Classification of drugs, according to Miller (2002) is as follows:

**Stimulants:** Drugs which rouse or quickens the central nervous system as well as the working of the brain. They are drugs that produce feelings of alertness and euphoria which are often used recreationally with the aim of increasing concentration and courage. Examples are cocaine, caffeine, crack, amphetamines.

**Depressants:** These produce an effect in the central nervous system that remains contradictory of what stimulants do. They reduce tension and can cheer up a depressed mood; create a feeling of tranquil besides comfort on lesser dosages and drowsiness. On great dosages, drugs produce severe intoxication, unconsciousness, coma and death. Examples are benzodiazepines, barbiturates, opiates, opioids, valium and alcohol.

**Hallucinogens:** These are drugs that cause alteration in perception, mental processes and emotions. They distort the senses and cause hallucinations. Hallucination is a subjective sensation that is not caused by stimulation to the senses, but that resembles dreams. In other words, it lacks a proper and direct external source. Hallucinogens are sometimes called “psychedelic drugs”. LSD, PCP, peyote and belladonna, marijuana, hashish are examples.

**Inhalants:** Some authorities consider inhalants as depressants with hallucinogenic qualities. They create emotional state of excitement, dizziness, spurt, as well as intense imaginations; in addition decelerate biological roles, for instance, inhalation. Drug usage outcome could cause brain impairment, choking likewise demise. Examples include glue, toluene, ether, petrol, butane, paint and aerosol.

**Steroids:** Anabolic steroids foster the formation of living tissue. They can strengthen or increase muscular mass, which is why they are widely used as doping agents in sports. Athletes use steroids to boost their strength and improve their performance.

Drugs commonly abused are stimulants, such as cocaine, codein, methamphetamine (ecstasy); opioids, such as heroine, Vicodin and oxytocin (pain killers). It should be noted that alcohol and cigarettes are generally classified as legal drugs globally, including Nigeria. However, cannabis is classified as an illegal drug and it remains the utmost regularly consumed universally (WHO 2004). Drug abuse grow into a communal health problem in this country around 1960s through the findings of cannabis plantations within the nation, apprehensions of the country's cannabis traders overseas, in addition to discoveries of mental illnesses supposed to remain connected through cannabis usage. Around the 1980s, cocaine in addition heroin abuse remained part of the communal well-being problem. Armed forces personnel coming from the Second World War brought cannabis to the country. Cocaine as well as heroin was assumed introduced in the country by Nigerian naval officers who went for coaching in India and were entangled by smuggling trades first in the 1980s (Obot, 2003).

### **2.1.2 Drug abuse: concepts, issues and challenges**

Abuse of drug remains a universal well-being as well as public challenge with situations as well as challenges which differ according to locality (WHO, 1987). Psychoactive substances usage among teenagers as well as youths has developed into issues leading to communal apprehension globally relatively for its contribution to unintentional and intentional injury (Whichstrom and Hehna, 2003). Drug abuse and addiction extend through cultural, religious, socioeconomic and racial limitations (Oyakhilome, 1990). Notwithstanding the hard work of the Nigerian government through her agency (NDLEA) for psychoactive substances, in curbing abuse and drug usage, total cases of abuse of drug especially amongst the adolescents (10-24 years old) has been highly consistent (NDLEA, 1992;1993). This usually results in rise in the amount of issues of violent disorders, cultism including psychological disorders amongst Nigerian adolescents (Ajila, 1992; Abiodun, Adelekan, Ogunremi, Oni and Obayan, 1994; Hides, Dave, Kawanagh and Young, 2006).

There have always being misinterpretation of drug abuse and drug misuse. Abuse of drug means a medication with a suitable medicinal usage but it is being used for a wrong purpose. Conversely, drug abuse, in the perspective of this research work, describes non-medicinal self-use of substance to create psychoactive effects or inebriation, or alter bodily appearance, regardless of the understanding of its possible harmful effects (American



Psychiatric Association DSM-IV, 1994). A notable concern of drug abuse is addiction and dependency, considered as uncontrollable drug yearning pursuing conducts that continue despite of its negative implications. These alterations are poorly adaptive and unsuitable to societal or environmental situation. Thus, this might be detrimental to the health of an individual (American Psychiatric Association Practice Guidelines, 2006).

Accordingly, Weller and Wells (1990) say abuse remains ill-usage; it is extreme use of unlawful drugs, and abuse of recommended drugs. The usage of drugs in conducts that differ from medicinal standards or communally standard form within a particular culture and nation is also known equally as abuse of drug. Basically, it remains wrong drug usage aimed at a specific reason apart from its appropriate reasons.

Abuse of drug is described as “subjective” total-dependency otherwise ill usage of a specific medication by and devoid of previous health identification from trained medical physicians (Lakhanpal and Agnihotri, 2007). According to Oluremi (2012) drug abuse could be seen as usage of brain-changing drugs which are detrimental to health. The word typically denotes problems with illicit drugs, which likewise comprise damaging usage of licit recommendation drugs, including self-administration. NAFDAC (2000), as quoted through Haladu (2003), views the word drug misuse by way of extreme as well as untiring personal-medication of a pill devoid of concern either socially otherwise therapeutically recognised forms. Also, can similarly remain regarded as the degree to which it impedes the wellbeing in addition to communal duties of a person (Abdulahi, 2009). *World Book Encyclopaedia* (2004) defines abuse of drug by means of lack of prescription usage of a medication which hinders a vigorous as well as prolific lifespan. It remains the extreme, dependency or habit-forming usage of medications without any medicinal reason (Manbe, 2008).

Abuse of drug is a fast rising universal challenge. (United Nations Office of Drugs and Crime (UNODC) 2007; Abudu, 2008). Challenges relating to drug abuse reflects some substantial hazard to the well-being, financial and mutual spheres of kinfolks (Oshodi, Aina and Onajole, 2010; Giade, 2012). Virtually all nations of the world are at risk of abuse of single or extra drug among its populaces. Growth in abuse of drug internationally has created complications which include rise in fierceness in addition misconducts, rise in Hepatitis B as well as C viruses, upsurge in HIV/AIDS, breakdown of body system and failure within communal organization (UNODC, 2007; Oshodi, Aina, and Onajole, 2010).

Awful young at heart events remain common within the country such that they constitute great apprehension within the public, government, as well as all stakeholders in the country. The effect of drug misuse amongst this nation’s youths/undergraduates remained a



form of an ethically ruined, debased as well as fruitless generation in addition to defeat of cultural tenets as well as principles. State of affairs at present seems to remain such that no individual can debate obliviousness of the trend (Abudu, 2008). Accordingly Giade (2011), said any country that is used by drug tycoons as a passage path has the potential of being suitable as a drug user nation. Drug abuse threatens the safety of each country, ripping separately cultures, producing misconduct, increasing infections which include, AIDS, besides slaying of the youth as well as the future. Abuse of drug previously becomes an epidemic fraction amongst undergraduates (Abudu, 2008). Nevertheless, cannabis (marijuana) seems to remain the greatest frequently drug of abuse amongst adolescents (UNODC, 2011).

Substance use and abuse were managed with a lot of confidentiality by those who consume and addicted to it. But, these days, students in schools currently brag of being dependent of drugs (Azuike, Oni and Dirisu, 2012). Young individuals in Nigeria began consuming and abusing drugs at very early age. The youth assessed in the eastern part of Nigeria stated that they began consumption of alcohol from ages 11 and 20 years (Chikere and Mayowa, 2011); whereas youths assessed in the southern part of Nigeria testified 14 years old otherwise lower as age level of commencement hooked on drug usage (Fatoye and Morakinyo, 2002). Shehu and Idris (2008), assessed students in the northern zone of Nigeria with respondents ranging from ages 10 to 14 years at a Zaria senior secondary school that consumed cannabis.

The literature (Oshikoya and Alli, 2006; Oshodi, Aina & Onajole, 2010) about abuse of drug amid Nigerian students recognized that addiction as well as dependency remains major consequences of abuse of drug, regarded as uncontrollable drug-yearning conducts despite the expression of undesirable penalties. Drug usage amongst the youth and adolescents ought to be an issue of alarm to all Nigerians specifically the general public, governmental agencies and parastatals, school heads, religious leaders, and non-governmental organizations.

A definite set of people are predominantly susceptible to substance abuse. Researches had looked into the challenge of alcohol as well as substance abuse in Nigeria started in dawn of the 1950s (Ifabumuyi, 1986). Subsequently, modifications in form besides varieties of drug abuse in this nation have been revealed as well as growing feminine participation in addition to compound drug usage patterns have similarly stayed observed. Reasons established in backing this moving development comprise industrialization, urbanization and greater contact to Western lifestyle, 'peer stress, poor family care, and growing commercial

of such in radio, television or print media (Asuni and Pela, 1986; Pela, 1989).

In Nigeria, there has remained a rise in the usage of illicit drugs. This rise has been categorized by rise in the psychological illnesses, crime and cult actions in tertiary institutions. Maher and Daly (1996) trace the great degree of criminal acts in community to drug abuse by adolescents and youth. Likewise, all over the world, there are reports that the menace of drug abuse is severe. Drug abuse once got to widespread extents amongst students (Abudu, 2008). Nigeria shown the maximum one-year dominance frequency of cannabis usage at 14.3% (UNODC, 2011; Onifade, Somoye, Ogunwobi, Akinhanmi and Adamson, 2011); however the regular universally gauged dominance proportion of cannabis usage is 3% (UNODC, 2013).

### **2.1.3 Adolescents and drugs**

Adolescence is a time when all teenagers are prone to trying limits and engaging in risk taking. It is an era of change from infancy to middle age. This perilous life growing era remains manifested through numerous bodily, mental and communal vicissitudes. It remains normally stated as era of development starting from ages 10-12 years old as well as ends between ages 21-22 years old. Adolescents remain a part of a populace with ages ranging between 10 and 24 years. Almost all university undergraduates fall within the age range of 15-25 years. Teenage years remain a *passé* of trial examination in addition to inquisitiveness where undergraduates are susceptible in pondering at several risky communal events, as well as the disturbing consequence (physical and psychosocial) of alcohol and drug addiction (Sue, Sue and Sue, 2006).

Teenagers and youths symbolize the upcoming of all community. Improved training as well as communal well-being processes could stand enormously helpful toward well-being as well as development (Lancet, 2012). Mostly for teenagers as well as youths, this era of lifespan remains a period of huge liveliness, exposure, novelty as well as optimism. It remains likewise while adventurous is intensified besides “suitable” among friends befits accurately. This could similarly stand a difficult period for youths. It represents the journey of discovery. Kaplan (2004) classifies adolescence into three phases: first, mid as well as last phase. Early teenage years are about peer approval. Middle adolescence starts from the ages of 15 and 17 years which usually involve those in senior secondary schools and Universities. This era signifies teen age’s thoughtful in addition to personal- detection voyage. Last phase of puberty starts at the age of 18 then lingers to roughly the age of 22 years. Both middle as well as late stages are considered important because they are the periods when adolescents

seek independence from family, and development of personal identity. Erikson's theory of adolescent identity is the most universally observable fact that captured these stages very well.

The World Health Organization (WHO) describes puberty by way of the period from ages 10-19 years. Conversely, there remains certainly not stern timeframe aimed at accomplishment of the developmental procedure which explains later life (WHO, 2014). Puberty remains a period of time that is depicted by bodily, mental and social changes. It occurs in children in a sequential way to improve their individuality, maturity and independence that describe them as adults. Adolescence varies across cultures and eras though from the beginning to the development of adolescence is considered as the onset of puberty. This word has frequently been perceived as an era of fundamental changes, which could throw teenagers in associations not within one's kinfolk's circles (Macedo and Conceição, 2013). Through the dangerous era, growth variations can disturb the manner in which adolescents see hazards, performance, perceive the forthcoming and reflect about the world. At this period, diverse medical symptoms can show up, topping the diseases, such as consumption illnesses or depressive indications. This could also be increase in the possibility of drug use, self-harm and disorderly behaviour (Chung, 2008).

Puberty remains a period of countless transformation aimed at youths, while bodily alterations are trendy by a quicker level. Also, it's about undergoing mental, communal/psychological as well as relational alterations. Equally, through growth and development, adolescents are swayed through external reasons, for instance, environs, values, faith, college, in addition mass media. There are several social problems that show up during this period, which include homicide, suicide, substance use and abuse, and premarital sex. Because of these developmental transitions, adolescents are aware of their surroundings- that is, background or environmental influences. Background influences, comprising friends, school, family, community, and societal rules and regulations, could either sustain or dare adolescent's well-being or health (Mulye, Park and Nelson, 2009). Adolescence is a time where choices that set the path for their future are made. It is a perilous intermediate era that involves the genetic variations of sexual maturity and the necessity to convey significant growing responsibilities, by way of growing freedom and normative experimentation. Teenagers and youths symbolize the upcoming of every single community.

Adolescents symbolize roughly 20% of the populace in almost all countries and perform significant commercial, educational and societal duties as prospects for their communities (WHO, 2013). The period during lifespan assists in growth of individual

distinctiveness, acquirement for expertise as well as knowledge in distinguishing amid constructive as well as destructive conducts. Teenagers remain further disposed towards adventurous activities. This is not certainly an unwanted typical feature, as the capacity to get involved in dangerous situations is required to develop independence and making decisions (Breinbauer and Maddaleno, 2005). Research revealed that quest for sensation, which mounts in adolescence, is connected with involvement in a variety of dangerous events by adolescents, as well as the use of alcohol and drug (Hampson, Severson, Burns, Slovic and Fisher, 2001).

Steinberg (2008) asserts that thrill-seeking rises between infancy as well as puberty due to outcome from alterations about period of adolescence within the head's psychosocial structure, preceding to an improved compensation, specifically in the company of friends, driven mostly using melodramatic altering the intellect's dopaminergic organization. It is similarly noted why thrill-seeking drops atwix puberty as well as later life due to alteration within the intellect's developed cognitive mechanism structure which increase persons' capabilities for self-control. Accordingly, WHO Mental Health Plan 2013-2020, teenagers remain amongst major susceptible sets within the community through a bigger danger for psychological well-being complications and a possibility of major introduction to drug use. More than 50% of psychological well-being sicknesses in adults start at the age of 14. Therefore, avoidance and campaign approaches should be employed amongst school-age adolescents to instil in them about dangers associated with drug use (WHO, 2013).

Drug problems amongst adolescents have been studied expansively. Liquor, tobacco as well as cannabis remain the greatest regularly consumed drugs at adolescent age (Latimer and Zur, 2010; UNODC, 2013; Johnston, O'Malley, Miech, Bachman and Schulenberg, 2014; Moss, Chen and Yi, 2014). Numerous studies revealed that the greatest common beginning of drug use happens in the course of the movement from infancy towards puberty, whichever by way of simple testing, irregular usage, misuse otherwise addiction (Marques and Cruz, 2000; Schenker and Minayo, 2005). Reasons that make teenagers to begin consuming drugs are non-trivial to define. The problem remains precise difficult which includes numerous mutable. Equally, Olievenstein (1990) reveals that drug dependence occurrence essentially be considered over any difficult design by at minimum three key expressions: individual, drug as well as environment. Unlawful drug use has gradually risen amongst adolescents ever since the 90's. This rising development emphasizes the necessity for recognising operative avoidance methods proficient in decreasing the usage of both legal and illegal drugs. Certain studies similarly back the assumption that illegal usage of drug

could stand banned through aiming usage of access drugs, for example, tobacco as well as liquor (Botvin, Kenneth, Griffin, Diaz, Scheier, Williams and Epstein, 2000; Faggiano, Vigna-Taglianti, Versino, Zambon, Borraccino and Lemma, 2005; Johnston, O'Malley, Bachman and Schulenberg, 2008). Around 2012, international death ratio connected with usage of drug stood at 40 individuals for every million amongst the populace (ages 15-64 years); 3.5-7% of the populace consumed illegal drug by minimum on one occasion, most frequently cannabis (UNODC, 2014).

Cannabis is seen by this populace as the illegal drug producing the minimum damage. Regardless of the awareness of cannabis usage as comprising little danger, management admittances aimed at cannabis consumers within Latin American and Caribbean nations had risen after 24 to 40% in current ages (UNODC, 2014). There is indication that reduced danger awareness and bigger accessibility might escalate the usage of cannabis amongst adolescents (UNODC, 2014). Furthermore, studies have recommended that adolescents who use cannabis frequently are at bigger danger of undergoing hostile well-being and socio-emotional consequences, as well as fewer regular condom usage, greater occurrences of sexually communicated diseases as well as unwanted pregnancies, quick college dropout, crime, legitimate difficulties, in addition dropped academic also poor vocational anticipations (Brook, Balkon, and Whiteman, 1999; Tapert, Aarons, Sedlar, and Brown, 2001; Brook, Adams, Balkon, and Johnson 2002; Lynskey, Coffey, Degenhardt, Carlin, and Patton 2003).

In some survey conducted in 2013 at Chile among adolescents aged 13-17 years old, 24.7% had used cannabis by minimum one time; amongst whom, 60.9% consumed for the initial time afore 14 years of age (Ministerio de Salud de Chile, 2013). Jamaica piloted same investigation around 2010. The outcomes showed 79.9% entirely adolescents aged 13-15 consumed cannabis earlier than aged 14 (National Council and Drug Abuse, 2010). Trinidad and Tobago piloted its own study in 2011. The outcomes showed that most of the adolescents aged 13-15, 7.4% had used cannabis at minimum once; of these, 77.2% had used it earlier than age 14 (Trinidad and Tobago Ministry of Health, 2011). Belize piloted a similar investigation in 2011. The outcomes showed of the adolescents aged 13-15, 11.3% had used cannabis at least one time; of these, 77.3% had their initial use earlier than 14 years of age (Ministry of Health, 2011).

Great proportions of teenagers' onset usage of cannabis earlier than 14 years is a rising alarm, as this first age of usage remains linked to a larger danger for misuse as well as addiction in adulthood, equated with those whose initial usage of cannabis was after the age of 18 (UNODC, 2013). Organization of American States –OAS-(2013) notes that two reasons

might elucidate the development of cannabis usage amongst adolescents: reducing awareness of danger connected to testing with cannabis and at ease contact. Some studies have stated that once the awareness of danger drops, the usage of cannabis rises conversely (Johnston, Miech, Bachman, and Schulenberg, 2014). Another literature, stated teenagers whose awareness of cannabis usage as comprising fewer danger remained two times likely toward consuming cannabis (Lopez-Quintero and Neumark, 2010).

Beginning of cannabis usage amongst adolescents is of specific alarm owing to the bigger danger of injury. Certain of these comprise: the usage of additional drugs as well as addictive usage of drug, a danger for weighty dependency, bronchi complications, retention injury, social growth difficulties as well as psychological well-being complications, and lesser mental act related with initial commencement and untiring usage between the initial teen ages also later life (UNODC, 2014). Giving towards the study “Monitoring the Future” (Johnston et al., 2014), awareness for dangers linked to cannabis usage has moved so that less adolescents consider that drugs are detrimental.

The use of drug has reduced the life anticipation of university students, causing them to be at danger of car mishaps (connected with driving in the power), interpersonal fighting, dangerous sexual conduct (as greater total of carnal companions as well as unreliable condom usage remain connected through usage of chemical induced substances, poorer educational act, difficulty in sound asleep, alterations with consumption of food lifestyles, and reduced athletic routine, amongst other dangers (Andrade, Duarte and Oliveira, 2010).

#### **2.1.4 Undergraduates and drug abuse**

Many studies have been done in Asia, America and Europe that revealed extensive drug usage and abuse amongst young people. This makes the issue to require universal consideration (Stanton, Lix, Cottrel and Kaljee, 2001; Daanes, 2003; Brooks, Brooks, Rosen and Rabbit, 2003). Majority of the investigations conducted in the country were mostly clinical-based or communal-based using abundant attention on the post-primary school learners and about prevalence as well as knowledge among undergraduates. This study focused on abstinence of drug, especially cannabis, among undergraduates because they are the pride and leaders of tomorrow.

Cannabis is the utmost frequently gotten drug by majority of undergraduates. This might be elucidated by the greatly clamour done by the Nigerian government previously on confiscations of cannabis (marijuana) as well as cocaine, pronouncing the drugs, forbidden medications (Oyakhilome, 1990; NDLEA 1992; 1993). Many literatures recounted



frightening proportions about drug misuse among student populaces, including undergraduates (Anumoye, 1980; Adelekan, 1996; Anochie and Nkanginieme, 2000; Adelekan, Ndom and Makanjuola, 2000). The campus knowledge remains matchless, by way of offering undergraduates through the major chance of being part-takers of a bigger set of cohorts deprived of parent regulation. Also, it symbolizes the apparent (among undergraduates) latest phase of liberty afore assuming duties of later life; which causes undergraduates to be further helpless in attempting new, formerly forbidden and occasionally illegitimate, practises (Walsh, 1992; Leibsohn, 1994). Besides, there is the suspicious about the usage of drugs which includes cannabis, cocaine, heroin besides the degree that alcohol might be part of the reason for the spread of cultism amongst undergraduates of tertiary institutions (Attah-Johnson, 1985; Aje, Akanbi and Folorunsho, 2000). The pinnacle of drug trading in Nigeria was seen in 1985 in the military regime and it was commonly carried out by university undergraduates. They were arrested and sentenced to death for violations of drug use act underneath the “Special Tribunal (Miscellaneous Offences) Degree No. 20 of 1984. Cannabis use and abuse seem to weaken the ability of university undergraduates to learn. It also has a percentage of societal complications, including from unpunctuality to lectures, family abandonment, deviant actions, participation in criminal activities (Earl, 2000).

Chikere and Mayowa (2011) stated about 20% among undergraduate examined at University of Lagos, Nigeria consumed cannabis otherwise smouldered extremely whereas 19% extremely gulped liquor. This corroborated the claim that cannabis is the greatest regularly consumed illegitimate drug amongst university students by roughly 25% of undergraduates consuming it and that its use is high among the first year students and then decline in each year following (Bell, Wechsler, and Johnson, 1997). Another study found that 33% of undergraduate cannabis consumers stated that their initial trial with the drug was at 18 years of age or later age (Gledhill-Hoyt, Lee, Strote, and Wechsler, 2000). Furthermore, utmost consumption of cannabis stages were stated at the commencement or completion of the school year, ascertaining that once the climate is of high temperature and prosecution is not as forceful, it turn out to be a perfect period for university undergraduates to consume the drug (Dierker, Stolar, Lloyd-Richardson, Tiffany, Flay, Collins, Nitcher, Nitcher, Bailey and Clayton, 2008).

### 2.1.5 Cannabis: concept, typology and abuse

The greatest abused illegitimate drug in this great country, Nigeria remains cannabis, mostly in vegetable formula. It is due towards the point that marijuana remains domestically-produced besides somewhat low-priced. Thus, amount for cannabis single entity remains frequently nearly the equivalent to the selling price of a beer bottle (UNODC, 2013). At 14.3%, Nigeria has greatest single-year incidence ratio on cannabis usage among African countries (UNODC, 2011; Onifade, Somoye, Ogunwobi and Adamson, 2011). The common universally evaluated frequency ratio of cannabis consumption is 3% (UNODC, 2013).

Cannabis is the greatest commonly consumed illegal drug globally (Hall and Degenhardt, 2007; Degenhardt, 2011) with likely 181 million (3.9%) of the universe's grown-ups consuming the aforementioned by 2011 (UNODC, 2013). Literatures from United States as well as Australia showed marijuana usage to be predominantly great amongst adolescents (Johnston, 2013). Concern about cannabis consumption has improved in current years as an outcome of better appreciative of the damaging well-being and emotional impacts of regular usage, specifically amongst adolescents and young adults (Room, 2008; Hall, 2009).

Cannabis is the utmost usually consumed and most heavily marketed illegitimate drug universally. Globally, there are 146 million cannabis consumers, signifying 2.3% of the universe populace and 3.7% among global populace ranking from ages 15- 64 years old. The use of cannabis now generally, has increased among European and African countries, Oceania, as well as the Americas. The situation has decreased in Southern and Southwestern Asian countries (Office for Drug Control and Crime Prevention, 2003; World Drug Report 2004). Statistics in Nigeria indicated seized narcotic drugs tripled over a period of two years from 3,807.7kg in 2011 to 13,622kg in 2013 (Nnabugwu, 2015).

*Cannabis Sativa* remains the botanical term used for what is simply recognized by means of cannabis, marijuana or Indian hemp. It has other street names as igbo, harshish, ganja, wee-wee, weed, gbana, grass, morocco, pot, kaya and stone. These names were coined either from the nature of the plant, its vegetation cycle or the feelings it induces on the individual (Ezeji, Ibazebo and Bassey, 1997). Cannabis has both stimulating and depressing effects. Cannabis is the general term specified to the group of vegetables resulting after the herb *Cannabis sativa*. The vegetables are gotten after many portions from that herb, mainly the blossoming flowers as well as adjoining foliage gotten at higher edges from developed herb. These flowers, or "crowns", are gorgeous through gummy, viscous element, comprising great absorptions of cannabin combinations. Though presently remained several cannabin



recognized inside cannabis herb, the main stimulating component remains distinct cannabinoid termed delta-9-tetrahydrocannabinol (THC). THC gives rise to cannabis the way nicotine gives rise to tobacco. Diverse vegetation in addition to herbal draining about changing qualities might produce opposing amounts of THC, and the equal worth of the growing and management of the cannabis herb material impacts the quantity of THC accessible to the user. Finally, in generating the major psychoactive impacts of the usage of cannabis, THC, similar to nicotine, remains the element mainly accountable to growth of addiction of cannabis.

Similar to almost other psychoactive drugs which create elated impacts, the consistent, weighty usage of cannabis might end in a cannabis addiction disorder. However the reality of cannabis addiction has been a belligerent concern for several ages, there is currently a rising group of substantiation that submits there is a cannabis-dependency pattern that is steady using that of other typical drugs of addiction. Definitely, consistent consumption of cannabis creates an obvious acceptance, comparable to other drugs of misuse and addiction. Conversely, there is currently proof that cannabis also yields other main distinctive of drug addiction, a elimination condition (Hall, Solowij and Lemon, 1994). The common vivid measures established through Edwards, Arif and Hodgson (1981) towards relating totally substance addictions remain likewise relevant to marijuana (Swift, Copeland and Hall, 1997). It's revealed by the World Health Organization's (WHO) International Classification of Diseases (ICD-10; 1992) as well as Diagnostic and Statistical Manual of the American Psychiatric Association (DSM-IV; 1994). This nosology allows operationalization of addiction disorder using describing numerous elementary standards that mirror the salience which the consumer puts on the consumption of the drug beyond other behaviours.

Cannabis is a bottle green, tanned, or grey blend of withered, torn foliage, shoots, spores, as well as buds from hemp herb (*Cannabis sativa*). Solid formulas of marijuana contain hashish ("hash" for short), sinsemilla (sin-seh-me-yah) in addition hash lubricant. Though notwithstanding its formula or brand, all cannabis preparations remain cognition-changing (substance) because all have THC (delta-9-tetrahydrocannabinol). They also comprise additional 400 other chemicals. Cannabis sativa as well as cannabis indica are associates to nettle kinfolk which is cultivated-widely globally since eras. Each of the vegetation has remained employed in place of a range through purposes, comprising the vegetation in producing twine as well as fabrics, equally as medicinal herb in addition to common entertaining medication. The herb served to produce gum – tanned/dark bulge called bhang, ganja, hashish and so on, and herbal cannabis, consisted of the desiccated blossoming buds and variables quantities of desiccated leaves, identified as grass, marijuana,

spliff weed, skunk and so on (Ibazebo, 1998). Cannabis can be ingested through smoking, eating and (rarely) intravenous injection of its oil (Schuckit, 1979).

Cannabis is still the greatest generally consumed unlawful drug within United States as well as Europe (European Monitoring Centre for Drugs and Drug Addiction, 2006; Substance Abuse and Mental Health Services Administration (SAMHSA), 2007). While certain persons query notions about cannabis dependency and compulsion, investigative, epidemiologic, laboratory, as well as medical researches plainly specify that disorder occurs, remains significant, in addition produces damage (Copeland, 2004; Budney, 2006; Budney and Hughes, 2006; Roffman and Stephens, 2006). Addiction of cannabis being practiced among medical populaces looks much related to further drug addiction conditions, though it is probable to be a little intense. Adults in quest of cure for cannabis misuse or addiction typical more than 10 years of almost every day usage and more than six stern efforts at leaving (Stephens, Roffman and Simpson, 1994; Copeland, Swift and Rees, 2001; Budney, 2006). They carry on smoking the drug notwithstanding social, emotional, and bodily damages, usually quoting concerns including relationship and family difficulties, blame connected with usage of the drug, financial complications, little drive and self-worth, discontent with efficiency stages, sleep and memory difficulties, and little life fulfilment (Stephens, Roffman & Simpson, 1994) Most of these adults see themselves as powerless to discontinue, and majority go through a withdrawal condition upon stopping.

The interest in cannabis usage has improved in current years as an outcome of better understanding of the damaging well-being and emotional impacts of regular usage, particularly amongst adolescents and young adults (Room, 2008; Hall, 2009). The compounds inside cannabis result in intellectual weakening in addition to difficulties in academics by consumers. Undergraduates frequently consumed cannabis due to being over-stressed by study; also giving a sense of feeling that could led to relaxation. In a survey among undergraduates, an association named, "parents the anti-drug" questioned university undergraduates then establish that "likened with non-regular consumers, high cannabis consumers produced many mistakes in addition trouble maintaining alertness". Previous and larger association with cannabis upturns the danger for increasing drug misuse or addiction for a grown-up (Substance Abuse and Mental Health Services Administration Office of Applied Studies, 2000). In a full assessment of 28 psychiatric divisions of medical institutions within Nigeria from Ohaeri and Odejide (1993), a complete 10,396 clients remained evaluated whereas, cannabis stood out as highest predominant misused drug (77%), tailed with liquor as well as amphetamines from the northern part of Nigeria, however

from the southern part, cannabis (60.6%) remained tailed of heroin then cocaine. Frequency of misuse was high amongst men than ladies (Adamson, Onifade and Ogunwale, 2010).

Cannabis is mostly ingested through smouldering, in addition to the method which cannabis use stands equipped by the purpose of making best use the quantity of THC obtainable through smoulder using scorched herb substance. It remains generally done through burning desiccated viscous flowers as well as better foliage from the herb. Nuts of cannabis remain highly preferred for effectiveness. Certain consumers, nevertheless, burn the huge cannabis foliage, that takes little THC intensities then commonly brings tough, severe smoulder due for great intensities using asphalt besides additional elements existing through smoked herb elements. Substitute procedures that provide larger absorptions for THC comprise hashish (or "hash"), that remains an unpolished removal from cannabis gum, compacted in slabs of ingesting through smouldering. A comparatively uncommon method of cannabis remains extremely filtered lubricant removed from hemp that might comprise the abundant for instance 60% THC; which also is burnt, once minor quantity remains joined with the cigarette otherwise tube.

All procedures of producing cannabis, comprising foliage, nuts, hashish as well as hemp lubricant could stand ingested using highest grade through pharmacology productivity through burning. Possibly finest recognised method of cannabis consumption remains through "shared" otherwise finger-revolved cannabis cigar; which might stand arranged using otherwise deprived of single measure of nicotine. Nevertheless, greatest prevalent mode for ingestion, because of the aforementioned great point for productivity of providing highest quantity THC using slight waste for side stream smoulder, with H<sub>2</sub>O tube, otherwise "bang" (National Drug Strategy, 1996). It noteworthy that THC could similarly be provided efficiently by other methods. These commonly include making cannabis nuts otherwise chopped in lesser loaves otherwise biscuits besides consuming the items before imbuing cannabis substance inside boiling water besides sipping out coming beverage. Although these techniques offer pleasing psychoactive impacts, they are not common with majority of cannabis consumers since the period of commencement of the influence is greatly gentler compared to smouldering, and the dosage remains additional challenging towards justice.

### **2.1.6 Risk factors predisposing to cannabis abuse**

Many factors have been identified to differentiate individuals who probable will abuse drugs from individuals who are less susceptible to drug misuse. Reasons connected with larger possibility for abuse of drugs are termed "risk" features. Majority of persons at danger

of abuse of drug do not begin consuming drugs or develop dependency just like that. Circumstances around them condition the use. Likewise, a risk reason for an individual may not be the same for the other person. Danger factors for abuse of drug indicate problems to a person's psychosocial and cognitive development. The risk reasons could create diverse effects, subject to the person's character qualities, stage of growth, and background. For example, poor/low educational accomplishment/performance might show that an individual is on a harmful growing route directed toward delinquent behaviours. Risk reasons can impact abuse of drugs in numerous methods. They could be dependent: the higher the danger an adolescent is opened to, the higher possibility that the adolescent will misuse drugs. Specific risk reasons are mostly compelling, nevertheless might not encourage abuse of drugs unless certain conditions prevail. Accepting the risk reasons supporting drug use amongst adolescents make available the stage to identify likely prospective goals aimed at mediation as well as successively limiting the delinquent. The entire possible reasons stand approximately separated into two levels. The leading group is wide-ranging including communal and cultural (that is, contextual) reasons, which offer legitimate and normative anticipations for behaviour. The second category comprises reasons that are placed in persons and their interpersonal surroundings (Hawkins, Catalan and Miller 1992).

At present remain numerous relational reasons which sway teenagers' cannabis usage. The facet remains utmost relevant particularly this specific populace since teenage years remains one stage lifecycle at what time peer-associations turn out to be highly significant and essential. One of the most essential reasons in this sphere is peer impact. Relationship with drug-abusing peers is frequently the greatest instant danger of revealing adolescents to drug abuse and offending behaviour. Substance abuse stands a foremost communal well-being challenge for university populaces because adolescents have friends who consume drugs which made them to have probability of consuming themselves (Ali, Amialchuk and Dwyer, 2011; Pagliaro and Pagliaro, 2011). Hyshka (2013) notes friend set-up among teenagers might cause some sturdy danger reason of mutually introduction (between the ages of 11-15years) as well as development for consistent usage. Nevertheless, is tough in evaluating if cannabis usage remains part of danger reason otherwise merely a result of choice among cohorts that consume it. Structure and quality in the household are moderately crucial to adolescents' usage of drugs. Certain important reasons have also been connected to initial drug usage in adolescents. They include absence of parental supervision, family disagreement and inadequate bonding. Having a family account of drug abuse, for instance, places an adolescent at danger of abuse of drug.

Another risk factor is aggressive behaviour, which may be exhibited by a child/adolescent at a very tender age. If not accosted, by means of constructive parental engagements, it could induce to supplementary dangers once the child starts school. Hostile behaviour in school could cause denial by friends, castigation from tutors, in addition educational disaster. Once more, when not accosted appropriately, it could cause the greatest abrupt behaviours that place a child at danger of drug addiction, for example, missing school and relating with peers who misuse drugs. Children's character qualities or personality can put them at bigger danger of future abuse of drugs. Introverted and violent individuals, for instance, frequently exhibit delinquent behaviours in relating with their families, peers, and other people they come across in societal surroundings. These dangers could comprise school failure, initial peer denial, and future relationship with aberrant peers, which the greatest instant danger for abuse of drug among teens. Literatures revealed teenagers who have low educational achievement in addition unsuitable communal behaviour from 7 to 9 years old have higher tendency to be entangled with drug abuse at age 14 or 15. Adelekan, Abiodun, Obayan, Oni and Ogunremi (1993) in their study among undergraduates discovered friend impact, personal-recounted pitiable psychological well-being, religious, parent/caregiver control, seeming accessibility as well as seeming destructiveness remained regular compares of liquor, cigarette as well as cannabis usage. Besides males were more entangled through smouldering as well as downing besides there was a progressive link concerning usage of cannabis in addition to bigamous kinfolk upbringing.

Also, friends as well as kinfolk connections can sway opinions and seeming danger from injuries could impact drug use (Dubois-Arber and Michaud, 2005; Kilmer, Hunt, Lee and Neighbors, 2007; Trujillo, Fornsi-Santacana and Perez- Gomez, 2007; Andersson, Miller, Beck and Chomynova, 2009; Fleary, Heffer, Mckyer and Newman, 2010; Lopez-Quintero and Neumark, 2010; Calabria, Swift, Slade, Hall and Copeland, 2012; Kuehn, 2013; Menghrajani, Klaue, Thornton, Baker, Johnson and Lewin, 2013). In another cross sectional study amongst 1000 undergraduates aboding off campus site, the result established kinfolk/friend impact reached uppermost ratio (25.1%) among the inclining reasons to the use of drug and drug addiction. Additional reasons were "not suitable" (15.3%), despair (15.1%), poor self-regard (14.3%), temperament (9.9%), substance accessibility (8.6%), scarcity (6.4%) besides hereditary susceptibility (5.4%). These undergraduates fell between the age range of 19 to 30 years old (Osikoya and Alli, 2006). This also shows the intricate correlative marvel of drug usage.

Also important are sociocultural reasons, where groups and persons occur inside a

historic, communal and economic environment. Individual's dispositions and conducts are swayed through the ethics and ideologies of their culture. Therefore, variations in ethnic standards, legitimate suppositions, and economic propensities will unavoidably sway drug use conducts. On the larger category, the impact from social and economic weaknesses, for instance, scarceness was linked to a bigger danger of teenagers' behaviour difficulties as well as criminal behaviour. Here similarly seems to be an undesirable connection between socioeconomic rank and misconduct. However, a related link wasn't established for teenage drug usage besides social and economic rank.

Further reasons, such as drug accessibility, drug trading forms, philosophies that drug misuse is commonly endured and price (change in price) of drugs can make young people to start to abuse drugs. Another research established a 10 per cent decline on the amount of cannabis had risen to 3percent growth for total number among senior secondary school students of equally previous-year as well as previous-month usage. This research similarly established the legitimate danger might alter beginning of use nevertheless has slight influence on adolescents who are at present consuming (Pacula and Lundberg, 2014).

Adolescents frequently comes with some range of psychological as well as social difficulties in addition to hazard behaviours, comprising accounts like emotive, bodily, as well as sexual exploitation (Perrin, Simms, Dubowitz and Szilagyi, 2000; Elze, Auslander, McMillen, Edmond and Thompson, 2001); abandonment in addition desertion (Barth, 1990); household volatility besides interruption; various housing as well as university locations; learning shortfalls (McMillen, Auslander, Elze, White and Thompson, 2003); in addition offending behaviours (Jonson-Reid and Barth, 2000; Auslander et al., 2002; ). Equally for overall teenage populace, these complications are supposed toward transforming being a bigger probability aimed at consuming drugs, predominantly liquor as well as cannabis (Groze, McMillen and Haines-Simeon, 1993; Simms, Dubowitz and Szilagyi, 2000; Dennis, 2004). Cannabis use amongst youths remains frequently shared by almost 80% youths consuming cannabis earlier than the age of 21 (Fergusson and Boden, 2008). Nevertheless, a lot of the difficulty usage of cannabis is probably to be restricted to 10-15% of the adolescent populace who consume cannabis in an intense and addictive manner (Patton, Coffey, Carlin, Lynskey and Hall, 2002).

Depression is the most common mental health diagnosis of university students because they are overwhelmed with failure in grades, annoying roommates, relationship breakups and even having their "cosy" sets of beliefs and values challenged (Lamadrid, 2009). College-age females are mostly attacked by anxiety and depression when consuming



cannabis; with females who are everyday consumers having the maximum danger (Patton et.al., 2002).

Some literatures viewed cannabis to be an entrance substance. The aforementioned informed that 91% of university undergraduate cannabis consumers were frequently associated with intense drinking or cigarette smoking (Gledhill-Hoyt, Lee, Strote and Wechsler, 2000). The combination with liquor and cannabis constitutes undesirable costs, such as declined academic achievement, violence, destruction, associate rape, and defenceless sex (Martindale, 2004).

In the Northwestern Nigeria, data showed 37.47 per cent of drug sufferers within the region which made it to be first; the Southwestern part was 17.32 per cent ranking second; while Southeast rated third with 13.5 per cent, Northcentral had 11.71 per cent, while the Northeast had 8.54 per cent of the drug consumers in the nation (Akannam, 2008). The projected lifetime usage of cannabis amongst the populace was 10.8 per cent, trailed by psychotropic drugs such as, benzodiazepines plus amphetamine-type drugs (10.6 per cent); heroin (1.6 per cent); as well as cocaine (1.4 per cent) at equally city in addition rustic regions. Substance misuse seems more frequent amongst men by 94.2 per cent than ladies (5.8 per cent); while on-set age usage ranges between 10 to 29 years. Usage of explosive chemical material stands at 0.53 percent, which remains extensively circulated amongst highway kids, within college adolescent's as well as females. Compound substance usage occurs nationally, by 7.88 per cent towards changing point (UNODC, 2007). However, all the risk factors are independent of each other, that is, the friends/age mates, community and educational realms. For instance, in the educational sphere, drugs might be accessible, nevertheless that the school has "antidrug rules." These risk reasons have been organized into what is known as the socio-ecological model (WHO, 2015). The four stages of socio-ecological concept are summarized as follows:

**Individual Level:** This deals with aspects particular to the person, for example, education, income, age, wellbeing, as well as psychosocial difficulties, which might be similar as drug usage.

**Relationship Level:** This concerns a person's intimate social group- family members, friends/ age mates, teachers, and extra intimate associations—that adds to their series of knowledge and may sway their behaviour.

**Community Level:** This is for the situations in which communal associations happen, like schools, workplaces and neighbourhoods. These reasons could have equally desirable and undesirable links with drug use.

**Societal Level:** This caters for wide communal reasons, like social and cultural standards. Further important reasons functional at this phase comprise the wellbeing, financial, academic as well as social rules which add on financial in addition social variations among the populaces.

While new developments have been moved forward in the advancement and assessment of cannabis managements for adolescents (Diamond, Godley, Sample, Webb, Tims and Meyers, 2002); less 10% amongst youths stating drug-usage malady indications within previous year must certainly not gotten management (Titus and Godley, 1999). Youths that come to drug misuse management practically certainly not come on their own volition but somewhat are directed for treatment (for example, through parents, adolescent justice organization or colleges). However, though youths come into management of cannabis, little (20%) consider usage of cannabis as challenging (Diamond, Leckrone, Dennis and Godley, 2006). These discoveries recommend necessity to intervention at intensify incentive of transformation and boost treatment admission.

### **2.1.7 Consequences of cannabis use among undergraduates**

Survey data has showed that cannabis is the utmost commonly consumed illegitimate drug amongst university undergraduates, while quantity of undergraduates consuming cannabis growing nationwide in current years (Core Institute, 2010). The consequences of cannabis use and misuse have carried out in many studies. Calderia, Sharma, Vincent, O'Grady, Wish and Arria (2009) claim fresh undergraduates that consumed cannabis on minimum of five times during the former year stated attention complications (40.1%), frequently placing selves for vulnerability (24.3%), energetic once consuming cannabis (18.6%), in addition to low lesson attending. Also, in another study, it was discovered that students who consume cannabis also require a greater danger by undergoing unhappiness, nervousness, poor drive, as well as tiredness, making university-age ladies the greatest affected with nervousness in addition despair (Patton, Lynskey, Hall and Waynes, 2002). Its steady consumption among undergraduates is connected with enlarged possibility on damaging results, comprising temporary weakening of retention, synchronization, judgment, in addition to long-standing dangers on changed intelligence growth, and mental injuries (O'Shea, McGregor and Mallet, 2006; Meier, Caspi, Ambler, Keefe, and Moffitt, 2012;



Renard, Krebs, Jay, and Le Pen, 2013).

Cannabis functions like “entry substance”, by statements displaying 91% undergraduates’ cannabis consumers were frequently overwhelmed by tobacco smouldering in addition to weighty downing (Gledill-Hoyt, Lee, Strote, and Wechsler 2002). Undergraduates that consume cannabis also stand the chance of becoming violent; undergo reduced intellectual capabilities, likened with undergraduates that don’t misuse it. Monitoring the Future (2013) notes that the yearly occurrence of cannabis usage was to some extent greater amongst university undergraduates by 2012 compared to those not in the university (34.9% vs 32.7%). Yearly cannabis usage was greater amongst male undergraduates compared to females (39% versus 32%). The yearly frequency of cannabis usage amongst undergraduates got to a great fact of 36% in 2001, waned to 30% in 2006, and then improved to 35% in 2012.

### **2.1.8 Treatment of cannabis use and abuse**

Generally, the conventional management of substance abuse in Nigeria was done at common mental health hospitals up till 1983, after initial standalone drug misuse management component created. Subsequently, several other drug abuse treatment components have developed, standing in conjunction with psychiatric components. Nevertheless, there is definitely not up-to-date nationwide archive of the organizations and facilities established to fight drug abuse challenges in Nigeria (Onifade et.al, 2011). The research piloted through the United Nations International Drug Control Programme UNIDCP (1989) about treatment centres within Nigeria, shown drug misuse management services were at entirely 21 states (at that time Nigeria had 21 states) however, mostly as fragment of psychiatric, all-purpose otherwise university training clinics. Furthermore, account likewise showed presence of orthodox as well as spiritual centres aimed at drug misuse management plus reintegration (Onifade et al., 2011). Though new developments must remained formed by growth as well as assessment for cannabis managements aimed at youngsters (Diamond, Godley, Sample, Webb, Tims and Meyers, 2002), less 10% among youngsters having drug-usage malady indications of previous year must always gotten management (Titus and Godley, 1999).

Some studies have surveyed the usage of a total of therapeutic methods for managing cannabis misuse as well as addiction. The methods comprise cognitive behavioural treatment, psychotherapy, motivational enhancement in addition to contingency management training (Denis and Godley, 2006; Budney, Stephens and Walker, 2007; Nordstrom and Levin, 2007;

Benyamina, Blecha, Reynaud and Lukasiewicz, 2008). Even though these treatments have been established in randomized orderly trials to have certain efficiency (Budney et.al, 2007), their main profits seem to be decline in the stages of cannabis usage somewhat than guaranteeing whole self-denial from cannabis. These outcomes promote concerns about the degree to which such treatment ought to emphasize on moderating usage somewhat whole self-denial.

There are ranges of psychotherapies useful in managing drug dependence but there is precise tiny methodical growth of therapies aimed for cannabis addiction. Utmost therapies employed for cannabis addiction must have variations for liquor therapies (Zweben and O'Connell, 1992). A 12-step friendship activity, comprising Alcoholics Anonymous and Narcotics Anonymous also must have been employed among cannabis users pursuing aid. Numerous cannabis consumers, still, sense that their necessities are not encountered by such sets.

#### **2.1.9 Motivational enhancement and cannabis abuse treatment**

Motivational Enhancement Therapy (MET) came out as growth from Transtheoretical Model of Change (TMC) (Prochaska et al., 1992), aimed at assisting counsellees form obligation and to thrust behavioural transformation. The theory pulls from approaches of individual-centred therapy, rational psychotherapy, organizations concept, as well as social psychology of persuading (Miller and Rollnick, 2002). It is a unique style of inspiring transformation in drug use (Miller and Rollnick, 1991;2002). It offers individualized response on drug usage with association through motivational interviewing counselling method (Miller and Rollnick, 2002). It stands established of being an operational method of decreasing cannabis usage among grown-ups ( Stephens, Roffman, and Curtin, 2000; Marijuana Treatment Project Research Group, 2004) and has shown potential for teenage cannabis addicts (Aubrey, 1997; Colby et al., 1998). The succinctness of MET and its little obstacles to admit and boost involvement with slight determination. In MET, uncertainty about cannabis usage is seen as usual, youths do not stand labelled by way of being a delinquent for cannabis, in addition teenagers remain managed as specialists as well as choice-makers concerning individual cannabis usage. Therefore, it remains intended as a plea for the ones at previously periods of transformation.

Motivational Interviewing (MI) remains an “approach” otherwise “technique” that targets at improving an individual’s encouragement to alter challenging behaviour by examining and determining their indecisiveness about transformation and needs definite

medical training (Miller and Rollnick, 2002). It has been used widely to treat drug usage difficulties. It was initially established in the 1980's in answer to worries about the old challenging method used in dependence management. In difference to this old-style method, it is supposed that clients require "intrinsic motivation" to convert (that is, clients need self-conduct changed) while MI's aim remains an ease drive to as well as combine obligation toward transformation (Miller and Rollnick, 2002). It is led by a quantity of common tenets: (i) conveying empathy, using meditative listening; (ii) creating inconsistency between client objectives and present delinquent behaviour through usage of meditative listening and impartial response; (iii) evading argumentation by supposing that the client is accountable for the choice to transform; (iv) continuing with opposition, pretty than challenging or differing it; and (v) establishing self-efficacy and hopefulness for modification.

**Table 2.2: Principles of Motivational Interviewing**

<b>Grow Inconsistency</b>	<b>Care and Empathy</b>	<b>Move with Opposition</b>	<b>Maintaining Self Efficacy</b>
Transformation remains encouraged through inconsistency amid behaviour as well as objectives otherwise beliefs.	Acceptance may facilitate transformation	Opposition is not in straight different and is a pointer to answer otherwise.	Counsellor's faith that he/she could stop drug use is a main stimulus.
Transformation-talk – the counsellee (instead of Counsellor) opinions argument aimed at transformation,	Listen Reflectively	Differing viewpoints for transformation is evaded, restrain by means of force or affliction.	Counsellee is responsible for carrying out change.
	Spend time building rapport		Therapist's faith in the counsellee turns into a self-fulfilling prediction.

Source: Miller and Rollnick (2002)

The MET augments incentive for behaviour modification by conveying empathy and care, delving into the inconsistencies between current behaviour and present or prospect objectives, provoking transformation-talk, "rolling with resistance" instead of disagreeing for transformation, encouraging self-efficacy and encouraging the counsellee's preference and independence (Miller and Rollnick, 2002). Although MET is founded by means of nondirective counselling abilities, such as meditative listening, the counsellor leads the conversation to concentrate on indecision and its determination. The practical features of MI

comprise three components. The first is client-centred counselling skills, based on Rogerian counselling. The second is meditative listening declarations, instruction queries, and plans for provoking inner incentive within counsellee, operationalized through method of personal-inspirational declarations within counsellee. The expertises stand employed in supporting counsellee on discovering uncertainty on transformation as well as create own personal choices on how come plus in what way to continue. The third is plans for guaranteeing that client opposition is insignificant. Decent relationship is accomplished by evading disagreement with expertise such as meditative listening, and plans such as changing concentration and relabeling, which permit the therapist in emanating together with client as well as control helpful discussion concerning transformation.

In grown-ups, MET can aid decrease drug use, equally as a standalone management besides as a “prelude intervention” earlier than compelling in specific drug use facilities (Burke, Arkowitz and Dunn, 2002; Hettema, Steele and Miller, 2005). It has similarly remained efficiently useful as a smoking-cessation intermediation with grown-ups and adolescents (Lai, Cahill, Qin and Tang, 2010). Besides, it has been used as a physical well-being intermediation, encouraging reduction in body form index and systolic blood force (Ruboks, Sanbaek, and Christensen, 2005). It has been equally deployed as an intermediation augmenting client commitment and growing faithfulness to treatment (Hettema, Steele and Miller, 2005; Carroll, 2006).

Emerging research trendy in treatment of cannabis usage or other drug use malady among youths proposes conveyance using MET alongside Cognitive Behavioural Therapy (CBT) or other behavioural therapies can promote improvement in cannabis use, other substance use and depression outcomes (Hides, 2011). Motivational Enhancement Therapy is conveyed for about 45-60 minute individual/group sessions, and usually comprises 1-7 sessions. It's a counselling method that assists peoples tenacity towards indecision about entering treatment and discontinuing their drug usage. The MET's usage does not seem to produce damage and might, in detail, be helpful. Integrating mechanisms of individualized response and normative contrasts inside the MET outline might be beneficial and therapists keep to the basic term and ethics of MET (for example, MET-Spirit and MET-Dependable conducts), whereas evading the usage of cautions, fright manoeuvres, and challenging or excessively instruction methods (for example, MET-Contradictory conducts), might require larger achievement for implementing transformation.

Motivational Interviewing occurs in two phases. Phase 1 MI focuses on building motivation to change and is designed for individuals in the first two stages of change (that is,

pre-contemplation and contemplation). This phase is dedicated to creating “change talk” and focuses on increasing both the importance of change and the confidence to transformation. Stage 2 focuses on reinforcement obligation towards transformation besides is designed for individuals at final phases in transformation (that is, readiness, deed and preservation). Phase 2 focuses on goal-setting and ‘change plan’ implementation. It is essential to track a client’s readiness to transform throughout treatment as he/she may move both backwards and forward through the stages of change, requiring different MI strategies at different levels. This is accomplished by means of a motivational interviewing intermediation (Miller and Rollnick, 1991). This mainly comprises a decisional breakdown, whereby users are helped to disapprovingly observe the positive and negative attributes of nonstop drug usage. Additionally, users are taught in the procedure of drug-related managing abilities. These comprise methods for handling desires and yearnings, recognizing causes for drug consumption and increasing individual plans for both evading and allotting with such causes, handling withdrawal signs, and learning recur-precaution plans.

#### **2.1.10 Age and treatment of cannabis abuse**

Cannabis usage has been acknowledged to have grave antagonistic impacts on well-being, comprising a range of cognitive or emotional changes and bodily repercussions (Bobes and Calafat, 2000; Ashton, 2002; Ministry of Public Health (MPH) 2002; Kalant, 2004). Societal apprehension concerning the increase in cannabis usage amid adolescents has been rising in most industrialized nations and frequency on trial usage (described cannabis usage at minimum one time) amid European 15-years-olds ranged from less than 10% to above 30% (EMCDDA, 2004; MPH, 2002). At Spain, cannabis usage frequency as at year 2000 stood at 24.8% (Observatorio Espanol sobre Drogas (OED), 2002). Investigations at both the United States as well as Australia had revealed cannabis usage remains predominantly great amongst adolescents (Australian Institute of Health and Welfare, 2011; Johnston, 2013).

Understanding reasons connected with the commencement of cannabis usage is vital for the progress of precaution programmes targeted at adolescents. Gender and age have been extensively defined as being associated to the commencement of cannabis consumption (Bailey and Hubbard, 1990; Hammer and Vaglum, 1991; Aitken, DeSantis, Harford and Cases, 2000; Kosterman, Guo, Catalano and Abbott, 2000; Poikolainen, alto-Setala, Marttunen, Anttila and Lonnqvist, 2001; von Sydow, Lieb, Hofler and Wittchen, 2002). Other socio-demographic reasons have been related with cannabis usage through long term studies, comprising staying in a single-parent family (Pedersen, 1990; Andrews, Hops, Ary,

Tildesley and Harris,1993; Fergusson, Lynskey and Horwood, 1993; Aitken, DeSantis, Harford and Cases, 2000; von Sydow et.al.2002), low academic achievement (Bailey and Hubbard, 1990; Bryant, Bachaman and Johnston, 2003), and leaving school (Yamaguchi and Kandel, 1984; Aitken et al., 2000 ). Additional forecasters of cannabis use onset comprise a previous account of tobacco consumption (Yamaguchi and Kandel, 1984; Brook, Kessler and Cohen, 1999; Aitken et al., 2000; Coffey, Lynskey, Wolfe and Patton, 2000; Morojele and Brook, 2001; von Sydow et al., 2002;) as well as alcohol consumption (Bryant et.al., 2003). According to a literature, ratio among trial cannabis users went up with growing student age, extending to 32.6% among males while 30.0% among females at fourth year in secondary school. Highest comparative growth (51.1%) happened amid first as well as second years; however, highest ultimate rise (13.7 %) remained seen among third in addition to fourth years of equally females as well as males (NIDA, 2009).

On the basis of National Review of Drug Usage and Health 2006, 45.4% of Americans who were greater than 12 years old have attempted cannabis at minimum one time. Amid those greater than/equal to 18 years old with lifespan cannabis usage, greater than 50% reported first time usage at 12 and 17 years of age (SAMHSA, 2005; NIDA, 2009). Previously commencement of drug usage has steadily been connected with larger danger of increasing misuse and addiction (Lynskey, Heath and Bucholz, 2003; Compton, Grant, Conway, Gfroerer and Finger, 2004; SAMHSA, 2005).

Specifically, 56% among persons gotten for management of abuse/addiction of cannabis started consumption at the age of 14, and 92% started at the age of 18 (SAMHSA, 2005 and NIDA, 2009). Cannabis usage is currently regarded a significant communal well-being challenge by sundry, owing to numerous causes (Compton, 2007). First, adolescents and youths have actual great degrees of cannabis usage. Secondly, cannabis addiction in the youth foretells bigger dangers of consuming other illegitimate drugs and underachieving in school (Hall, 2006). Thirdly, the cannabinoid substance of burnt cannabis has improved significantly in current years (Ashton, 2001), possibly ensuing in a greater “dose” of psychoactive cannabinoids in the course of drug usage.

Even though the frequency of cannabis usage has been studied extensively, comparatively a small number of occurrence (first use) information is obtainable. In the leading issued breakdown of national occurrence inclinations, Gfroerer and Brodsky (1992) projected quantity of fresh consumers on cannabis besides additional medications founded from collective records from 1985 and 1991 NHSDAs. The authors established half a million persons each year started consuming cannabis earlier than 1966 in addition to fresh cannabis



usage that started growing subsequent to 1966, attaining the uttermost by 1973 and decreasing afterward. The inquiry established decreasing tendencies of cannabis commencement at every age as at minimum the late 1970s. Nevertheless, the average age of cannabis inductees dropped during the course of utmost at dimension phase, starting higher than 19 year during amid-1960s towards those less than 18 years old during late 1980s as well as first 1990s. Additionally, degrees on cannabis commencement at age range of 12 to 17 years (adolescents) while 18 to 25 years (youths) at first 1990s stayed quiet considerably greater more equivalent proportions during first 1960s. At current ages, adolescents ages 12 to 17 years old had established approximately 2/3 of fresh cannabis consumers, with youth ages 18 to 25 years old comprising utmost of the outstanding 3/3 (OAS, 2001b).

Van Etten and Anthony (1999) studied on first occasion in attempting cannabis as well as shift from main chance towards main cannabis usage via records from the 1979 to 1994 NHSDAs. The study established boys when probably compared to ladies have prospect to consume cannabis, nonetheless stood further expected to ultimately consume cannabis as soon as a chance was offered. Literature similarly revealed some dangers involved in starting cannabis usage has linked by age as well as biological group. The commencement of cannabis usage was swayed by a range of individual, home, and communal danger in addition to protecting reasons, for example, association with substance-consuming friends, character magnitudes (for instance, nonconformity), and the parental-children connection (Brook, Kessler and Cohen, 1999a; Clayton, 1992). Few studies have shown features as well as prognosticators of cannabis commencement. Majority of the researches on correlates concentrated on usage, not commencement. Reasons related with cannabis commencement comprise persons' temperament features, hostile family reasons, and lesser parent affection degree, little parent supervision, parent drug usage, in addition friends' impacts (Bailey and Hubbard, 1990; Chilcoat and Anthony, 1996; Brook, Brook, Rodriguez, Montoya and Whitman, 1998a; Van Etten and Anthony, 1999; Kandel, Griesler, Davies and Schaffsan, 2001).

Proportions of initial cannabis usage are also swayed by demographic features and previous usage of legal drugs. Adolescent males inclined to start cannabis usage before adolescent females (Kandel and Logan, 1984; Warren et al., 1997). Regular usage of cannabis have established that the usage could lead to specific psychological well-being maladies, comprising growth of mental illness indications, in addition to been linked to depressing besides craziness indications then self-killing (Fischer, Jeffries, Hall, Room, Goldner and Relim, 2011). However, cannabis usage has higher prevalent among adolescents

and youths. In a survey of Canadian university students, 32% reported using cannabis in the past year (Adlaf, Demers and Gliksman, 2005). This indicates that cannabis use is quite normative in young adult populations; in a Canadian university, 3% of the students reported using cannabis 4-7 times per week.

In a study about the survey of abuse of drugs of patients on admission in Yaba Psychiatric Hospital, Lagos, Nigeria, it was discovered that the mean age was 29.15. They were commonly single, educated, heroin/cocaine stood the greatest dominant substance abused (84%), tailed with cannabis (76.3%), besides liquor (22.5%). Adelekan and Adeniran, from another similar survey amongst 62 substance addicts from Drug Addiction Treatment, Education and Research of the Neuropsychiatric Hospital, Aro, Abeokuta stated clients as usually unmarried men who had official schooling, while cannabis remained the greatest frequently substance of abuse (53.5%) through which about more than average among associates less than age 30. Likewise at similar centre, a different study presented the average age of inception of use of drug amid admitted patients within teenage age range level from 15-19 years old in the period from 1992 to 1997 as well as 2002 to 2007 (Adamson, Onifade and Ogunwale, 2010).

#### **2.1.11 Gender and treatment of cannabis abuse**

Substance use has traditionally been understood from a male perspective, implying that men's experiences are universal (Greaves, 1996). Earlier research focused on women drug users as social deviants, morally weak or corrupt individuals or even criminals, with focus on sex workers, injection drug use, and mothers who were drug users (Measham, 2002). In the 1990s, research began by giving heed towards recreational drug usage amongst ladies in addition to the fact that women could use drugs for pleasure and that substance usage amid ladies needs accurate understanding in wider as well as distinct socio-cultural and gendered context of female existence (Measham, 2002; Ettore, 2004). Women have also described their substance use as a form of empowerment and as a way to be more sexually uninhibited (Romo, Marcos, Cabrera and Hernan, 2009). Cannabis usage has also been described as a method of "girl-bonding" (Haines, Johnson, Carter & Arora, 2009). Annual cannabis usage is greater amid undergraduate males than females: 39% against 32% (Monitoring the Future, 2013).

Research over the past decades has suggested that women's drug use commonly has distinct dynamics and features which require specific understanding (Measham, 2002). For



example, females' substance usage showed easy rapidly otherwise thoroughly turns out to be challenging not as men's drug use (Prather and Fidell, 1978; Cooperstock, 1979). Also, women have been observed to use substances more commonly for "medical" reasons, for example, self-medicate or counteract perceived social or psychological problems (Brady and Randall, 1999; Najavits and Lester, 2008). This may imply that women may be using drugs as a means of coping; but its use can create its own set of problems for women.

For cannabis use specifically, there is a shortage of experimental study on sex differences (Becker and Hu, 2008). Whereas males are probable to start consuming cannabis by an earlier period as well as in larger quantities, studies have established that, amongst trials of challenging consumers, females incline to consume cannabis for lesser years before going in for treatment. This suggests that females undergo further swift advancement or a "telescoping" outcome in the advancement of cannabis addiction (Hernandez-Avila, Rounsaville and Kransler, 2004). There is also some evidence that reasons for use especially problematic use, may differ by gender. For instance, a study among 18-25-year-olds at the U.S. (n=4601), social anxiety predicted chronic cannabis use among ladies, however not amongst menfolk (Preston, 2006). Another research among U.S. university students (n=123), women with more symptoms of social anxiety disorder were especially vulnerable to problematic cannabis use (Buckner, Mallot, Schmidt and Taylor, 2006). One possible explanation offered is that publicly nervous ladies consume cannabis as a way for personal-medicate their anxiety (Buckner, Mallot, Schmidt and Taylor, 2006). In a South African study of university students, past-month cannabis use was connected to poor self-regard in women, though not among men (Peltzer, Malaka and Phaswana, 2001).

According to Nakamura, Dawe, McGuire, Rehm and Fischer (2010) men and women did not considerably vary in relations of amount of years of use or in the social context in which they use cannabis. More than 63% of men and women reported using cannabis for the past 5 years. Since the usual period among the partakers stood 20.4 years old, most participants began using cannabis around age 15. A low percentage of participants (less than a quarter) reported that they smoked cannabis alone. This suggests both men and women are using cannabis in social settings, which may be useful information for development and dissemination of interventions targeting high frequency users.

A sex variance in marijuana usage remained acknowledged, while feature for variance hasn't also sound discovered. Earlier researches which identified sex variances did inside particular definite populace (Novins and Mitchell , 1998), lacking investigating several associates (Pape, Hammer & Vaglum, 1994; Rodham, Hawton, Evans and Weatherall, 2005),

short of specifying the investigation using sex (Hofler, Lieb, Perkonigg, Sonnatag and Wittchen, 1999; Resnicow, Smith, Harrison and Drucker, 1999; Swift, Hall and Teesson, 2001; Kohn, Kittel and Piette, 2004; Butters, 2005), and without precisely concentrating their investigation on the usage of cannabis (Poulin, Hand, Boudreau and Santor, 2005). However, a greatest reliable outcome shown males remain probably “weighty consumers” not like females (Novins and Mitchell, 1998; Kohn, Kittel and Piette, 2004).

#### **2.1.12 Empirical review**

There remains a universal agreement about misuse of psychotropic materials in Africa as well as other emerging nations rises gradually among young people (Awaritefe and Ebie 1975; Odejide, 1980; Pela, 1988; Federal Ministry of Health, 1991; Asuni and Pela, 1986); which led to a parallel rise for research about this area. Young persons having drug usage maladies as well as grown-ups having drug usage maladies that started cannabis consumption during puberty grew faster towards progress into addiction and have behavioural complications and unhappiness than groups that commenced cannabis usage in first or future adulthood (Clark, Kirisci and Tarter, 1998b).

Onofa (2005) reported 69.2% lifetime usage of drugs amongst university undergraduates of three higher institutions in Abeokuta, western Nigeria. Misuse of psychotropic materials constitutes grave repercussion for addicts, resulting in students’ waste, failure, economic ruin as well as danger to communal health (Onofa, 2005). Nevertheless certain researchers have connected drug misuse with diverse types of mental unwholesomeness. Asuni (1964) stated the progress of schizophrenic disorder amongst cannabis addicts. Paton and Kandel (1978) positioned that relationship exist amid drug usage as well as dispiriting ailment. Morakinyo (1983) and Pela (1986) conveyed contributing impacts of mis-use of cannabis towards the growth of mental unwholesomeness. Also, it was recounted that a growing figure of secondary schools as well as university students taken to mental institutions as well as clinics revealed mental difficulties ensuing psychotropic substance usage (Ogunremi and Okonofua, 1977).

Cannabis is the greatest commonly consumed drug universally; United Nations Office on Drugs and Crime (UNODC) appraised that nearly 160,000,000 persons globally consumed cannabis within 2005. In line with a National Drug Strategy Household Survey in Australia, nearly 1/3 of Australians had experimented with cannabis, in addition nearly one among ten had consumed in the previous year; its usage remains utmost dominant amongst individuals who are around 20 years old, besides it remains highly regularly consumed among men than

females. The British Crime Survey (Murphy and Roe, 2007), found that marijuana continued to be a substance often probably used by adolescents and youths in the past twenty years. By 1996, greatest regular “optional substance” was cannabis (26.0%), tailed with amphetamines (11.8%), ecstasy (6.6%), poppers (4.6%), as well as LSD (4.5%). A decade later, vital variations took over substances adolescents and youths was expected to use. Near 2006/2007, the greatest widespread substance at 20.9% was cannabis, ensued through cocaine powder (6.0%), ecstasy (4.8%), poppers (4.3%) besides amphetamines (3.5%). According to a big global studies, cannabis is the main illegal drug used amongst adolescents and youths in Europe (Hibell, Andersson, Ahlstrom, Kokkevi and Morgan, 2004; Currie, Nic Gabhainn, Godeau, Levin and Todd, 2008). Usage of cannabis remains similarly regular conduct amongst youths at North America (Ter Bogt, Schmid, Fotiou & Vollebergh, 2006). The utmost current HBSC discoveries suggested variances among nations with regard to lifespan cannabis usage amongst youths. Teenagers aged 15 years old in Scotland, are amongst the maximum proportions of lifespan usage of cannabis; 27% amongst females while 29% amongst males stated they had consumed cannabis before (Currie, Gabhainn, Godeau, Levin and Todd, 2008). According to OED (2008), in Spain, mean age of cannabis commencement starts from 14.6 years. Current cannabis usage is more suggestive of steady instead of trial usage and, equally with lifespan involvement of cannabis, there are certain extensive differences concerning nations about frequency in usage of cannabis for past 30 days. Scotland stands on upper close on the classification, about 11% amongst 15-year-old females then 13% amongst 15-year-old males stating current marijuana usage.

A survey piloted among universities crosswise four Andean nations established maximum degree of lifespan cannabis usage amongst Colombian students to be 32.1%. Similar proportions remained 21.3%, for Ecuador; 11.8%, for Peru; while 11.73%, for Bolivia (PRADICAN, 2012). For the rest of the world especially Colombia, male undergraduates have the tendency over lady colleagues in recounting lifespan cannabis usage (39.0% in addition to 24.2%, correspondingly) while 27.1% for previous-year cannabis consumers show some form of misuse otherwise addiction (PRADICAN, 2013). Arria, Caldeira, O'Grady, Vincent, Fitzelle, Johnson and Wish (2008), revealed from the longitudinal research of university students, that cannabis was the greatest dominant drug, consumed virtually by 40% of adolescents before beginning university, 50% started use in year one of university, while almost 60% in year two.

Motivational Enhancement Therapy was established as an operational method to decreasing cannabis usage in older people (Stephens, Roffman, and Curtin, 2000; Marijuana

Treatment Project Research Group, 2004; ) and has proven assurance among teenage drug addicts (Aubrey, 1997; Colby et al., 1998; Monti, Colby, Barnett, Spirito, Myers, Woolard and Lewander, 1999). In a study of fifty-four youths who had consumed cannabis at minimum one time in the last 30 days enlisted to partake in an unrestrained model study; partakers were gauged at starting position and at a 3-month sequel. Majority of them acknowledged one MET period dedicated on cannabis. The outcomes revealed that adolescents cannabis consumers in secondary school would partake in an MET mediation. Generally, partakers decreased their usage of cannabis during the 3-month sequel; however the absence of a regulator group disallowed ascribing the alteration to the mediation. Persons who consumed cannabis for nine (9) or extra days each month were more to be expected to have modifications, proposing that more consistent consumers might have utmost probability of benefitting.

A psychoanalysis study (Lundahl, Tollefson, Kunz, and Burke, 2009) recognised 34 surveys which ascertain treatment commitment. The benefit different beginning 5% to 15% for examples getting MET likened with those in a non-treatment situation. Examples of those getting MET were somewhat however not meaningfully privileged above those who got a substitute energetic mediation (d50.12; approximately a 5% variance in achievement proportion). Another study conducted by Lundahl, Tollefson, Kunz, and Burke (2009); it had 119 survey which got involved in the distinctive technique of MET comparative towards whichever any regulator set or any similar set through several difficulties which include cannabis use among adolescents. The study found separate studies examining cannabis (n=517) from other drug use problems. It was discovered that MET is at minimum as active as other treatments and meaningfully improved than no mediation, with a bigger achievement ratio of approximately 15% for those getting MET above those who did not get treatment.

Different studies have been carried out by different researchers on different intervention techniques that could be employed in preventing usage as well as drug abuse on university grounds. For instance, Vogel, Michaels and Gruss (2009) explored the relationship between parental attitudes towards therapy and university students' intention to seek therapy. The Intention to Seek Counselling Inventory (ISCI) which contained 10 items for psychological and interpersonal concern, 4 items for academic concern and 2 items for drug use concern was used. The study utilized only the subscale for psychological and interpersonal concerns. It was observed that university students can be influenced to seek help if they have strong attachments to parents who have positive attitudes towards mental health services.

Gillespie, Holt and Blackwell (2007) studied 421 university students to measure the outcomes of the usage using Shortened Inventory of Problems-- Alcohol and Drugs (SIP-AD). Study concluded that university undergraduates might not see it difficult/challenging, consumption of four to five glasses/bottles of alcohol and that while SIP-AD is “beneficial, generally precise in addition dependable” instrument in the evaluating undesirable repercussions linked to drug abuse, its strength lies in the assessment of alcohol, cannabis and cocaine use as a group rather than alcohol use alone.

Cleveland, Harris, Baker, Herbert and Dean (2007) evaluated a residential substance abuse treatment programme on some big south western university, United States. Eighty-two partakers were in the Collegiate Recovery Community that was situated in the midst of the “abstinence hostile” college environment. The community members had histories of both extensive substance abuse behaviour and intensive treatment and were mostly year one as well as year two students. The requirement was to have been in recovery for a year prior to enrolment in the programme. Support was provided by study of addiction and abuse staff through weekly seminars. Despite the college environment, the participants were able to maintain their recovery.

DiRamio and Payne (2007) carried out a study at a public research university involving 888 participants. The purpose of the research was to study the assessment approaches and measure student outcomes for self- efficacy, reaction to stress and substance abuse. They established some constructive association amid co-curricular programme involvement in addition to students’ attitudes towards substance abuse.

## **2.2 Theoretical framework**

Various theories focused on different characteristics of drug usage which among them is the cognitive-affective sides that surmise principles around repercussions remain some key reasons to substance usage amongst youths. Though, it’s hard in saying which principles otherwise knowledge in trial substance usage hastens actions/conducts. Further concepts concentrated about social learning methods besides act by supposition showing conducts as well as principles remain communally knowledgeable. Specific concepts concentrate towards dependence otherwise obligation offering key reason for the growth of a drug usage difficult. Lastly, some other theories make a concurrent assimilation of numerous parts, and take responsibility that drug usage is an intricate phenomenon (Petraitis, Flay and Miller, 1995). Bearing in mind the intricacy of the marvel of drug usage in puberty and the effect of manifold reasons, the aim to consume might be influenced by opinions of damages or aids

which youths possess in setting some social, cultural as well as personal impact. A theory and a model were adopted in this study:

- The Domain Model (DM)
- Social Cognitive Theory (SCT)

### **2.2.1 The Domain Model (DM)**

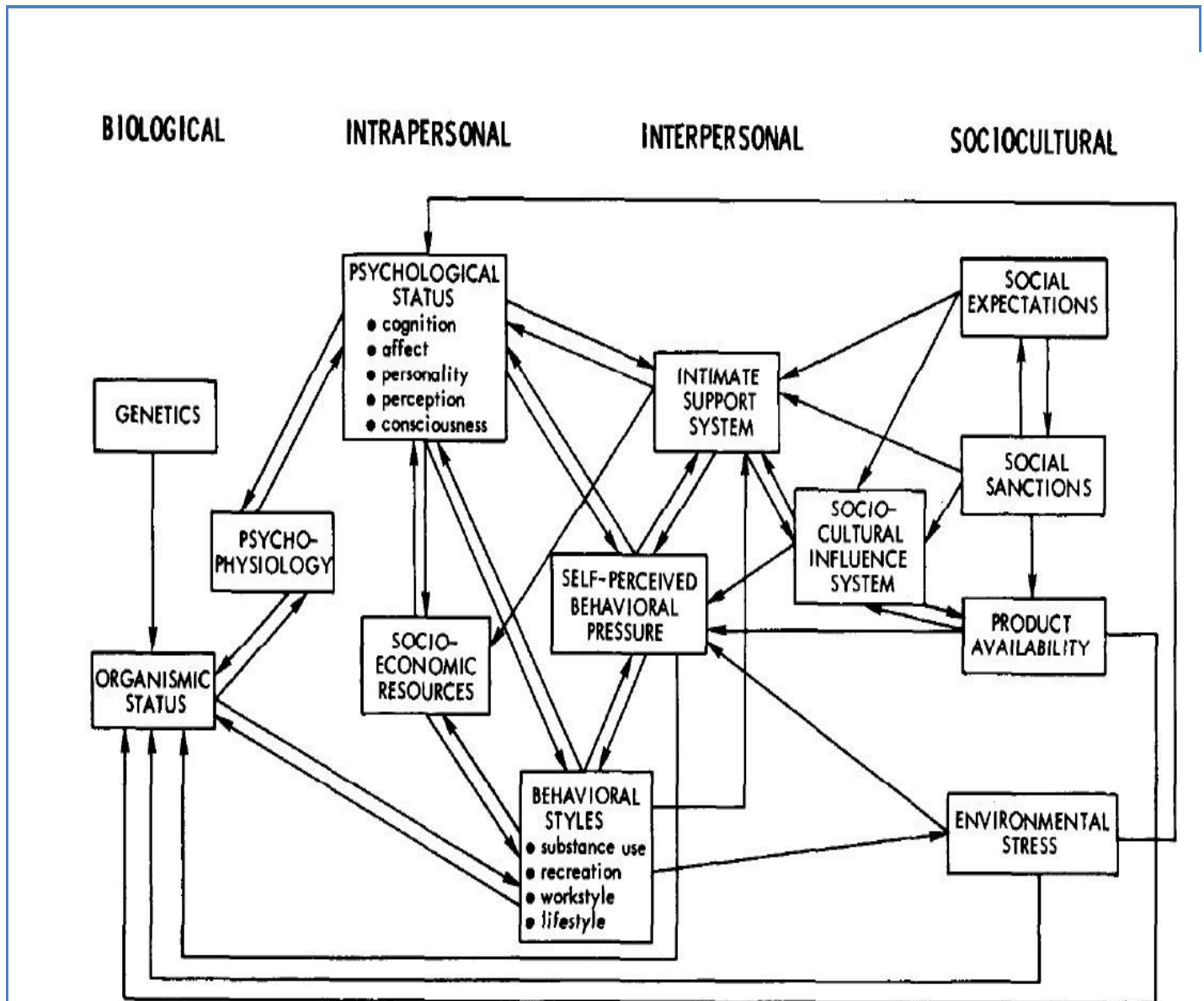
The Basis of Drug Usage otherwise Domain Model propounded by Huba, Wingard, and Bentler (1980) combines genetic, personal, relational and socio-cultural spheres to expound drug usage amongst adolescents. The method comprises of a cooperative prototype in which genetic, personal, relational, and socio-cultural spheres collectively impact adolescent's drug usage behaviour. The prototype comprises above 50 probable reasons of drug usage that are compiled into 13 groups of changing nearness to trial drug usage. The thirteen groups were gathered; thereby becoming 4 common spheres (Petraitis et al., 1995). The genetic sphere contains inherited vulnerability to addictive impacts of drugs, a person's functional responses to drug usage, and overall wellbeing. The personal sphere sways the choice to consume which comprises, emotional level, prospects concerning penalties of drug usage, intellectual style, character individualities and emotional conditions (feeling seeking, suddenness, friendliness, sociability, neurotic, unhappiness, apprehension, and poor self-worth), and individual ethics (for example, achievement, accomplishment, freedom).

Relational features consist of communal backing; modelling, communal strengthening, and awareness of individuality and fit in add to drug envelopment. This sphere emphasizes reasons such as the make-up and accessibility of one's societal set-up, as well as the disposition and features that the persons see their communal set-up as embracing. In other words, the third sphere portrays relational effects and involves the features of those persons who offer communal backing for youths and through whom youths are sentimentally involved.

The sociocultural sphere includes television pictures of alcohol and other substances, the market accessibility of drugs, and dominant societal approvals in contrast to drug usage, for example, illegal punishments, and rules concerning drug usage, societal anticipations, and ecological stressors which function on both cultural and social state as well as influence growth of teenagers' drug usage. The latest sphere emphasizes essential reasons needed to



comprehend drug misuse susceptibility that are commonly unnoticed in utmost concepts (Szalay, Strohl, and Doherty, 1999; Wolfe and Mash, 2006).

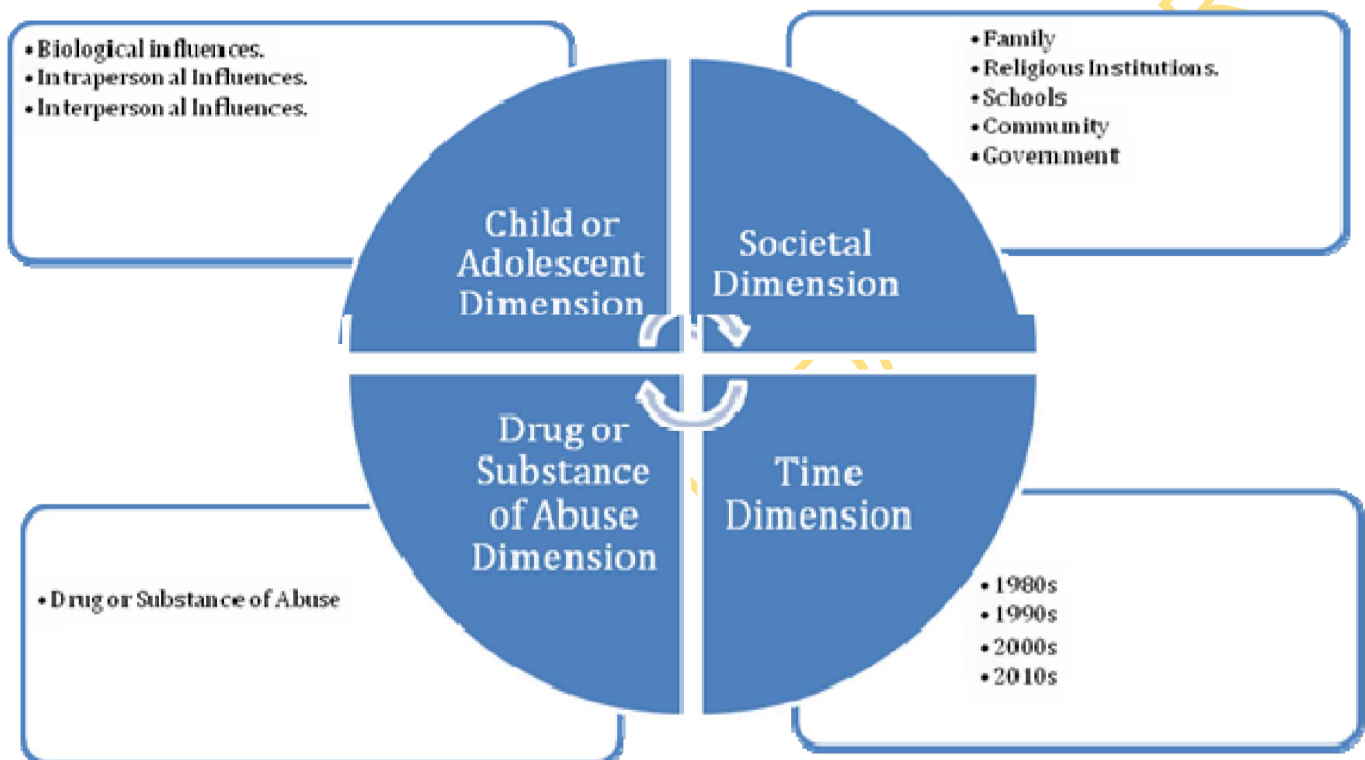


 **Figure 2.1 Domain Model framework for Drug Use Diagram**

Source: Huba et al. (1980: 96).

Pagliari and Pagliari (2011) assumed a self-referential interaction archetype for kid as well as teen usage besides a drug abuse, that some multiple variables concept explicitly established for ease some well comprehension for several relating mutable that have been

associated to or have been recognised as swaying the usage of drugs and abuse of drugs by kids and teenagers. Comprising four key inconstant scopes, the model gives specific thoughtfulness to the kid or teen aspect and its relations to additional 3 scopes, including the substance or drug addiction aspect, communal aspect, as well as period aspect, so as to allow relations to get completely and correctly comprehended in a real medical perspective. Although the authors termed it otherwise, the meta-interactive archetype is basically alike with the Domain Model.



**Figure 2.2 Meta-Interactive model of Child and Adolescent use of Drugs and Substance of Abuse Diagram**

**Source: Pagliaro & Pagliaro (2011)**

From the design, reasons observed between both kid and teenage aspects respectively remain discussed below:

**Genetic Effects:** dotage, mainland lineage, sex, hereditary susceptibility to psychological maladies and drug use disorders, bodily injury or incapacity.

**Intrapersonal Effects:** antisocial personality malady, attention-deficit/hyperactivity disorder, behaviour malady, sex, individuality disaster, key gloomy disorder, additional lively



psychological disorder, exterior locus of countermeasure, desperateness, absence of importance to existence, solitude, poor personal-worth, former usage of the drugs and abuse of drugs, grave initial childhood damages.

**Interpersonal Effects:** lack of motherly character or character exemplary, lack of fatherly character or character exemplary, discontent by kinfolk associations, parental otherwise familial alcohol usage and additional substances as well as drug abuse, parent negligence, friends pressure, bodily or sexual exploitation, former inpatient management for psychological maladies, drugs usage in addition to abuse of drugs with close associates and cohorts.

**Communal aspect:** accessibility and approachability towards communal programmes as well as facilities (management), beliefs, values, in addition, region lineage, land laws /regulations (for instance, rank and approvals of ownership, usage, and trading), mass media posts.

**Drug or substance usage aspect:** accessibility towards drugs as well as drug of abuse, selling price and usage form.

A main part about Domain Model expounds drug consumption as an intricate structure with diverse related portions (Petraitis, Flay and Miller, 1995). The theory claims awareness for damages and aids of cannabis and its relative aim to consume amongst adolescents comprise diverse significant features. For this study, the utmost relevant spheres about this concept are personal, relational, social and cultural groups. The aim to consume cannabis is swayed by several additional reasons. A number of these reasons comprise an account of past distress, parenting method, parental and relatives' usage with drugs, hostile conduct, heredities and organismic position (Pagliaro and Pagliaro, 2011).

### 2.2.2 Social Cognitive Theory (SCT)

Bandura and Walters (1963) widened the Social Learning concept recommended through Miller and Dollard (1941) with the ideologies from observational study as well as vicarious strengthening. Social Cognitive Theory (SCT) (Bandura, 1977, 1986) stays as one of the greatest commonly braced cognitive concepts for procurement as well as upkeep of human behaviour. For SCT, Bandura establishes 2 concepts: self-efficacy besides outcome expectancies. Self-efficacy denotes an individual's conviction he/she could efficaciously or unsuccessfully control his/her conduct. Bandura (1986) advocates self-effectiveness principles to be "*basis for human efficiency*". Equally faith structures seem very useful for drug usage malady hindrance as well as management enquiry, although through sturdy emphasis for liquor (Bandura, 1999; Young and Oei, 1993; Shell, Newman and Xiaoyi 2010).

Furthermore, lately intellectual machineries for cannabis expectation in addition to cannabis self-effectiveness were observed.

Social Cognitive Theory (SCT) rests on the basic assumption that both environmental (external) causes (for example, reinforcement as well as punishment) in addition inner causes (intellectual as well as affective events) are necessary for behavioural change. The three reasons: environment, persons as well as conduct persistently swaying each other. Conduct remains not merely an outcome from surroundings besides individual; in as much that surroundings does not merely an outcome from individual in addition to conduct (Glanz, Rimer and Lewis, 2002). Social Cognitive Theory describes in what manner persons attain and uphold definite behavioural forms, however, bearing in mind the communal and physical environs in which they execute the behaviour. The theory considers a person's previous capabilities, which orders whether behavioural accomplishment will happen. Observational learning happens once an individual observes the activities of a different individual and the encouragements that the individual gets (Bandura, 1997). Individuals learn by seeing others, with environs, behaviour and intellect as the major reasons swaying growth. These three reasons are not stagnant or autonomous; somewhat they are all communal. For instance, all behaviour seen can alter an individual's manner of reasoning (intellect). Also, the environs where an individual is brought up might sway future behaviour, just as a mother's mind set (intellect) will define the kind of environs in which her kids are nurtured. Hence, assessing behavioural alteration hinge on environs, individuals and conduct. Environs as well as condition offer outline of comprehending conduct (Parraga, 1990). The SCT expounds in what manner individuals attain and uphold definite behavioural forms, while similarly offering the base for mediation approaches (Bandura, 1997). Like the Domain Model, it also offers an outline for scheming, executing and assessing programmes. The aim of Social Cognitive Theory is to expound by what means persons control their behaviour by regulation and strengthening to accomplish goal-directed behaviour that can be upheld over time. According to Glanz, Rimer and Lewis (2002), there are eleven constructs of the theory. These are summarised below:

**Two-way Predestination:** It's essential notion of SCT that submits that energetic as well as mutual relations from a person (individual using a set of knowledgeable capabilities), environs (outward social setting), and conduct (answers to stimuli to accomplish objectives) in which the conduct is executed; considers various paths to behavioural variation, as well as ecological, ability and individual transformation.

**Behavioural Capability:** This discusses an individual's real skill to execute behaviour through vital information and abilities. In mandate to efficaciously execute behaviour, an individual need to recognise what and how he/she performs it. Persons acquire from the penalties of their conduct that likewise alters environs where they abode.

**Observational Learning:** It happens by observing the activities and results of others' conduct and then reproducing those activities. This is frequently displayed through "modelling" of conducts. If persons witness efficacious display of behaviour, they can moreover accomplish the behaviour efficaciously.

**Reinforcements:** These refer to the outward or inward answers to an individual's conduct can disturb the probability of on-going or stopping the conduct. Reinforcements could start within the individual or in the environs, and they can be constructive or damaging. This is the concept of SCT that best narrowly bonds to the mutual association between conduct and environs.

**Expectations:** These are the preventive results from conduct; they provide constructive results for healthy conduct. Result anticipations could either reflect neither well-being-associated nor well-being-related. Persons forestall some penalties through activities afore participating within conduct besides expected penalties might sway efficacious accomplishment of the conduct. Anticipations originate mostly from earlier experience.

**Expectancies:** These similarly originate from former experience. They centre on the worth that the person places on a given result. Encouragements reveal results of transformation that have useful sense.

**Self-efficacy:** Point at the state of an individual's assurance on their capability for efficaciously accomplishes conduct.

**Situation:** Awareness for environs corrects mistakes in addition promotes wholesome systems.

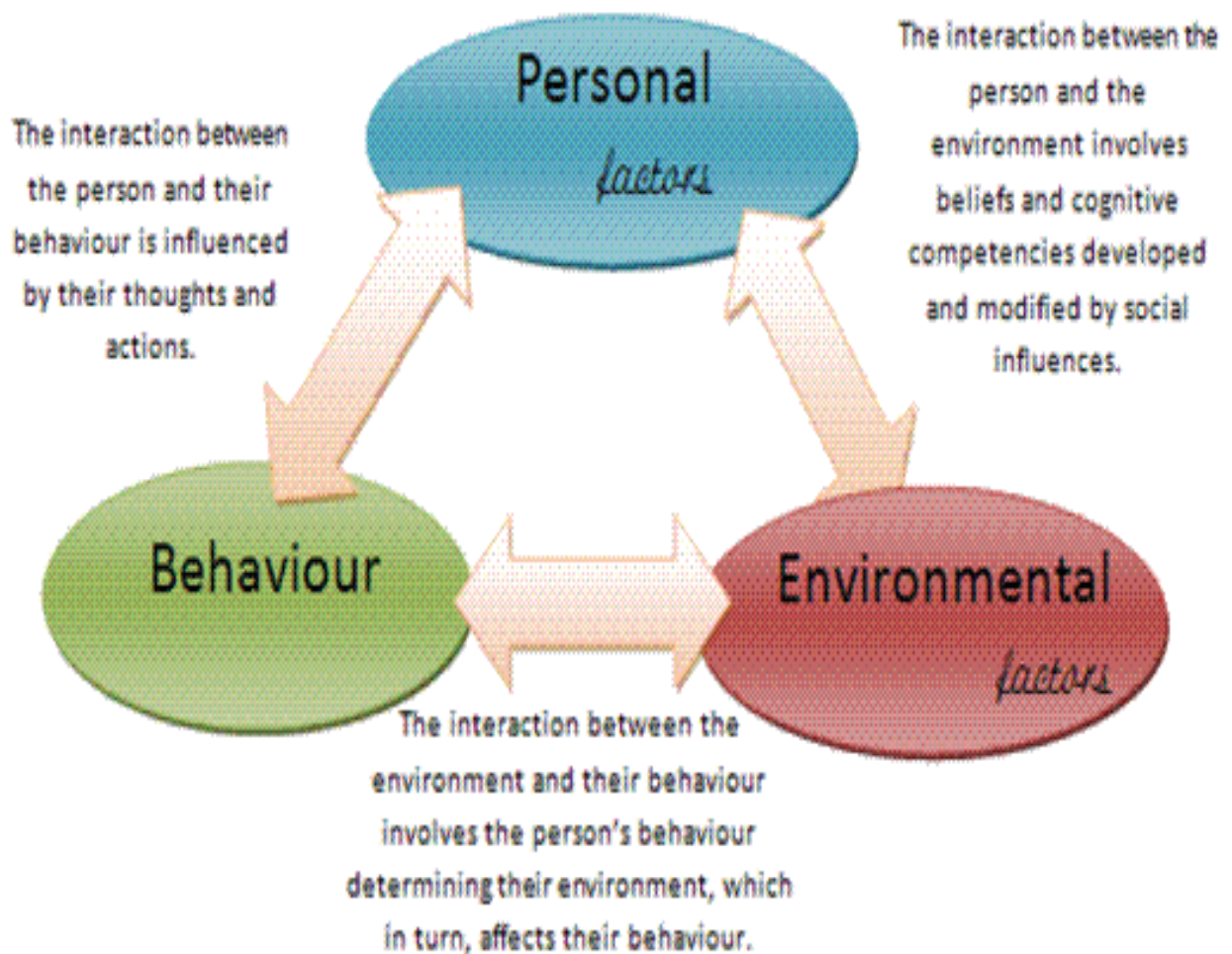
**Environment:** This means reasons bodily outward to the individual. It offers chances and communal backing.

**Self-control:** Individual controlling of goal-directed conduct or act provides chances for self-supervision, objective setting, and problem resolving and self-recompense.

**Emotional coping responses:** They are the approaches or manoeuvres that are used by an individual to cope with emotional spurs. They offer training in difficulty answering and pressure administration.

The conceptual model of SCT is shown in Figure 2.3. The concept adopts that variations in the environs will instinctively proceed to variations in the individual, which

might not constantly be correct; and also the procedure of information acquirement or knowledge rightly related to the witnessing of prototypes. The model is founded exclusively on the energetic interaction among an individual, conduct and environs. The degree to which each of these reasons influence real conduct and if one is extra powerful than an additional.



**Figure 2.3: Social Cognitive Theory: Bandura's Concept**

Source: Jessica Ring (2013)

### **2.2.3 Relevance of Social Cognitive Theory to This Study**

The SCT emphasizes the interrelationship among personal, behavioural and environmental factors. This makes Motivational Enhancement Therapy broadly applicable in the real world context. When undergraduates who are doing drugs (cannabis) are taken through Motivational Enhancement Therapy, they will be aided to quit cannabis by building self-confidence, developing refusal skills, master their emotions and be more focused by setting goals that will impact positively on their lives. These will most likely improve their self-confidence and consequently their achievement in their academic career, and in other areas of life. This makes SCT a very useful theoretical foundation for managing undergraduates with cannabis usage who encounter difficulty in abstaining from cannabis use.

The framework for the proposed study is presented in Figure 2.4. The independent variable that will be manipulated in this study is Motivational Enhancement Therapy. The key interest of this research remains the outcome of this variable on the dependent variable, cannabis use. The factors which may affect the outcome of the independent variables (treatments) are the moderating variables. These are indicated in the model as age at onset (below 15 years and above 15 years) and sex (male and female). The control will be taught using the conventional method.

The result and ultimate goal of the study is described by the dependent variable which is enhanced self-confidence and drug refusal skill of undergraduates using cannabis. The interaction of all the variables is represented by S-O-R, where S stands for stimulus (independent variable), O is Organism (moderating variable), and R is response (dependent variable).

### **2.3 Conceptual model for the study**

This study is anchored in “Stimulus Response Theory (S-R)” variable, each variable is a stimulus to the participants, which brings positive response to their well-being (healthy life). The Stimulus Response Theory remain a notion in general psychology as well as a principle in education in addition to reasoning, precisely, denotes that conviction about behaviour apparent as an outcome of interaction between impetus as well as reaction. For comprehension, there is faith that any matter offered using lone impetus, in addition reacts toward the impetus, generating behaviour or acquiring learning. Training remains any fundamental type for knowledge by which any reaction turns into extra regular otherwise

further probable at any particular surroundings, resulting from strengthening, by strengthening normally serve as impetus otherwise recompense aimed at a wanted reaction.

This conceptual framework on which this study is built is shown in Figure 2.4. The independent variable is the treatment technique of Motivational Enhancement Therapy (MET). Motivational Enhancement Therapy (MET) remains referred as the autonomous mutable for the model for the aforementioned remains the mutable to be manipulated by the researcher to see its effects on the dependent variable (cannabis abstinence). The model equally contains the moderating variables, which are age at onset and gender of the subjects.

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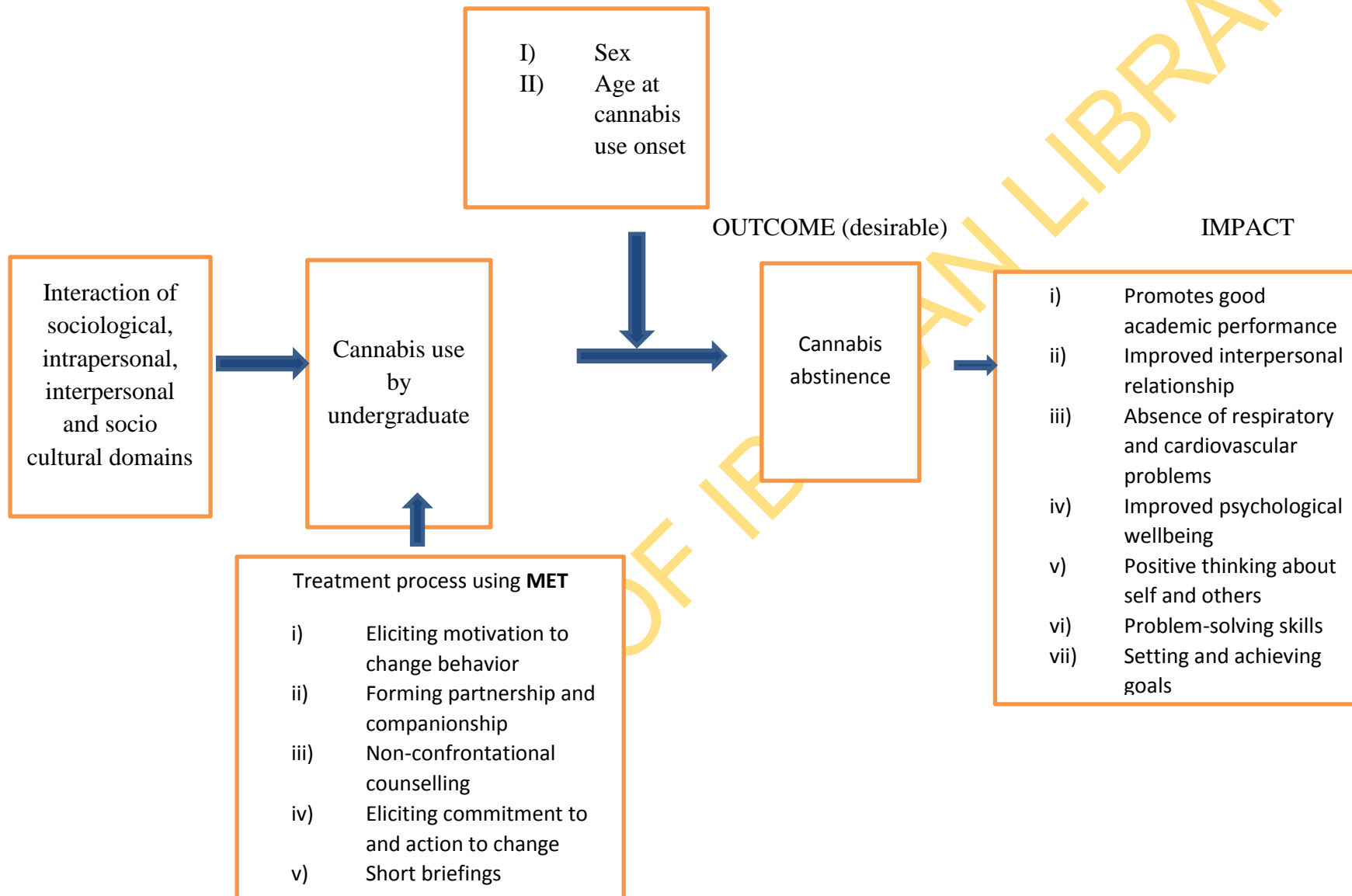


Figure 2.4: Conceptual framework for the study

Source: Researcher, 2016.



## 2.4 Appraisal of the literature reviewed

The useful inferences drawn from the literature reviewed are presented below. This is to clearly see the gap in the knowledge.

Drug abuse is a foremost communal well-being problem globally (UNODC, 2005), while cannabis is the greatest generally mis-used drug amongst adolescents (UNODC, 2011) and utmost commonly consumed illegitimate drug in the universe (UNODC, 2014). The usage of cannabis amidst youths remains extremely common with approximately eighty percent (80%) of them consuming it earlier before 21 years of age (Fergusson and Boden, 2008).

In Nigeria, some scholars posit that alcohol is most widely used amongst undergraduates (Adewuya, 2005), while others strongly submit that cannabis is extremely the utmost generally consumed illegal drug, with consumption rate of 4% likened to 1% meant for every additional drugs dependence joint (Obianwu, 2005). The effects created by drug abuse are severe and have been examined among selected groups without boundaries or social class globally and in Nigeria (Odejide, 1979; Ubom, 2004; Obiamaka, 2004; Okorodudu et.,al 2004).

Evaluation with other Third-World nations shown that Nigeria positions amongst the uppermost consumers of illegal drugs like cannabis, cocaine, and opioids (Degenhardt et al., 2008). Motivational Enhancement Therapy is effective for enhancing cannabis abstinence of different categories of individuals, adolescents and adults, male and female.

Quasi-experimental technique involving pretest, posttest and training sessions are generally used for MET training. Majority of the researches reported across literature were cross sectional and test-retest scores were based on weeks and months. However, there is frequent imbalance of females to males and length of training, which could influence the result. Also, the samples used in many of the studies consist of different cohorts – adolescents in and out of school, adults, and individuals in rehabilitative homes, male and female.

Since cannabis usage remains influenced through certain reasons, some form of intervention in developing resistance to use and in enhancing effective drug refusal skills and good self-esteem could help undergraduates to abstain from cannabis use. Positive body image, goal-setting, refusal skills and healthy self-esteem are predictors of Motivational Enhancement Therapy. However, this is yet to be proven empirically amongst undergraduates in Nigeria. No empirical study was found for review on Nigerian adolescents' undergraduates doing cannabis. Although, some rehabilitative centres might be using motivational enhancement therapy to treat adolescent cannabis users, their works are not being published. Therefore, this study filled part of this observed gap in knowledge.



**CHAPTER THREE**  
**METHODOLOGY**

**3.1 Research design**

This research adopted the pretest- posttest control group and quasi-experimental plan using a 2x2x2 factorial matrix in which there were two rows consisting of one treatment strategy (Motivation Enhancement Therapy) and the control group (non- treatment group). There are also three columns denoting the groups of the participants based on their age at commencement of cannabis usage as well as sex classifications. Group A<sub>1</sub> was pretested and subjected to treatments (Motivational Enhancement Therapy). The control group was equally pretested and no treatment was given. The factorial matrix is presented below:

**Table 3.1: A 2x2x2 factorial matrix**

Treatment Group	GENDER				Total
	MALE B <sub>1</sub>		FEMALE B <sub>2</sub>		
	AGE C		AGE C		
	Early on-set C <sub>1</sub>	Late on-set C <sub>2</sub>	Early on-set C <sub>1</sub>	Late on-set C <sub>2</sub>	
Motivational Enhancement A <sub>1</sub>	A <sub>1</sub> B <sub>1</sub> C <sub>1</sub>	A <sub>1</sub> B <sub>1</sub> C <sub>2</sub>	A <sub>1</sub> B <sub>2</sub> C <sub>1</sub>	A <sub>1</sub> B <sub>2</sub> C <sub>2</sub>	25
Control Group A <sub>2</sub>	A <sub>2</sub> B <sub>1</sub> C <sub>1</sub>	A <sub>2</sub> B <sub>1</sub> C <sub>2</sub>	A <sub>2</sub> B <sub>2</sub> C <sub>1</sub>	A <sub>2</sub> B <sub>2</sub> C <sub>2</sub>	15
<b>TOTAL =</b>	<b>40</b>				

**KEY:**

A<sub>1</sub> ----- Treatment 1—Motivational Interviewing Technique (MIT)

A<sub>2</sub> ----- Control Group

B<sub>1</sub> ----- Male

B<sub>2</sub> ----- Female

C<sub>1</sub> ----- Age at on-set of cannabis use (early on-set)

C<sub>2</sub> ----- Age at on-set of cannabis use (late on-set)

The design is schematically represented as:

O1 XA<sub>1</sub> O4

O2 XA<sub>2</sub> O5

Where O1, O2 represent

O4, O5 are posttest

XA<sub>1</sub> = Experimental Treatment Motivational Enhancement therapy

XA<sub>2</sub> = Control Group

### 3.2 Participants

These were undergraduates who tested positive to cannabis use during the general screening exercises in Babcock and Adeleke Universities.

### 3.3 Sample and sampling techniques

The purposive selection method was employed in picking undergraduates who tested positive to cannabis use into the treatment and control groups. The selected participants were randomised into MET (Babcock University) and Control (Adeleke University) groups.

**Table 3.2: Summary of selected private universities**

S/N	NAME OF UNIVERSITY	STATUS
1.	Babcock University	Treatment Group: Motivational Enhancement Therapy (MET)
2.	Adeleke University	Control Group

**Table 3.3: Summary of selected Participants in each of the Universities**

S/N	NAME OF UNIVERSITIES	TOTAL NUMBER OF PARTICIPANTS SELECTED
1.	Babcock University	25
2.	Adeleke University	15
3.	Total	40

### 3.4 Inclusion criteria

The ensuing standards were used in choosing the partakers of this study:

1. Partakers were undergraduates of the two universities under studied.
2. Participants were subjected to screening exercise and tested positive for cannabis use.
3. Participants agreed to and filled consent form showing their interest in the study.
4. Participants attended and participated actively in the study without any coercion.

### 3.5 Instruments

Three instruments were used in this study. These were the clinical drug screening kit (Ecotest), Adolescent Cannabis Problem Questionnaire (CPQ-A) and Motivational Enhancement Therapy Training Guide were adopted for this research.

### **3.5.1 Clinical Drug Screening Kit:**

The drug kit that the two universities laboratories used is called “Ecotest” which tests 17 different drugs of abuse. The Drug Check or EC Test kit was dipped into each participant urine sample to test for cannabis by the medical laboratory scientist(s) at the universities laboratories.

### **3.5.2 Adolescent Cannabis Problem Questionnaire (CPQ-A):**

This was established by Martin, Copeland, Gilmour, Gates and Swift (2006) as an evaluative instrument as well as treatment result extent. The tool was created in the form of questionnaire with a forty-four item scale and has a response format of YES (2) and NO (1) by which respondents were scored. A copy of it is presented in Appendix III.

A pilot study was conducted using the CPQ-A at Lead City University, Ibadan using a total population of 10 undergraduates doing cannabis. These students had similar characteristics with the students that participated in the actual research. About 15 minutes was used to complete the questionnaire with the help of an alumnus of the university. The researcher was introduced to the undergraduates and all necessary instructions required in finishing the questionnaire were given to the students. The researcher was, however, asked to leave their presence in order not to distract them. The data collected were analysed with Cronbach’s alpha to get the dependability of the tool. Results obtained revealed that the reliability was 0.73, which was close to the overall reliability coefficient of the original instrument of 0.91.

### **3.5.3 Motivational Enhancement Therapy Training Guide:**

This was developed by Kadden and Sampl (2002) (University of Connecticut Health Centre, Department of Psychiatry and Neuropsychiatric Institute and University of Connecticut Health Centre Alcohol Research Centre). This guide (presented in Appendix I) was used in training research assistants that handled the interactions (treatment). It contained the package as well as instructions on how to implement them with a detailed procedural layout.

## **3.6 Procedure for the study**

The researcher collected a letter of introduction from her supervisor to management of both Babcock and Adeleke Universities for identification process and in order to have access to the undergraduates who tested positive to cannabis use. The researcher made use of three research assistants, two (2) from Babcock University and one (1) from Adeleke University. All the research assistants hold a master’s degree in either Counselling Psychology or Social Work. The researcher was available throughout the period of the therapy at Babcock University while she only attended

four sessions of the therapy at Adeleke University. The Intervention Programme and Questionnaire were managed on the partakers by the assistance of three research helpers trained by the researcher. The researcher warmly welcomed participants to the programme to create enabling environment for the intervention. She informed them about the basis intended for the research in addition to anything that partakers might gain by the completion of the series and controlling tenets concerning the anticipated behaviours of the partakers during the progression of this series. The research assistants administered pre-test questionnaire. After the intervention, they also administered posttest questionnaire.

This study was conducted for eight weeks with one trial set as well as one control set. During the eight weeks of treatment, each participant was clinically tested for cannabis use twice at 30 days interval because cannabis stays in the body system once taken for at least thirty days. The research assistants were members of staff of the Student Support Centre of Babcock University and Adeleke University who had been involved in interacting with students with different behavioural challenges.

The experimental group underwent a one-hour training session each per week on Thursdays between 1-2pm, the official break hour for the two universities. In some cases, the duration of the training sessions had to be extended to ensure that students assimilated the lessons being taught. The control group was only administered pretest and posttest. For the pretest data, demographic information of participants was collected alongside the CPQ-A, as shown in Appendix II. Details of Motivational Enhancement Therapy training procedures are outlined in Appendix I. However, the summaries of the procedures are presented as follows:

**Experimental Group 1 – Motivational Enhancement Therapy (MET)**

**Week 1:** Overall direction

**Week 2:** Pretest Supervision

**Week 3:** Provide Psycho education, for example, feeling good, ask questions

**Week 4:** Explore Motivation to Change- Phase 1 of MI Strategies

**Week 5:** Rate importance and confidence in making a change

**Week 6:** Explore options for making a change

**Week 7:** Negotiate a Change Plan and Coping with Relapse

**Week 8:** Conclusion and administration of posttest

**Control Group: No treatment**

**Week 1:** General orientation

**Week 2:** Administration of pre test

**Week 3:** General discussion of conventional topics (Benefits of fruits and vegetables).

**Week 4:** Regular conventional discussion—Benefits of vegetables to the body.

**Week 5:** Regular conventional topic—Benefit of green fruits and leafy vegetable to the body.

**Week 6:** Regular conventional topic—Benefits of coloured fruits to the body.

**Week 7:** Regular conventional topic—How to mix different fruits and vegetables for nutritional values.

**Week 8:** Posttest administration

### **3.6.1 Control of extraneous variables**

Extraneous variables are factors other than the independent variables that might affect the dependent variables. They are variables not intended for consideration in the present study. The control of extraneous variable was done basically through random assignment of participants and treatment to experimental group. Also, the use of factorial design in the study helped to take care of likely variations among participants. In addition, Analysis of covariance (ANCOVA), which is a statistical control method, was employed to statistically equate variations among the participants in the study.

### **3.7 Ethical Consideration**

A letter of introduction for the researcher was written by the Supervisor which was taken to the management of both Babcock and Adeleke Universities. Babcock University has a committee called Babcock University Health Research Ethics Committee (BUHREC), where the researcher registered to follow their procedure. The first step taken was to submit three copies of this thesis from chapters 1-3 for assessment and a letter of approval was issued after reviewing the proposal (Appendix V).

For Adeleke University, the researcher was directed to see the Director of their Counselling Centre, who in turn introduced the researcher to the members of staff of the centre. This was so because at that time, the university had no ethics committee. One of the members of staff that had a masters degree in Social Work assisted as a research assistant.

### **3.8 Method of Data Analysis**

The Analysis of Covariance (ANCOVA) and descriptive statistics, which includes percentage, mean as well as standard deviation, were used in analysing the information collected.

## CHAPTER FOUR

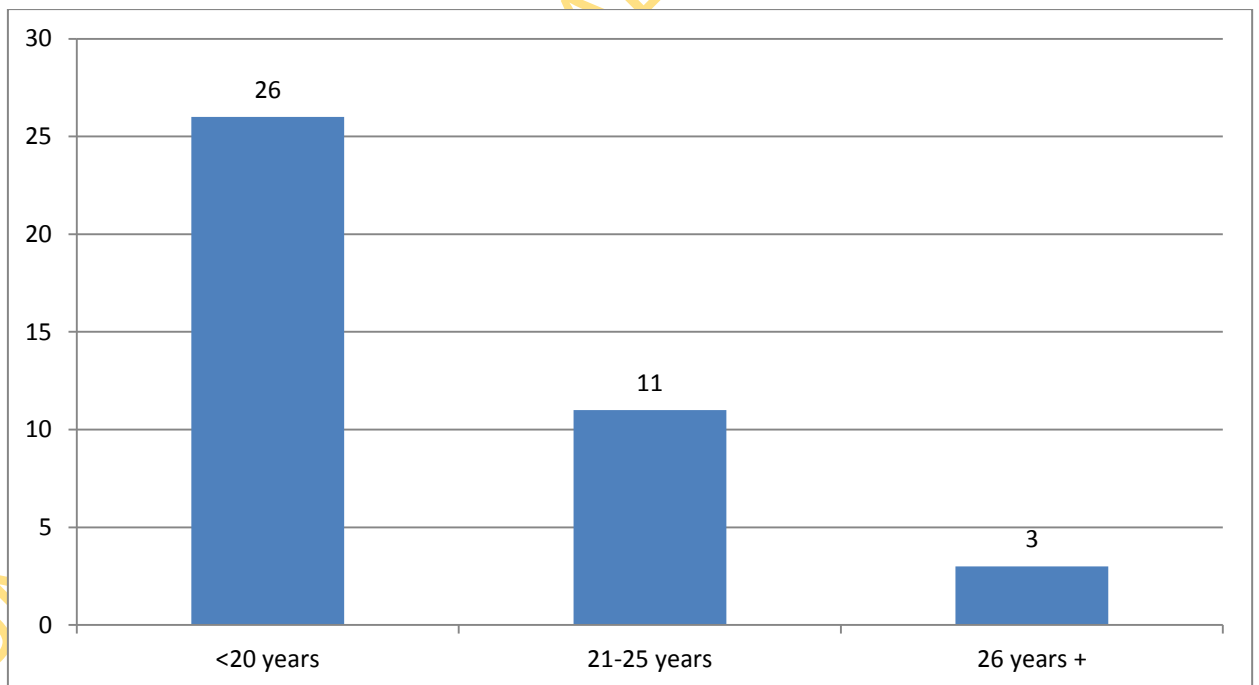
### RESULTS AND DISCUSSION OF FINDINGS

This section reveals result from the analysis of the information collected through the research instruments and discussion on them. The results are presented in tables, followed by interpretations and discussions. The chapter is split into two sections (A & B). Part A explains the demographic information, while the other section (B) carters for the main results of the study.

#### PART A

##### 4.1 Analysis of demographic information on respondents

The demographic data collected included age, sex, age at onset of cannabis use, religion type, ethnic type, family type and levels of the respondents. These were subjected to descriptive statistics of frequency counts with detailed interpretations of the information collected.

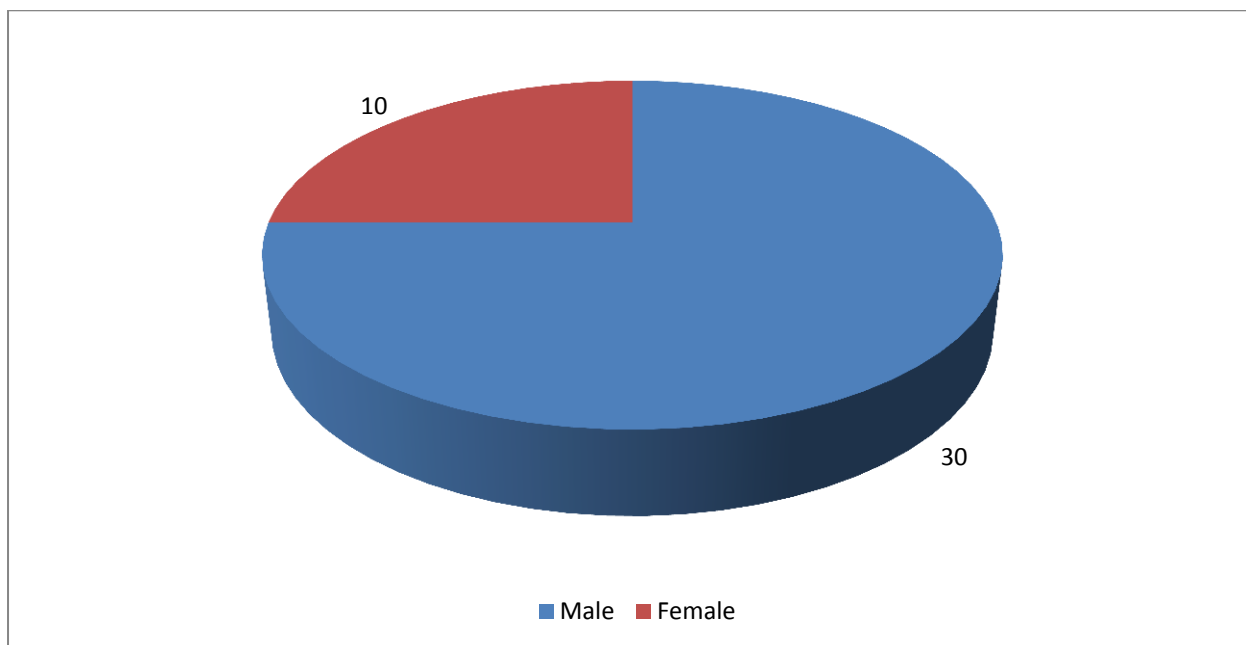


**Figure 4.1a: Age distribution of the respondents**

As shown in Figure 4.1a, the level of age of the respondents extended from 16 to 27 years old. About 65% of the 40 respondents were aged less than 20 years, while 27.5% were between 21-25 years. Only 7.5% were above 26 years. The general age distribution clearly revealed that a

greater percentage of the respondents were well below 20 years, the expected age of undergraduates.

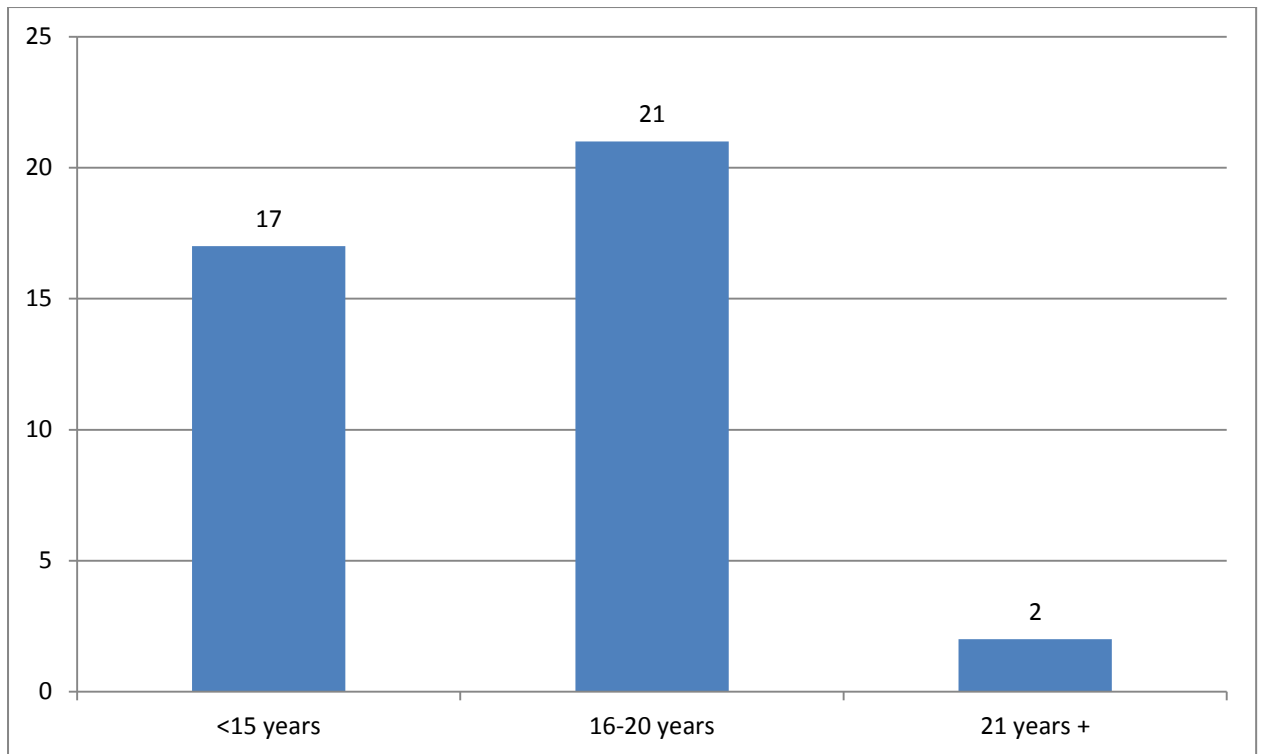
As shown in Figure 4.1a, the respondents' ages stretched from 16 and 27 years old. About 65% among 40 respondents were aged less than 20 years, while 27.5% were between 21-25 years. Only (3) 7.5% were above 26 years. The general age distribution clearly reveals, however, that a greater percentage of the respondents were well below 20 years, the expected age of undergraduates.



**Figure 4.1b: Sex Distribution of respondents**

The sex of the respondents is an important variable under consideration in this study. The pie chart in Figure 4.1b shows that greater than half (75%) of all correspondents were males while the left over were females (25%). Although, a shortage of literature on experimental studies investigating gender variances exist (Becker and Hu, 2008). However, annual cannabis usage remains greater amid undergraduate boys (39%) than ladies (32%) (Monitoring the Future, 2013). The finding of this study has identified a gender variance for cannabis usage, even though the reason behind the variance has remained not soundly discovered. Prior literatures which distinguished sex variances done so mostly in a particular population (Novins and Mitchell, 1998).





**Figure 4.1c: Distribution of respondents at age at onset of cannabis use**

The bar chart in Figure 4.1c shows sharing amongst respondents at age of their first cannabis usage. The respondents who started using cannabis before 15 years were 42.5%, while those that started ranging from ages 16-20 years old were 52.5%. The participants that started at later age of 21 years and above were just 5%. Few studies have remained piloted continuously the features as well as foretells cannabis commencement. Nevertheless, the literature has shown that adolescents ages 12 to 17 years formed roughly two-thirds of cannabis consumers while adolescents ranging from ages 18 to 25 years constituted utmost of the outstanding one-third (OAS,2001b). This corroborates the findings of this study. Also, previous commencement of cannabis has been constantly connected with larger danger of increasing misuse as well as dependency (SAMHSA, 2005; Anthony and Petronis, 1995; Compton and Pringle, 2004).

## **PART B**

This part presents the result of the hypothesis verified at 0.05 level of significance using the ANCOVA statistical method.

### 4.2.1 Effect of treatment on cannabis use

$H_{01}$  There is no significant main effect of treatment on cannabis abstinence among the undergraduates.

The pretest and posttest scores of all partakers in both treatment as well as control group are as shown in Tables 4.2.1a and 4.2.1b

**Table 4.2.1a: Estimated marginal mean scores from the analysis of the Treatment and Control Groups**

Treatment Groups	Mean	Std.Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Experimental	63.123	.595	61.905	64.340
Control	58.407	.708	56.959	59.856

**Table 4.2.1b: ANCOVA showing the main and interaction effects of treatment, gender and age at onset on cannabis abstinence**

Source	Sum of Squares	DF	Mean Square	F	Sig.	Eta. Sq
Corrected Model	2164.615	10	216.462	58.799	.000	.953
Intercept	23.824	1	23.824	6.472	.017	.182
Pretest	1717.962	1	1717.96	466.663	.000	.941
<u>Main Effect:</u>			2			
Treatment Group	86.324	1	86.324	23.449	.000	.447
Gender	39.721	1	39.721	10.790	.000	.271
Age at Onset	2.467	2	1.234	.335	.718	.023
<u>2-way Interactions:</u>			1.234			
Treatment x Gender	4.050	1	4.050	1.100	.303	.037
Treatment x Age at Onset	.221	1	.221	.060	.808	.002
Gender x Age at Onset	18.943	2	9.472	2.573	.094	.151
<u>3-way Interactions:</u>			9.472			
Treatment x Gender x Age at Onset	1.250	1	1.250	.340	.565	.012
Error	106.760	29	3.681			
Total	154177.00	40				
Corrected Total	2271.375	39				

## **Interpretation and discussion**

The results obtained (Table 4.2.1a) showed the estimated marginal mean scores. The Experimental Group had a mean score of 63.123 while the Control Group had 58.407. The difference between the two groups is not much. It suggests that the Control Group would require intervention later on. Analysis of Covariance (ANCOVA), presented in Table 4.2.1b, indicated a noteworthy key outcome of treatment for cannabis use among undergraduates ( $F(1, 39) = 23.449$ ,  $p < .05$ ,  $\eta^2 = .447$ ). In view of this result the null hypothesis remained overruled. The findings of the research and other studies (Aubrey, 1997; Monti et al., 1999; Stephens, et al., 2000; Marijuana Treatment Project Research Group, 2004) support Motivational Enhancement Therapy as a viable means of enhancing cannabis abstinence among adolescents.

The result of this research stands also in conformity by the outcomes of other studies on effectiveness of Motivational Enhancement Therapy as an intervention. Lundah et al. (2009), in their study of 119 studies, found that Motivational Enhancement Therapy is at least as efficient as other treatments and considerably well than not any intervention with a bigger achievement rate of around 15% for those getting MET over individuals who did not undergo treatment. Also, the result agrees with Burke, Arkowitz and Dunn (2002) and Hettema, Steele and Miller (2005), that Motivational Enhancement Therapy can lessen drug usage, together as a separate treatment as well as as a 'preamble intervention' in advance of going into a specialized drug use services. The result is in tandem with a Cochrane review in 2011 (Smedslund, Berg, Hammerstrom, Steiro, Leiknes and Dahl 2011) that also concluded that Motivational Enhancement Therapy could decrease the degree of drug misuse equated without any intervention. Motivational Enhancement Therapy remains likewise regarded equally the best operative once joined by additional usual psychological as well as group mediations (Rohsenow, Monti, Rubonis, Gulliver, Colby and Binkoff, 2011). Thus, Motivational Enhancement Therapy can be presented equally in place of a standalone management besides combining using additional propositions. It helps persons in the direction of discovery as well as decide cannabis users indecision around their drug usage by beginning towards making constructive behavioural as well as psychological changes.

### **4.2.2 Effect of gender on cannabis use**

**H<sub>0</sub><sub>2</sub>: There is no significant main effect of gender on cannabis abstinence among the undergraduates.**

The mean scores of the male and female participants as revealed in Table 4.2.2a. Table 4.2.2b captures the estimated marginal mean scores from the analysis based on treatment and gender. The Analysis of Covariance is presented in Table 4.2.2c

**Table 4.2.2a: Sharing of the participants by sex**

Gender	Frequency	Fraction
Male	30	75.0
Female	10	25.0
Total	40	100.0

**Table 4.2.2b: Estimated marginal mean score from the analysis**

Gender	Mean	Std.Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Male	62.729	.551	61.602	63.855
Female	59.744	.688	58.336	61.152

**Table 4.2.2c: ANCOVA showing the main effect of gender on cannabis abstinence**

Source	Sum of Squares	DF	Mean Square	F	Sig.	Eta. Sq
Corrected Model	2164.615	10	216.462	58.799	.000	.953
Intercept	23.824	1	23.824	6.472	.017	.182
Pretest	1717.962	1	1717.96	466.663	.000	.941
<u>Main Effect:</u>		2				
Treatment Group	86.324	1	86.324	23.449	.000	.447
Gender	39.721	1	39.721	10.790	.000	.271

R Squared= .953 (Adjusted R Squared = .937)

### Interpretation and discussion

The pretest scores of both the males and females showed very slim difference. This means that Motivational Enhancement Therapy seemed to have small positive effect on the mean posttest score of the female participants. Analysis of Covariance presented in Table 4.2.2c showed significant main effect of gender of Motivational Enhancement therapy on cannabis abstinence ( $F(1, 38) = 10.790, p < .05, \eta^2 = .271$ ). The null hypothesis was, therefore, rejected. This significance of gender on cannabis abstinence may be attributed to the fact that more males participated in the treatment than females. The finding corroborates researchers who have studied cannabis use among

different genders and reported a noteworthy variance amid males as well as females. Monitoring the Future, (2013) claims that annual cannabis usage remains greater amongst undergraduate males than females: 39% as opposed to 32%. Although, there is a lack of empirical study probing gender differences for cannabis use (Becker and Hu, 2008), the greatest reliable finding shows that there is a high tendency for males to be “heavy users” when compared to females (Novins and Mitchell, 1998; Resnicow et al., 1999; Kohn et al., 2004).

Furthermore, a gender variance in the use of cannabis has been acknowledged even though the nature of the variance has not been well established. Researches that have revealed gender variances have either done so within particular group of people, without probing different groups that are similar in nature (Pape, et al., 1994; Rodham, Hawton, Evans and Weatherall, 2005), devoid of separating level of use breakdown using sex (Hofler et al., 1999; Resnicow, et al., 1999; Swift, Hall and Teesson, 2001; Kohn, et al., 2004; Butters, 2005) and without precisely concentrating on cannabis usage (Challier, et al., 2000; Poulin, et al., 2005). This suggests that both males and females are using cannabis in social settings. This may be useful information for the developing and disseminating of interventions meant for high-frequency users.

Some other previous studies have, however, reported conflicting results on the effect of Motivational Enhancement Therapy on cannabis use among genders. Nakamura et al. (2010) found that males and females did not expressively vary in relations of total sum in years of cannabis usage and in the communal environment by which they use cannabis. Preston (2006), in a research of 18-25 year-olds in the U.S (n= 4601), found that social anxiety predicted chronic cannabis usage amongst females nevertheless among males. Buckner et al. (2006), in their study among undergraduates in the US found that females with more symptoms of social nervousness malady were mostly susceptible to problematic cannabis usage. A possible explanation is that socially nervous females consume cannabis as self-medication for their anxiety.

### 4.2.3 Effect of age at onset on cannabis abstinence

**H0<sub>3</sub>: There will be no significant main effect of age at onset on cannabis abstinence among the undergraduates.**

The mean scores of the treatment and control groups are shown in Tables 4.2.3a and 4.2.3b. The estimated marginal mean scores from the analysis with rankings and analysis of covariance is seen in Table 4.2.3

**Table 4.2.3a: Distribution of the respondents by age at onset of cannabis use**

Age at onset of cannabis use	Frequency	Percentage
<15 years	17	42.5
16-20 years	21	52.5
21 years +	2	5.0
Total	40	100.0

**Table 4.2.3b: Estimated marginal means of cannabis use at Age at Onset**

Age at Onset	Mean	Std.Error	95% Confidence Interval	
			Lower Bound	Upper Bound
<15 Years	60.651	.554	59.517	61.785
16-20 Years	60.488	.668	59.123	61.854
20 Years	63.905	1.418	61.005	66.805

**Table 4.2.3c: ANCOVA showing the main effect of Age at Onset on Cannabis abstinence**

Source	Sum of Squares	DF	Mean Square	F	Sig.	Eta. Sq
Corrected Model	2164.615	10	216.462	58.799	.000	.953
Intercept	23.824	1	23.824	6.472	.017	.182
Pretest	1717.962	1	1717.96	466.663	.000	.941
<u>Main Effect:</u>		2				
Treatment Group	86.324	1		23.449	.000	.447
Age at Onset	2.467	2	39.721	.335	.718	.023
			1.234			

## Interpretation and discussion

As already indicated in Table 4.2.3a, the majority of the participants (42.5% of 40) began consuming cannabis earlier than the age of 15 years. The mean scores as shown in Table 4.2.3b indicated that the participants that began cannabis using before the age of 15 were just a little slightly higher than those that started using it from 16 years and above. The estimated marginal scores from the analysis, with the rankings and analysis of covariance presented in Tables 4.2.3b and 4.2.3c also shown that there was no significant main effect of age at onset for cannabis abstinence among undergraduates ( $F(2,37)=.355, p>.05, \eta^2=.023$ ). The null hypothesis was, therefore, accepted.

The result could be compared with some other previous studies that showed that cannabis use among adolescents started before they were 15 years of age. According to Adamson, Onifade and Ogunwale (2010) in their study at DATER unit of the Neuropsychiatric Hospital, Aro, Abeokuta stated the average time of commencement of cannabis usage amongst patients on admission is similar to the adolescent age classification ranges between 15-19 years in a period of 1992 to 1997 and 2002 to 2007. This also corroborates another study that indicated that adolescent males are likely to start using cannabis before their feminine counterparts (Kandel and Logan, 1984; Warren et al., 1997).

As noted by SAMHSA (2005), Compton et al. (2004), Grant and Awson (1998), Lynskey et al.(2003), that using cannabis at a very early age has constantly been linked with higher possibility of increasing abuse and dependency. This buttress another report that,56% of adolescents that went in for cannabis use/ abuse treatment, started using by the age of 14 while 92% started at the age of 18 years (SAMHSA, 2005; NIDA, 2009). This is why cannabis use will always be considered as communal well-being challenge because adolescents have great frequency of using cannabis and also cannabis addiction among them foretells greater hazards by consuming additional illegal drugs and underachieving performance in school (Hall, 2006). Motivational Enhancement Therapy is established to serve as an efficient method to decreasing the use of cannabis among adolescent (Colby et al., 1998), Monti et al. (1999) reported, a study of 54 youths who consumed cannabis at minimum once in the last 30 days in an unrestrained trial study and evaluated at starting point and at a 3 month sequel. The findings revealed that the participants cut down on their cannabis usage during the 3-month sequel. However, the lack of a control set did not allow ascribing the variation to the intervention.

The non-significance of the differences noted in the mean scores of the participants could be attributed to the close similarity. The result would have, perhaps, been different if there had been a wider variation at the levels of the commencement age of cannabis use by participants.



#### 4.2.4 Two-way interaction effect of treatment and gender on cannabis abstinence

**H0<sub>4</sub>:** There will be no significant effect of two way interaction effect of treatment and gender on cannabis abstinence among the undergraduates.

**Table 4.2.4a: Estimated marginal means of cannabis abstinence based on Treatment and Gender**

Treatment Groups	Gender	Mean	Std.Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Experimental	Male	65.422	.842	63.700	67.145
	Female	60.823	.868	59.047	62.599
Control	Male	58.688	.824	57.003	60.373
	Female	58.127	1.115	55.847	60.407

**Table 4.2.4b: ANCOVA showing the main and interaction effects of treatment and gender on cannabis abstinence**

Source	Sum of Squares	DF	Mean Square	F	Sig.	Eta. Sq
Corrected Model	2164.615	10	216.462	58.799	.000	.953
Intercept	23.824	1	23.824	6.472	.017	.182
Pretest	1717.962	1	1717.96	466.663	.000	.941
<u>2-way Interactions:</u>		2				
Treatment x Gender	4.050	1	4.050	1.100	.303	.037

#### Interpretation and discussion

A breakdown of the two-way interaction effect of treatment and gender on cannabis abstinence is presented in Table 4.2.4a. The result showed no noteworthy interaction effect of treatment and gender for cannabis abstinence among the undergraduates ( $F(1,37)=1.100$ ,  $p>.05, \eta^2=.037$ ). The null hypothesis was, therefore, accepted. Table 4.2.4a captures the estimated marginal mean scores from the analysis, with the ranking of the mean scores. These results indicated

that the posttest scores of the male and female part-takers of the Treatment and Control groups were not significantly different. The implication of this result is that gender did not significantly interact with treatment in enhancing cannabis abstinence of the participants, and likewise either male or female did not sway the beneficial effects of the treatment.

This result remains opposing toward acceptance of hypothesis two. Although, literature revealed a shortage of experiential studies probing gender variances (Becker and Hu, 2008), although males are probable to start cannabis use at a earlier age and in bigger quantities, studies have established, for instance, that among examples of problematic consumers, females are liable to use cannabis for less years before going for treatment. This suggests that female users experience a fast movement or a “telescoping” effect in advancement of cannabis dependency (Hernandez-Avila, Rounsaville and Krasler, 2004).

The literature has shown that reasons for use and especially problematic use may differ by gender. Preston (2006), in his study of 18- 25-year-olds in the US, revealed that social anxiety predicted chronic cannabis use in females, which do not happen among males. Buckner et al. (2006), found that females with more symptoms of social anxiety disorder were susceptible to challenging cannabis usage. An explanation offered stands that socially nervous females consume cannabis in relation to personal-medication aimed at their anxiety (Buckner et al., 2006). A South African study of university students’, past-month cannabis use was linked to poor self-regard in females, which is not so in males (Peltzer et.al., 2001).

The non-significant interaction of gender with treatment in enhancing cannabis abstinence is important because it shows that the treatment administered was equally effective in boosting abstinence of both genders which is significantly related to self-hood and self-regard, particularly during adolescent years. Personality growth is conceptualised by way of the procedures of examination and obligation formation. In Erikson’s lifespan phase principle, personality development remains the foremost growing undertaking in late puberty. Examinations as well as obligation formation could be understood as two essential scopes in personality development. Obligation establishment means picking a steady intent objectives, beliefs, as well as principles that offer a course, determination, and importance to lifespan. An obligation shows a person’s “notch of individual asset that the person displays”. Examination means that a person is critically reflecting on various options afore obligations are shaped (Kunnen, 2014).

The school environment is a place where adolescents discover the identities and form their behaviour. Different social skills are learnt to help them form their identities. It is pertinent to know that social abilities are not equally similar to behaviour. Somewhat, they remain mechanisms of behaviour which assist a person comprehend as well as acclimatise through a variation of societal

situations (Steadly, Dragoo, Arefeh and Luke, 2008). Motivational Enhancement Therapy teaches social abilities which could be definite in the background of communal in addition to emotional knowledge, that is, knowing as well as handling one's feelings, increasing love and concern for others, building positive associations, making accountable resolutions and managing perplexing situations productively and ethically (Zins, Weissberg, Wang and Walberg, 2004). The degree at which adolescents have noble social abilities can impact their academic achievement, self-esteem, behaviour, family and communal relationships and participation in extramural events. Social abilities are also associated with the value of the school setting and school security (National Association of School Psychologists Fact Sheets, 2002).

Personal-efficacy as well as personal-regard have a theoretic peculiarity. Overall personal-efficacy is greatly associated with inspirational fickle than self-regard, while self-regard remains very much associated with emotional fickle than overall self-efficacy (Chen, Gully and Eden, 2004). Judge, Erez, Bono and Thoresen (2002) conducted studies to decide the dissimilarity and increment genuineness of the four commonly studied qualities in psychology, which is, self-regard, overly anxious, place of control as well as general self-esteem. Meta-analytic outcomes showed that processes of the four qualities were powerfully associated. The outcomes also revealed that a particular cause elucidated the connections amongst procedures for the four qualities.

Gecas and Schwalbe (1983) notes "human self-image are founded on their activities, particularly effective activities, and that ideas of human action as well as self-originality could be conveyed into learning of self-notion through the self-effectiveness. Effectiveness-founded self-regard does not merely put bigger prominence upon "self-resolution" during the development of self-notion creation, nevertheless underlines the mutuality atwix self as well as social organization.

#### 4.2.5 Two-way interaction effect of treatment and age at onset on cannabis abstinence

**H0<sub>5</sub>:** There will be no significant effect of two way interaction effect of Treatment and Age at onset on cannabis abstinence among the undergraduates.

**Table 4.2.5a:** ANCOVA showing the main and interaction effects of treatment and age at onset on cannabis abstinence

Source	Sum of Squares	DF	Mean Square	F	Sig.	Eta. Sq
Corrected Model	2164.615	10	216.462	58.799	.000	.953
Intercept	23.824	1	23.824	6.472	.017	.182
Pretest	1717.962	1	1717.	466.663	.000	.941
<u>2-way Interactions:</u>						
Treatment x Age at Onset	.221	1	4.050	.060	.808	.002

**Table 4.2.5b:** Estimated marginal means from the analysis

Treatment Groups	Age at Onset	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Experimental	<15 Years	62.918	.876	61.126	64.710
	16-20 Years	62.545	.611	61.296	63.795
	20 Years +	63.905	1.418	61.005	66.805
Control	<15 Years	58.383	.673	57.008	59.759
	16-20 Years	58.432	1.203	55.971	60.892
	20 Years +	-	-	-	-

#### Interpretation and discussion

As shown in Table 4.2.5b, there was no significant interaction effect of treatment and age at onset of cannabis abstinence amongst the participants ( $F(1,38) = .060, p > .05, \eta^2 = .002$ ). Table 4.2.5b reveals the estimated marginal mean scores from the analysis with ranking. The null hypothesis was, therefore, accepted. The implication is that cannabis use did not significantly interact with treatment in enhancing cannabis abstinence of the participants, and that age at onset, whether below 15 years or above 20 years did not influence the beneficial effects of Motivational Enhancement Therapy.

This outcome submits that, irrespective of the age at commencement of cannabis usage, students can equally benefit from the intervention. This assertion, however, needs to be further tested since the much lower proportion (2%) compared to those with the highest at age at onset could have been responsible for the result obtained. This so because there are no previous empirical studies that

could be used for comparison with this finding.

Consuming drug at a very early age has been regularly connected with larger possibility of developing abuse and addiction (Grant, et al. 1998; Lynskey et al. 2003; Compton, et al. 2004; SAMHSA, 2005). SAMHSA, (2005), NIDA (2009), reported >50% age at onset of cannabis usage amid teenagers among 12 - 17 years of age.

Understanding the causes connected with the start of cannabis use is vital to the establishment of precaution programmes targeted at adolescents. Researches from the United States and Australia revealed cannabis usage to be predominantly great amongst youths (Australian Institute of Health and Welfare, 2011; Johnston, 2013). Adolescents ranging from ages 12 to 17 made up about two-thirds of the fresh cannabis consumers, while those ages 18 to 25 years comprises the bulk of the one-third remaining (OAS, 2001b). This implies that the use of cannabis is more rampant among adolescents and youths. Male adolescents inclined to start consuming cannabis compared to female adolescents (Kandel and Logan, 1984).

#### 4.2.6 Two-way interaction effect of gender and age at onset on cannabis abstinence

**H0<sub>6</sub>: There will be no significant effect of two way interaction of gender and age at onset on cannabis abstinence among undergraduates.**

**Table 4.2.6a: ANCOVA showing the main and interaction effect of treatment, gender and age at onset on cannabis abstinence**

Source	Sum of Squares	DF	Mean Square	F	Sig.	Eta. Sq
Corrected Model	2164.615	10	216.462	58.799	.000	.953
Intercept	23.824	1	23.824	6.472	.017	.182
Pretest	1717.962	1	1717.	466.663	.000	.941
<u>2-way Interactions:</u>						
Gender x Age at Onset	18.943	2	.221	2.573	.094	.151

**Table 4.2.6b: Estimated Marginal Means of the analysis**

Gender	Age at Onset	Mean	Std.Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Male	<15 Years	62.918	.876	61.126	64.710
	16-20 Years	62.545	.611	61.296	63.795
	20 Years +	63.905	1.418	61.005	66.805
Female	<15 Years	58.383	.673	57.008	59.759
	16-20 Years	58.432	1.203	55.971	60.892
	20 Years +	-	-	-	-

**Interpretation and discussion**

Analysis of the two-way interaction effect of gender and age at onset is presented in Table 4.2.6b. The results show no significant interaction effect of gender as well as age at onset on cannabis abstinence among undergraduates/participants ( $F(2,37)=2.573, p>.05, \eta^2=.094$ ). The null hypothesis was, therefore, accepted. Table 4.2.6b reveals the estimated marginal mean scores from the analysis with the ranking of the mean scores. These outcomes revealed the post-test scores of the male as well as female partakers within the treatment as well as control group didn't show significantly different. The implication is that sex did not significantly interact with treatment in enhancing cannabis abstinence among undergraduates and that either male or female didn't sway the beneficial effect of motivational enhancement therapy on the participants.

Annual cannabis usage is greater amid university males than female: 39% versus 32% (Monitoring the Future, 2013). Whereas males have a tendency to start consuming cannabis at a early age and in higher quantities, researches have revealed that amid sample group of problematic consumers, females lean towards using cannabis for less years before going in for treatment. This suggests that they got involved in a more swift progress or a "telescoping" influence in progression of cannabis addiction (Hernandez et al., 2004). As noted by Preston (2006), reasons for use and especially problematic use may differ by gender. According to his study of 18-25-year-olds in the US, social anxiety predicted chronic cannabis usage among females, whereas not in males. This corroborates another research by Buckner et al. (2006), which establish that females with more indications of social anxiety disorder remained particularly susceptible to problematic cannabis usage; which may be due toward the fact that socially anxious females use cannabis as a way to self-medicate their anxiety.

**4.2.7 Three-way interaction effect of treatment, gender and age at onset on cannabis abstinence among the undergraduates**

**H0<sub>7</sub>: There will be no significant three-way interaction effect of treatment, gender and age at onset on cannabis abstinence among the undergraduates.**

**Table 4.2.7a: ANCOVA showing the main and interaction effects of treatment, gender and age at onset on cannabis abstinence among the undergraduates**

Source	Sum of Squares	DF	Mean Square	F	Sig.	Eta. Sq
Corrected Model	2164.615	10	216.462	58.799	.000	.953
Intercept	23.824	1	23.824	6.472	.017	.182
Pretest	1717.962	1	1717.947	466.663	.000	.941
<u>3-way Interactions:</u>						
Treatment x Gender x Age at Onset	1.250	1	1.250	.340	.565	.012
Error	106.760	29	3.681			
Total	154177.00	40				
Corrected Total	2271.375	39				

R Squared= .953 (Adjusted R Squared = .937)

**Table 4.2.7b: Estimated marginal means of the analysis**

Treatment Groups	Gender	Age at Onset	Mean	Std.Error	95% Confidence Interval	
					Lower Bound	Upper Bound
Experiment	Male	<15 Years	64.112	1.151	61.757	66.467
		16-20 Years	63.835	.526	62.759	64.911
		20 Years +	68.320	2.015	64.198	72.442
	Female	<15 Years	61.724	1.404	58.853	64.595
		16-20 Years	61.256	1.108	58.989	63.523
		20 Years +	59.489	1.930	55.542	63.436
Control	Male	<15 Years	59.115	.680	57.724	60.506
		16-20 Years	58.261	1.430	55.337	61.185
		20 Years +	-	-	-	-
	Female	<15 Years	57.652	1.123	55.355	59.949
		16-20 Years	58.602	1.920	54.675	62.528
		20 Years +	-	-		



## Interpretation and discussion

The result in Table 4.2.7a discloses no significant interaction effect of treatment, gender as well as age at onset of cannabis abstinence among participants-undergraduates ... ( $F(1,38) = 1.250$ ,  $p > .05$ ,  $\eta^2 = .012$ ). Table 4.2.7b captured the estimated marginal mean scores from the analysis, with ranking. There was a variance of 95.3% accounted for by the independent variable. The null hypothesis was, therefore, accepted. Put differently, the posttest scores of the male and female partakers placed in both the Treatment as well as Control Groups were not significantly different. What this implies is that combined effect of gender and age at onset of the participants did not influence the effectiveness of Motivational Enhancement Therapy in enhancing cannabis abstinence.

In the British Crime Survey (Murphy and Roe, 2007) it was discovered that cannabis has stayed as the drug most probable used by adolescents and youths in the past twenty years. Comprehension of the reasons connected to inception of consuming cannabis remains vital aimed at the progress of precaution activities designed for youths. Gender and age have been extensively discussed in the researches as being related to the starting of cannabis usage (Hammer and Vaglum, 1991; Aitken, DeSantis, Harford and Cases, 2000; Kosterman, Hawkins, Guo, Catalano and Abbott, 2000; Poikolainen, et al., 2001; von Sydow, et al., 2002). Other socio-demographic causes that have been connected with the use of cannabis over a long term researches includes staying in either a separated/ divorced/ widow/widower family (Pedersen, 1990; Hammer and Vaglum, 1991; Andrews, Hops, Ary, Tildesley and Harris, 1993; Fergusson, Lynskey and Horwood, 1993; Aitken et al., 2000; von Sydow et al., 2002), low school achievement (Bailey and Hubbard, 1990; Bryant, Schulenberg, O'Malley, Bachaman and Johnston, 2003), and leaving school (Yamaguchi and Kandel, 1984; Hammer and Vaglum, 1991; Aitken et al., 2000).

Furthermore, about 56% of adolescents went in for treatment of cannabis abuse/addiction started consuming it at the age of 14, whereas 92% started at the age of 18 years (SAMHSA, 2005 and NIDA, 2009); which made cannabis use to be seen as a significant public health epidemic by several people (Compton, 2007). Teenagers and youth have very great degrees of cannabis usage. Besides, cannabis dependency among adolescents foretells bigger dangers of consuming other illegal drugs and low performance in school (Hall, 2006). Literatures have also revealed that the menace of starting cannabis use is connected with birth and age group. The inception of cannabis consumption also is swayed by a range of individual, household, and communal protective and risk causes, which includes relationship with drug-consuming age mates/friends, personality disposition (for example, nonconformity), and child-parent relationship (Clayton, 1992, Brook et al. 1999a;). Few studies have been carried out on the predictors and features on how cannabis use started. Majority of the studies on correlates concentrated on usage, not commencement. Causes linked with cannabis

commencement comprise individuals' temperament, hostile family influences, and lesser degree of parent affection, little parent checking, parent drug usage, as well as friends' impacts (Bailey and Hubbard, 1990; Chilcoat and Anthony, 1996; Brook, Brook, De La Rosa, Rodriguez, Montoya and Whitman, 1998a; Van Etten et al., 1999; Kandel, Griesler, Davies, and Schaffsan, 2001). However, a gender variance in the use of cannabis has been recognized, while the nature of the dissimilarity has not been adequately researched into. Earlier studies that revealed gender variances did therefore in a particular populace (Novins and Mitchell, 1998), devoid of investigating some other associates (Pape, Hammer and Vaglum, 1994; Rodham, Hawton, Evans and Weatherall, 2005), devoid of separating breakdowns using sex (Hofler et al., 1999; Resnicow, Smith, Harrison and Drucker, 1999; Swift, Hall and Teesson, 2001; Kohn, Kittel and Piette, 2004; Butters, 2005), and without precisely directing their investigation about cannabis usage (Poulin, Hand, Boudreau and Santor, 2005). The greatest constant outcome points to the fact that males are likely prospects of consuming "heavily" than females (Novins and Mitchell, 1998; Resnicow, Smith, Harrison and Drucker, 1999; Kohn, Kittel and Piette, 2004).

The results from this study have implications for counseling. That there was no significant interaction effect of treatment, gender as well as age at onset on cannabis abstinence among undergraduates demands that counseling psychologists, social workers, university administrators/officials should focus on establishing intervention programs such as Motivational Enhancement Therapy, as a strategy to develop and enhance positive self-esteem, good self-identity, intrapersonal and interpersonal relationship skills as well as setting and achieving goals, among undergraduates.

#### **4.3 Post Treatment**

This was done four weeks after the main treatment had ended. 80% of 25 participants in the Treatment Group said learning on the consequence of cannabis usage in addition to going through therapeutic sessions of Motivational Enhancement Therapy really helped them to make informed decisions of not using cannabis. 85% of 25 participants in the Motivational Enhancement Therapy group tested negative to cannabis use in the first 30 days of treatment while 96% tested negative to cannabis use in the second round of drug screening. However, 15% of the participants in the Treatment Group said that although, they enjoyed and learnt from the Motivational Enhancement therapeutic sessions, they are not sure if they would be able to stop using cannabis completely despite their abstinence during the course of the treatment.

Hundred percent (100%) of the participants tested positive to cannabis use in the first 30 days during the Control Experiment while 60% tested positive in the second round of drug screening. The

overall deduction from the study is that Motivational Enhancement Therapy helped participants to have internally motivation to change.

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## CHAPTER FIVE

### SUMMARY, CONCLUSION AND RECOMMENDATIONS

This section basically discusses in short form, conclusion and suggestions from the research. Limitations to this study are also highlighted and suggestions for further studies are made.

#### 5.1 Summary

This study's aim was to ascertain motivational enhancement therapy (MET) on the abstinence of cannabis usage amongst undergraduates in private universities in the South-western, zone of Nigeria. In the introduction of this study, the background to the study was discussed and the study variables that were presented. The second part of the introduction aspect explains the statement of the problem, which specifically points out the inherent challenge observed that necessitated this study; the objectives, scope, significance and null hypothesis were all presented. Lastly, the operational definitions of terms as used by the researcher were given for a better understanding.

A comprehensive review of previous works pertinent to the study was done. Concepts relevant to the study, such as undergraduates and drug abuse, adolescents and drug use, risk factors, Motivational Enhancement Therapy, age and cannabis use, gender and cannabis use, were all examined, in addition to all other dependent and independent variables. A number of relevant empirical studies were reviewed to show the relationship between Motivational Enhancement Therapy and cannabis abstinence. Also, a theory and a model relevant to the study were discussed and a conceptual framework developed for the study was presented.

The quasi experimental design of the pretest, posttest, treatment and control groups using 2x2x2 factorial matrix was used for this study. The population, sample as well as sampling techniques, research instruments for the study were presented. The reliability of the adapted instruments used in the study was clearly discussed. In addition, a brief description of the procedure for this research was provided, together with the method of statistics analysis, that is, Analysis of Covariance and descriptive statistics.

The data collected were analysed; results were presented; and interpretation of results and discussion of findings followed with regard to the seven hypotheses raised. Finally, the summary, conclusion as well as suggestions from this study were offered.

The findings of the research showed that: cannabis abstinence among undergraduates with Motivational Enhancement Therapy was bolstered significantly', while gender is a potent factor to consider in encouraging cannabis abstinence among undergraduates in private universities, but age at

onset was not; besides, the interaction effects of treatment and the moderating variables were not significant.

## **5.2 Conclusion**

It is obvious from this study that the use of Motivational Enhancement Therapy for undergraduates or adolescents in private universities in Nigeria is as effective as when drug abusers are being rehabilitated in an environment that is solely for drug rehabilitation. Motivational Enhancement Therapy (MET) enhanced cannabis abstinence among the undergraduates. The acquisition of the skills through the technique was able to reduce the use of cannabis among undergraduates. Hence, the therapeutic programme is strong enough to assist undergraduates to stop cannabis usage.

Cannabis abuse amongst undergraduates remains linked with increased anxiety hazard and depression, crime, violence, and other social ills, poor academic performance and increased cultism on universities campuses in Nigeria. This trend remained a major communal well-being distress to school authorities, governments as well as other stakeholders. Addressing it requires some speciality and “high quality and effective management”.

The outcomes of this research revealed that Motivational Enhancement Therapy is a potent interaction that could be adopted to manage cannabis use among undergraduates, particularly those in the private universities to prevent them from cannabis abuse. However, in the use of MET, to encourage abstinence among undergraduates, there is the need to give high consideration to gender, particularly the male gender, regardless of their age at commencement of cannabis usage.

## **5.3 Recommendations**

Centred on the outcomes, the ensuing are suggested:

1. There is the need to encourage the adoption of Motivational Enhancement Therapy (MET) towards positive attitudinal change to cannabis use regardless of the age at initial usage.
2. The involvement of MET should be targeted most towards the male gender involved in cannabis abuse.
3. All institutions should be encouraged to establish screening centres where all categories of students would be made to undergo drug screening.
4. Students involved in drug use/abuse should be made to develop good decision making skills through application of soft skills, have positive outlook, learn time management, get organized, create a list of what to do, have good company of friends/associates and tackle their tasks or issues challenging them with the help of a professional.

5. The Nigeria Universities Commission in conjunction with the Federal Ministry of Education should implement policies that will mandate all universities to have functional Counselling Centres where Counsellors/Psychologists/Social Workers can assist in reducing risky behaviours on campuses.

#### **5.4 Contribution to knowledge**

The study has added to learning in the ensuing capacities :

1. Motivational Enhancement Therapy is a potent intervention of ensuring cannabis abstinence among undergraduates.
2. Gender is an essential factor to be considered during instituting therapies for cannabis abstinence.
3. A good intervention for drug abstinence among undergraduates should focus on skills such as time management, decision-making, task performance, organising, friend-making, problem-solving and positive outlook.

#### **5.5 Limitations to the study**

This study was not without limitation. Some of the problems encountered include the differences in the school calendar of the universities involved in the research. Also, the approach or method of ethical approval differed too long.

The researcher made use of research assistants because the two universities used are in two different states, which made it impossible for the researcher to attend all the sessions. Furthermore, there was sparse African, especially Nigerian, literature on Motivational Enhancement Therapy for cannabis use among undergraduates, thereby limiting the number of empirical studies cited in this study. Regardless of the limitations to the study, however, the findings are authentic and significant enough for generalisation to the cohorts of those who tested positive to cannabis use.

#### **5.6 Suggestions for further studies**

Despite the uniqueness and contribution of this research to the body of knowledge, it is pertinent to point out that the study is limited to only two private universities in Nigeria. This was because these two schools were among the few schools doing drug screening for their students at intervals and also using the redemption approach that undergraduates involved in drug use/abuse should be rehabilitated so that they could be useful to themselves and society. Other private

universities and even public ones, can emulate these two universities and start something like this, which could make this study to be replicated in other universities.

The study has contributed to knowledge by revealing the effectiveness of one therapy (MET) in enhancing cannabis abstinence among undergraduates. Similar research could be carried out to determine whether other behavioural treatments could be effective in enhancing cannabis abstinence among undergraduates. Also, further studies could be carried out using moderating variables outside the ones used in this study. In addition, more studies could be carried out on how to encourage female students to seek for therapy.

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## REFERENCES

- Abudu, R. V. 2008. Young people and drug abuse: Biennial International Conference on Alcohol, Drugs and Society in Africa, Abuja, Nigeria, on September 23rd-25th, 2008.
- Abdulahi, Z. 2009. "Drug abuse among youths: Strategies for school counselling", *The Nigerian Society of Educational Psychologists*, pp. 131-136.
- Abiodun, O. A., Adelekan, M. L., Ogunremi, O. O., Oni, G. A and Obayan, A. O. J. 1994. Pattern of substance abuse amongst secondary school students in Ilorin, Northern Nigeria, West Africa. *Journal of Medical Sciences* 13: 91-97.
- Adams, G., Berzonsky, M. and Keating, L. 2006. Psychosocial resources in first year university students: the role of identity processes and social relationships. *Journal of Youth and Adolescence* 35(1): 81-91.
- Adamson, T., Onifade, P. and Ogunwale, A. 2010. Trends in socio-demographic and drug abuse variables in patients with alcohol and drug use disorders in a Nigerian treatment. Retrieved June 13, 2016 from <http://www.ajol.info/index.php/wajm/article/viewFile/55947/44404>.
- Adamson, T.A, Ogunlesi, A.O, Morakinyo, O, Akinhanmi, A.O and Onifade, P.O (2015) Descriptive national survey of substance use in Nigeria. *Journal of Addiction Research Therapy* 6: 234.
- Adelekan, M. L. 1997. Problems and prospects of implementing harm reduction for HIV and injecting drug use in high risk sub-Saharan African countries. *Journal Drug Issues* 27:97–116.
- Adelekan, M. L. 1996. West Africa sub-region: an overview of substance abuse problems. *Drugs: Education, Prevention and Policy*. 3:231–237.
- Adelekan, M. L and Ndom, R. J. E. 1996. Trend in Prevalence and Pattern of Substance Use among Secondary School Students in Ilorin, Nigeria. *West African Journal of Medicine*. 16: 157-164.
- Adewuya, A. 2005. Validation of the Alcohol Use Disorders Identification Test (AUDIT) as a screening tool for alcohol-related problems among Nigerian university students. *Alcohol and Alcoholism* 40(6): 575-577.
- Adlaf, E. M., Demers, A. and Gliksman, L. 2005. Canadian campus survey 2004. Toronto: Centre for Addiction and Mental Health.
- Agulana, G. G. 1999. Family structure and prevalence of behaviour problems among Nigerian adolescents, *The Counsellor* 17(1)', 154-159.
- Aitken, S. S., De Santis, J., Harford, T. C. and Cases, M. F. 2000. Marijuana use among adults. A longitudinal study of current and former users. *Journal of Substance Abuse* 12, 213–226.
- Akinade, E. 2001. Risk-taking behaviour and substance abuse visual HIV transmission in African Societies. *Journal of Instructional Psychology* 28(1), 44-48

- Aldrich, M. R. 1977. Tantric cannabis use in India. *Journal of Psychology of Drugs* 9(3):227-233
- Alemika, E. E. O. 1998. Narcotics drugs control policy in Nigeria, *Development Policy Centre*, Report Number: 11.
- Ali, M. M., Amialchuk, A., and Dwyer, D. S. 2011. The social contagion effect of marijuana use among adolescents. *PLoS ONE*, 6(1). doi:10.1371/journal.pone.0016183
- American Academy of Child and Adolescent Psychiatry (AACAP) retrieved June 13, 2016 from <http://www.aacap.org/publications/factsfam/develop.htm>.
- American Psychiatric Association. 1994. Diagnostic and statistical manual of mental disorders, DSM-IV (Fourth Ed.). Washington, DC: American Psychiatric Association.
- Andrews, J. A., Hops, H., Ary, D., Tildesley, E. and Harris, J. 1993. Parental influence on early adolescent substance use: specific and nonspecific effects. *Journal of Early Adolescence*. 13, 285–310.
- Anthony, J. C. 2002. Death of the “stepping-stone” hypothesis and the “gateway” model? Comments on Morral et al. *Addiction* 97, 1505–1507.
- Anthony, J. C, and Warner, L. A. 2004. Comparative epidemiology of dependence on tobacco, alcohol, controlled substances, and inhalants: Basic findings from the National Comorbidity Survey. *Experimental and Clinical Psychopharmacology* 2(3):244-268.
- Ashford, J and LeCroy, C. 2010. Human behaviour in the social environment: a multidimensional perspective 4<sup>th</sup> edition Belmont, CA, Brooks/Cole.
- Ashton, C. H. 2001. Pharmacology and effects of cannabis: a brief review. *Br J Psychiatry*. 178(2):101-106.
- Ashton, H. 2002. Cannabis or health? *Current Opin. Psychiatry* 15: 247–253.
- Asuni, T and Pela, O. A. 1986. Drug abuse in Africa, *Bulletin as Narcotics (United Nations Publication)*, 38 55-64.
- Azuike, R., Oni, A. and Dirisu, O. 2012. Stakeholders’ view on substance abuse and the development of effective and sustainable interventions in Nigeria: findings from a consultative forum. Retrieved on May 26, 2016 from <http://www.freedomfoundationng.org/userfiles/Stakeholders%27%20views.pdf>.
- .Babalola, E, Ogunwale, A and Akinhanmi, A 2013. Pattern of psychoactive substance use among university students in South-Western Nigeria. *Journal of Behavioural Health* 2: 334-342.
- Bailey, S. L. and Hubbard, R. L. 1990. Developmental variation in the context of marijuana initiation among adolescents. *Journal of Health and Social Behaviour*, 31(1); 58-70.
- Ballas, P. 2006. News and features, Department of Psychiatry, Thomas Jefferson University Hospital, Philadelphia.

- Balogun, S. K. 2006. Chronic intake of separate and combined alcohol and nicotine on body maintenance among albino rats, *Journal of Human Ecology* 19(1); 21-24.
- Bandura, A. 1997. *Self-efficacy: The exercise of control*. New York: Freeman.
- Bandura, A. 1986. *Social foundations of thought and action: a social cognitive theory*. Eaglewood Cliffs: Prentice Halls.
- Bandura, A. 1977. Self-efficacy: towards a unifying theory of behavioural change. *Psychological Review* 84: 191-215.
- Bandura, A., and Walters, R. H. 1963. *Social learning and personality development*. New York: Holt, Rinehart and Winston Beck, K. H., Caldeira, K. M., Vincent, K. B., O'Grady, K. E., Wish, E. D and Arria, A. M. 2009. The social context of cannabis use: relationship to cannabis use disorders and depressive symptoms among college students. *Addict Behaviour* 34:764-768.
- Becker, J. and Hu, M. 2008. Sex differences in drug abuse. *Front Neuroendocrinology* 29; 36-47.
- Bell, R., Wechsler, H. and Johnston, L. 1997. Correlates of college student marijuana use: results of an U.S. National Survey. *Department of Health and Social Behaviour*, 92(5), 571-581.
- Benyamina, A., Lecacheux, M., Blecha, L., Reynaud, M. and Lukasiewicz, M. 2008. Pharmacotherapy and psychotherapy in cannabis withdrawal and dependence. *Expert Review of Neurotherapeutics* 8: 479-91.
- Brady, K. T. and Randall, C. L. 1999. Gender differences in substance use disorders. *The Psychiatric Clinics of North America*, 22, 241-252.
- Bryant, A. L., Schulenberg, J. E., O'Malley, P. M., Bachaman, J. G. and Johnston, L.D. 2003. How academic achievement, attitudes, and behaviours relate to the course of substance use during adolescence: a 6-year, multiwave national longitudinal study. *J. Res. Adolesc.* 13, 361-397.
- Bobes, J. and Calafat, A. 2000. Cannabis monograph. *Addictions* 12, 125-169.
- Botvin, G.J., Kenneth, W., Griffin, K.W., Diaz, T., Scheier, M., Williams, C. and Epstein J. A. 2000. Preventing illicit drug use in adolescents: Long-term follow-up data from a randomized control trial of a school population. *Addictive Behaviours*, volume 25, Issue 5; 269-774.
- Bradley, M. F. 1990. *Community health for student nurses*. London: BailliereTindall.
- Breinbauer, C. and Maddaleno, M. 2005. *Youth: Choices and Change*. Washington, DC: PAHO. Retrieved on May 13, 2016 from <http://new.paho.org/hq/dmdocuments/2010/927511594X.pdf>.
- Brook, J. S., Brook, D. W., De La Rosa, M., Duque, L. F., Rodriguez, E., Montoya, I. D. and Whiteman, M. 1998a. Pathways to marijuana use among adolescents: Cultural/ecological, family, peer, and personality influences. *Journal of the American Academy of Child and Adolescent Psychiatry* 37; 759-766.

- Brook, J. S., Kessler, R. C., and Cohen, P. 1999a. The onset of marijuana use from preadolescence and early adolescence to young adulthood. *Developmental Psychopathology* 11; 901-914.
- Budney, A. J. and Hughes, J. R. 2006. The cannabis withdrawal syndrome. *Current Opinion in Psychiatry* 19(3). 175-189. Retrieved on June 26, 2016 from [http://journals.lww.com/co-psychiatry/Fulltext/2006/05000/The\\_cannabis\\_withdrawal\\_syndrome.2.aspx](http://journals.lww.com/co-psychiatry/Fulltext/2006/05000/The_cannabis_withdrawal_syndrome.2.aspx)
- Burke, B. L., Arkowitz, H. and Dunn, C. 2002. The efficacy of motivational interviewing. In W. R. Miller and S. Rollnick (Eds.), *Motivational Interviewing: Preparing People for Change* (2<sup>nd</sup> ed.), pp. 217–250. New York: Guilford Press.
- Burke, B.L., Arkowitz, H. and Dunn, C. 2002. The efficacy of motivational interviewing. In W.R. Miller and S. Rollnick Eds., *Motivational Interviewing: preparing people for change* 2nd ed. New York: Guilford Press. 217-250.
- Buckner, J., Mallott, M., Schmidt, N. and Taylor, J. 2006. Peer influence and gender differences in problematic cannabis use among individuals with social anxiety. *Journal of Anxiety Disorders* 20; 1087-1102.
- Budney, A., Roffman, R., Stephens, R. and Walker, D. 2007. Marijuana dependence and Its treatment. *Addiction Science & Clinical Practice* 4(1); 4–16.
- Butters, J. E. 2005. Promoting healthy choices: the importance of differentiating between ordinary and high risk cannabis use among high-school students. *Substance Use and Misuse* 40:845-855.
- Calabria, B., Swift, W., Slade, T., Hall, W. and Copeland, A. 2012. The perceived health risks of cannabis use in an Australian household survey. *Drug and Alcohol Review*, 31(6), 809–812.
- Caldeira, K. M., Arria, A. M., O’Grady, K. E., Vincent, K. B. and Wish, E. D. 2008. The occurrence of cannabis use disorders and other cannabis-related problems among first-year college students. *Addictive Behaviours* 33(3), 397-411.
- Caldeira, K. M., Kasperski, S. J., Sharma, E., Vincent, K. B., O’Grady, K. E., Wish, E. D and Arria, A. M. 2009. College students rarely seek help despite serious substance use problems. *Journal of Substance Treatment* 37:368-378.
- Carroll, K. M. 2005. Recent advances in the psychotherapy of addictive disorders. *Current Psychiatry Reports* 7:329-336.
- Carroll, C. R. 1989. Drug abuse in Nigeria facts, causes and remedies. A paper presented at the National Seminar on Drug Abuse Enforcement, Lagos.
- Carroll, K. M. 2006. Motivational interviewing to improve treatment engagement and outcome in individuals seeking treatment for substance abuse: a multisite effectiveness study. *Drug Alcohol Dependence* 81(3). 301-318.

- Chen, G., Gully, S.M. and Eden, D. 2004. General self-efficacy and self-esteem: toward theoretical and empirical distinction between correlated self-evaluations. *Journal of Organizational Behaviour* 25.3: 375-395.
- Chen, K. and O'Brien, M. S. 2005. Who becomes cannabis dependent soon after onset of use? Epidemiological evidence from the United States: 2000-2001. *Drug and Alcohol Dependence*; 79(1):11-22.
- Chikere, E. I. C. and Mayowa, M. O. 2011. Prevalence and perceived health effect of alcohol use among male undergraduate students in Owerri, South-East Nigeria: a descriptive cross-sectional study. *BMC Public health*, 11:118. Retrieved on June 26, 2016 from: <http://www.biomedcentral.com/content/pdf/1471-2458-11-118.pdf>
- Chilcoat, H. D. and Anthony, J. C. 1996. Impact of parent monitoring on initiation of drug use through late childhood. *Journal of the American Academy of Child and Adolescent Psychiatry* 35, 91-100.
- Chung, T. 2008. Adolescent substance use, abuse and dependence: Prevalence, course and outcomes. In Y. Kaminer and O. Bukstein (Eds.), *Adolescent substance abuse: psychiatric comorbidity and high-risk behaviours*. New York: Taylor and Francis Group. 29-52.
- Clark, D. B. 2010. Screening and brief intervention for underage drinkers. *Mayo Clin Proc.* 85(4) 380-91.
- Clark, D. B., Kirisci, L. and Tarter, R. E. 1998b. Adolescent versus adult onset and the development of substance use disorders in males. *Drug and Alcohol Dependence* 49: 115–121.
- Clayton, R. R. 1992. Transition in drug use: Risk and protective factors. In M. Glantz and R. Pickens Eds. *Vulnerability to drug abuse* (Chapter 1). Washington, DC: American Psychological Association.
- Cleveland, H., Harris, K., Baker, A., Herbert, R. and Dean, L. 2007. Characteristics of a collegiate community: maintaining recovery in an abstinence hostile environment. *Journal of Substance abuse treatment*, 33: 13-23.
- Coffey, C., Lynskey, M., Wolfe, R. and Patton, G. C. 2000. Initiation and progression of cannabis use in a population-based Australian adolescent longitudinal study. *Addiction* 95:1679–1690.
- Compton, W. M., Gfroerer, J., Conway, K. P and Finger, M. S. 2014. Unemployment and substance outcomes in the United States 2002–2010. *Drug Alcohol Depend* 142: 350–53.
- Compton, W. M., Grant, B. F., Colliver, J. D., Glantz, M. D. and Stinson, F. S. 2004. Prevalence of marijuana use disorders in the United States: 1991-1992 and 2001-2002. *JAMA: The Journal of the American Medical Association* 291: 2114-2121.
- Compton, M. T., Goulding, S. M. and Walker, E. F. 2007. Cannabis use, first-episode psychosis, and schizotypy: a summary and synthesis of recent literature. *Cur Psychiatry Rev.* 2007; 3 (3):161-171.

- Compton, W.M and Pringle, B. 2004. Services research on adolescent drug treatment. Commentary on “The Cannabis Youth Treatment (CYT) Study: main findings from two randomized trials. *Journal of Substance Abuse Treatment*; 27(3):195-196.
- Compton, W., Grant, B., Conway, K. P., Gfroerer, J and Finger, M. S 2004. Prevalence of cannabis use disorders in the U.S.: 1991-1992 and 2001-2002. *Journal of the American Medical Association*; 291:2114-2121.
- Cooperstock, R. 1979. A review of women's psychotropic drug use. *Canadian Journal of Psychiatry* 24:29-34.
- Copeland, J., Swift, W and Rees, V. 2001. Clinical profile of participants in a brief intervention program for cannabis use disorder. *Journal of Substance Abuse Treatment* 20:45-52.
- Crane, N. A., Schuster, R. M., Fusar-Poli, P and Gonzalez, R. 2013. Effects of cannabis on neuro-cognitive functioning: recent advances, neuro-developmental influences, and sex differences. *Neuropsychology Review* 23(2): 117- 137.
- Currie, C., Nic Gabhain, S. C., Godeau, E., Levin, K . and Todd, J. Ed. 2008. Inequalities in young people's health: HBSC international report from the 2005/2006 Survey. Health Policy for Children and Adolescents No. 5, WHO Regional Office for Europe, Copenhagen, Denmark.
- Daramola T.O. 2004. Psychoactive substance use among medical students of University of Ilorin. A Dissertation for the National Postgraduate Medical College of Nigeria, Faculty of Psychiatry. Retrieved May 26,2016.
- Davis, G. P., Compton, M. T., Wang, S., Levin, F. R and Blanco, C. 2013. Association between cannabis use, psychosis, and schizotypal personality disorder: findings from the National Epidemiologic Survey on Alcohol and Related Conditions. *Schizophr Res.* 151: 197-202.
- Davenport-Hines, R. 2002. *The pursuit of oblivion: a global history of narcotics.* New York: W.W. Norton.
- Degenhardt, L., Bucello, C and Calabria, B. 2011. Review: what data are available on the extent of illicit drug use and dependence globally? Results of four systematic reviews. *Drug Alcohol Dependence* 117(2-3):8 5 -101.
- Degenhardt, L., Chiu, W.T, Sampson, N., Kessler, R.C. and Anthony,J.C. 2008. Toward a global view of alcohol, tobacco,cannabis, and cocaine use: findings from the WHO WorldMental Health Surveys. *PLoS Med* 5: e141.Retrieved May 16, 2016.
- Dejong, W., Larimer, M. E., Wood, M. D and Hartman, R. 2009. NIAAA’s rapid response to college drinking problems initiative: Reinforcing the use of evidence-based approaches in college alcohol prevention. *Journal of Studies on Alcohol and Drugs*, 14(Suppl.), 140-147.
- Denis, C., Lavie, E., Fatseas, M. and Auriacombe, M. 2006. Psychotherapeutic interventions for cannabis abuse and/or dependence in outpatient settings. *Cochrane Database of Systematic Reviews*; 3: CD005336.



- Dennis M, Godley, S. H., Diamond, G., Tims, F. M., Babor, T., Donaldson, J., Liddle, H., Titus, J. C., Kaminer, Y., Webb, C., Hamilton, N., Funk, R. 2004. The Cannabis Youth Treatment (CYT) study: main findings from two randomized trials. *Journal Substance Abuse Treatment*; 27(3):197-213.
- Dewing, S., Plüddemann, A., Myers, B.J and Parry, C.D 2006. Review of injection drug use in six African countries: Egypt, Kenya, Mauritius, Nigeria, South Africa and Tanzania. *Drugs Educ Prev Policy* 13: 121-137.
- Dierker, L., Stolar, M., Lloyd-Richardson, E., Tiffany, S., Flay, B., Collins, L., Nichter, M., Nichter, M., Bailey, S. and Clayton, R. 2008. Tobacco, alcohol, and marijuana use among first-year U.S. college students: a time series analysis substance use & misuse. *Substance Use & Misuse* 43(5): 680-699.
- Deressa, W and Azazh, A. 2011. Substance use and its predictors among undergraduate medical students of Addis Ababa University in Ethiopia, vol. 11, article 660, 2011. View at Publisher · View at Google Scholar on May 26,2016.
- DiRaimo, D. and Payne, R. 2007. Assessing the relationship between campus programs, student self-efficacy, stress and substance abuse. *College Student Journal* 42 (3): 676- 695.
- Dougherty, D. M., Mathias, C. W., Davies, M. A., Furr, M. R., Charles, N. E., Lighori, A., Shannon, E.E. and Acheson, A. 2013. Impulsivity, attention, memory and decision-making among adolescents' marijuana users. *Psychopharmacology* 226: 307-319.
- Earl, R. and Weinberg, S. M. 1997. *The study of social problem*. New York: Oxford University Press.
- Ebie, J. C and Obiora, M. 1988. Use and abuse of psychoactive pharmaceuticals in Nigeria. *Nigerian J Psychiatry* 1:181–185.
- Edwards, G., Arif, A. and Hodgson, R. 1981. Nomenclature and classification of drug- and alcohol-related problems: A WHO memorandum. *Bulletin of the World Health Organisation*.59: 225-242.
- Ettorre, E. 2004. Revisioning women and drug use: gender sensitivity, embodiment & reducing harm. *International Journal of Drug Policy*. 15, 327-335.
- European Monitoring Centre for Drugs and Drug Addiction, (EMCDDA). 2004. Annual Report 2004: The state of the drugs problem in the European Union and Norway. Office for Official Publications of the European Communities, Luxembourg. 28-30. Retrieved on May 13, 2016 from <http://annualreport.emcdda.eu.int/download/ar2004-en.pdf>
- European Monitoring Centre for Drugs and Drug Addiction. Annual report. 2011. The state of the drugs problem in Europe. Retrieved on May 13, 2016 from [http://www.emcdda.europa.eu/attachements.cfm/att\\_143743\\_ES\\_EMCDDA\\_AR2011\\_ES.pdf](http://www.emcdda.europa.eu/attachements.cfm/att_143743_ES_EMCDDA_AR2011_ES.pdf).



- Faggiano, F., Vigna-Taglianti, F., Versino, E., Zambon, A., Borraccino, A. and Lemma, P. 2005. School-based prevention for illicit drugs' use. *Cochrane Database of Systematic Reviews*, Issue 2.
- Fareo, D. O. 2012. Drug abuse among Nigerian adolescents: strategies for counselling. *The Journal of International Social Research* 5(20). 324-347.
- Fatoye, F. O and Morakinyo, O. 2002. Substance use amongst secondary school students in rural and urban communities in south western Nigeria. *East Africa Medical Journal* 79(6): 299-305.
- Fawa, M. S. 2003. Drug abuse eradication programme in schools: the relevance of team, approach alternative. A. Garba (Ed) *Youth and drug abuse in Nigeria: strategies for counselling, management and control*, Kano: Matasa Press.
- Fergusson, D. M., Lynskey, M. T and Horwood, L. J 1993. Conduct problems and attention deficit behaviour in middle childhood and cannabis use by age 15. *Aust. N. Z. J. Psychiatry* 27:673-682.
- Fergusson, D. M. and Boden, J. M. 2008. Cannabis use and later life outcomes. *Addiction* 103(6): 969-976.
- Fischer, B., Jeffries, V., Hall, W., Room, R., Goldner, E. and Rehm, J. 2011. 'Lower risk cannabis use guidelines for Canada (LRCUG): a narrative review of evidence and recommendations', *Revue Canadienne de Santé Publique* 102:324-327.
- Fleary, S. A., Heffer, R. W., McKyer, E. L and Newman, D. A. 2010. Using the bio-ecological model to predict risk perception of marijuana use and reported marijuana use in adolescence. *Addictive Behaviours* 35(8): 795-798.
- Gebreslassie, M., Feleke, A and Melese, T. 2013. Psychoactive substances use and associated factors among Axum University students, Axum Town, North Ethiopia. Vol. 13, no. 1, article 693. View at Google Scholar on May 26,2016.
- Gecas, C. and Schwalbe, M.L. 1983. Beyond the looking glass self: Social structure and efficacy-based self-esteem. *Social Psychology Quarterly* 46.2: 77-88.
- Gfroerer, J. and Brodsky, M. 1992. The incidence of illicit drug use in the United States, 1962-1989. *British Journal of Addiction*; 87:1345-1351.
- Giade, A. 2011. How Nigeria's latest drug abuse defies legislate. *Daily Trust*. June 30. Retrieved on May 13, 2016 from <http://www.dailytrust.com.ng/daily/old/index.php/feature/42852-how-nigerias-latest-drug-abusedefies-legislation>.
- Gillespie, W. Holt, J. and Blackwell, R. 2007. Measuring outcomes of alcohol, marijuana, and cocaine use among college students: a preliminary test of the shortened inventory of problems - alcohol and drugs (SIP-AD). *Journal of Drug Issues*. 37(3): 549-567.
- Glanz, K., Rimer, B.K and Lewis, F.M. 2002. *Health behaviour and health education: theory, research and practice*. San Francisco: Wiley&Sons.

- Gledhill-Hoyt, J., Lee, H., Strote, J. and Wechsler, H. 2000. Increased use of marijuana and other illicit drugs at us colleges in the 1990s: results of three national surveys. *Department of Health and Social Behaviour* 95(11): 1655-1667.
- Goldstein, B. I. 2009. Substance use and the treatment of resistant depression in adolescents. *J Am Acad Child Adol Psychiatry* 48(12): 1182-92.
- Goldstein, N. J, Martin, S. J and Cialdini, R. B. 2008. Yes! 50 Scientifically Proven Ways to Be Persuasive, 1st hard covered. New York, Free Press.
- Gordon, A. J., Conley, J. W. and Gordon, J. M.2013. Medical consequences of marijuana use: a review of current literature. *Curr Psychiatry Rep. Dec.*, 15(12):419-433.
- Grant, B. F and Dawson, D. A. 1998. Age at onset of drug use and its association with DSM-IV drug abuse and Dependence: results from the National Longitudinal Alcohol Epidemiologic Survey. *J. Subst Abuse* 10(2):163-173.
- Greaves, L. 1996. History of Canadian women's use of alcohol, tobacco and other drugs. M. Adrian, C. Lundy, and M. Eliany, Ed. *Women's use of alcohol, tobacco and Other Drugs in Canada* Toronto, ON: Addiction Research Foundation. 1-13.
- Gross, R. 2001. *Psychology: the science of mind and behaviour*; Kent: Greengate.
- Gundersen, D. C. 2015. The legalization of marijuana: Implication for regulation and practice. *Journal of Nursing Regulation.* 6(3): 21-35.
- Gureje, O. Degenhardt, L., Olley, B., Uwakwe, R., Udofia, O., Wakil, A., Adeyemi, O., Bohnert, K. and Anthony, J. 2007. A descriptive epidemiology of substance use and substance use disorders in Nigeria during the early 21<sup>st</sup> Century. *Drug and Alcohol Dependence.* 91: 1-9.
- Haines, R. J., Johnson, J. L., Carter, C. I. and Arora, K. 2009. "I couldn't say, I'm not a girl"- Adolescents talk about gender & marijuana use. *Social Science & Medicine* 68: 2029-2036.
- Halandu, A. A. 2003. Outreach strategies for curbing drug abuse among out-of-school youth in Nigeria: A challenge for community Based Organization (CBOS). A. Garba Ed. *Youth and drug abuse in Nigeria: strategies for counselling, management and control.* Kano: Matosa Press.
- Hall, W. D. 2006. Cannabis use and the mental health of young people. *Austr N Z J Psychiatry.* 40(2):105-113.
- Hall, W. and Degenhardt, L. 2007. Prevalence and correlates of cannabis use in developed and developing countries. *Curr Opin Psychiatry* 20 (4):393-397.
- Hall, W. 2009. The adverse health effects of cannabis use: what are they, and what are their implications for policy? *Int J Drug Policy* 20 (6):458-466.

- Hall, W., Solowij, N. and Lemon, J. 1994. The health and psychological consequences of cannabis use (National Drug Strategy Monograph Series No. 25). Canberra: Australian Government Publishing Service.
- Hall, G. S 1904. Adolescence, Englewood Cliffs, and N.J: Prentice Hall.
- Hammer, T and Vaglum, P. 1991. Users and non-users within a high risk milieu of cannabis use. A general population study. *International Journal of Addiction*. 26:595-604.
- Hamisu, M., Ahmad, T. O. and Lim, H. L. 2014. Adolescent's and drugs abuse in Nigeria. *Journal of Biology, Agriculture and Health care* 4(1). www.iiste.org
- Hampson, S., Severson, E., Burns, W., Slovic, P and Fisher, J. 2001. Risk perception, personality factors and alcohol use among adolescents. *Personality and Individual Differences*, 30:167-181.
- Hawkins, J., Catalano, E and Miller, J. 1992. Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood; implications for substance abuse prevention. Social Development Research Group, School of Social Work, University of Washington. Reviewed 10 June 2016 from [http://www.ou.edu/cls/online/LSPS5113/pdfs/unit1\\_hawkins.pdf](http://www.ou.edu/cls/online/LSPS5113/pdfs/unit1_hawkins.pdf)
- Hayatbakhsh, M. R., Najman, J. M., Bor, W., O'Callaghan, M. J and Williams, G.M. 2009. Multiple risk factor model predicting cannabis use and use disorders: a longitudinal study. *Am J Drug Alcohol Abuse*: 35:399-407.
- Heather, N. 2001. Editor's Introduction. N. Heather, T.J. Peters, T. Stockwell Eds *International handbook of alcohol dependence and problems* Chichester, UK: John Wiley and Sons. 252-255
- Heckman, C. J. 2010. Efficacy of motivational interviewing for smoking cessation: a systematic review and meta-analysis. *Tob Control* 19 (5): 410.
- Hettema, J., Steele, J. and Miller, W. R. 2005. Motivational Interviewing. *Annual Review Clinical Psychology* 1:91-1111.
- Hernandez-Avila, C., Rounsaville, B. and Kransler, H. 2004. Opioid, cannabis & alcohol-dependent women show more rapid progression to substance abuse treatment. *Drug & Alcohol Dependence*, 74, 265-272.
- Hibell, B., Andersson, B., Ahlstrom, S., Balakivera, O., Bjarnason, T., Kokkevi, A. And Morgan, M. 2004. *The ESPAD Report 2003. Alcohol and other drug use among students in 35 European countries*, The Swedish Council for Information on Alcohol and Other Drugs, Stockholm.
- Hides, L. M, Kavanagh, D.J and McD Young . 2011. Does the addition of integrated cognitive behaviour therapy and motivational interviewing improve the outcomes of standard care for young people with comorbid depression and substance misuse? *Med J Aust*. 195(3):31-42.
- Hides, L., Dawe, S., Kavanagh, D. J and McD Young, R. 2006. Psychotic symptom and cannabis relapse in recent-onset psychosis. *Br. Journal Psych.*, 189: 137-143.

- Hofler, M., Lieb, R., Perkonigg, A., Schuster, P., Sonntag, H. and Wittchen, H. U. 1999. Covariates of cannabis use progression in a representative population sample of adolescents: A prospective examination of vulnerability and risk factors. *Addiction* 94:1679-1694.
- Hogan, R., Mankin, D., Conway, J. and Fox, S. 1970. Personality correlates of undergraduate marijuana use. *J Consult Clinical Psychology*; 35:58-63.
- Ho, H., Hewitt, J. and Hopfer, C. 2009. Temporal relationship between cannabis use and depression among adolescents in the United States. [Poster presentation]. American Psychiatric Association Annual Conference.
- Huba, G. J., Wingard, J. A. and Bentler, P. M. 1980. Longitudinal analysis of the role of peer support, adult models and peer subcultures in beginning adolescent substance use: an application of set wise canonical correlation methods. *Multivariate Behavioural Research*, 15:259-279.
- Ifabumuyi, O. 1986. Alcohol and drug addiction in Northern Nigeria, *Acta Psychiatrica Scandinava*, 73: 479-480.141-159.
- Ihezue, U.H (1988) Drug abuse among medical students at a Nigerian university: Prevalence and pattern of use. *Journal of National Medical Association* 80: 81-85.
- Imam, F.Z 2004. Drugs/ Substances abuse among student of Kaduna polytechnics. Retrieved May16, 2016.
- Izugbara, C. 2005. 'Ashawo suppose shine eyes', female sex workers and sex work risks in Nigeria. *Health, Risk and Society*. 7(2):29-43.
- Jackie See, M. S. 2010. Marijuana use among college students. Department of Human Services, Illinois Higher Education Centre, Eastern Illinois University. Retrived on Oct., 10, 2015.
- Jessor, R. and Jessor, S. L. 1977. Problem behaviour and psychosocial development: a longitudinal study of youth. New York: Academic Press.
- Johnston, L. D, O'Malley, P. M, Bachman, J. G and Schulenberg, J. E. 2012. Monitoring the future national results on drug use: overview, key findings on adolescent drug use. Ann Arbor, MI: Institute for Social Research, University of Michigan; 2013.
- Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G. and Schulenberg, J. E. 2014. Monitoring the Future national results on drug use: 1975-2013: Overview, Key findings on adolescent drug use. Ann Arbor: Institute for Social Research, University of Michigan. Retrieved on June 26, 2016 from <http://monitoringthefuture.org//pubs/monographs/mtoverview2013.pdf>
- Johnston, L. D., O'Malley, P. M., Bachman, J. G. and Schulenberg, J. E. 2008. Monitoring the future national results on adolescent drug use: Overview of key findings, 2007 (NIH Publication No. 08- 6418). National Institute on Drug Abuse, Bethesda, MD.

- Johnston, L. D., O'Malley, P. M., Bachman, J. G and Schulenberg, J. E .2004. Monitoring the future national survey results on drug use, 1975. 1975- 2003: Volume 1, Sec. Sch. Students (NIH Publication No. 04-5507) Bethesda, MD: National Institute on Drug Abuse. Available at: <http://monitoringthe future.org/pubs/monographs/voll 2003.pdf>
- Joseph, A. 2003. Depression, substance abuse and college student engagement: a review of the literature, CASA, New York, NY, USA.
- Judge, T.A., Erez, A., Bono, J.E. and Thoresen, J.C. 2002. Are measures of self-esteem, neuroticism, locus of control, and generalized self-efficacy indicators of a common core construct? *Journal of Personality and Social Psychology* 83.3: 693-710.
- Kalant, H. 2004. 1996. Adverse effects of cannabis on health: an update of the literature since 1996. *Prog. Neuropsychopharmacol. Biol. Psychiatry* 28: 849-863.
- Kandel, D. B., Griesler, P. C., Lee, G., Davies, M. and Schaffsan, C. 2001. Parental influences on adolescent marijuana use and the baby boom generation: findings from the 1979-1996. National Household Surveys on Drug Abuse (DHHS Publication No. SMA01-3531, Analytic Series: A-13; Retrieved on May 13, 2016 from <http://www.samhsa.gov/oas/analytic.htm>. Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies.
- Kassaye, M., Sherief, H. T., Fissehaye, G. and Teklu, T. 1999. Drug use among high school students in Addis Ababa and Butajira, *Ethiop. J. Health Dev*, 13(2), 101-106.
- Kelvin, M. K., Meecham, B. T., Trim R. S. and Chassin, L. 2006. Substance use and academic outcomes: synthesizing findings and direction. *Addiction* 101 (12): 1688-1689
- Kessler, R. C., Gonagle, K. A., Zhao, S., Nelson, C. B., Hughes, M. and Eshleman, S. 1994. Lifetime and 12 month prevalence of DSM-III-R: Psychiatric disorders in the United States: Results from the National Co-morbidity Survey. *Archives of General Psychiatry* 51: 18-19.
- Keyes, K. M., Schulenberg, J. E., O'Malley, P. M., Johnston, L. D., Bachman, J. G., Li, G and Hasin, D. 2011. The social norms of birth cohorts and adolescent marijuana use in the United States, 1976-2007. *Addiction*. 106:1790-1800.
- Kilmer, J. R., Hunt, S. B., Lee, C. M. and Neighbors, C. 2007. Marijuana use, risk perception, and consequences: is perceived risk congruent with reality? *Addictive Behaviours*.32(12):3026-3033.
- Kilmer, J .R., Walker, D., Lee, C., Palmer, R., Mallett, K., Fabiano, P. and Larimer, M. 2006. Misperceptions of college student marijuana use: implications for prevention. *Journal of Studies on Alcohol*. 67(2): 277-281.
- Kirby, K. C., Benishek, L. A., Dugosh, K. L., Kerwin, M. E. 2006. Substance abuse treatment providers' beliefs and objections regarding contingency management: implications for dissemination. *Drug Alcohol Dependence*. 85(1):19-27.

- Kohn, L., Kittel, F. and Piette, D. 2004. Peer, family integration and other determinants of cannabis use among teenagers. *International Journal of Adolescent Medicine and Health* 16:359– 370.
- Kokkevi, A., Gabhainn, S. N and Spyropoulou, M. 2006. Early initiation of cannabis use: a cross-national European perspective. *Journal of Adolescent Health*. 9: 712-719.
- Kokkevi, A., Nic Gabhainn S.2006. Early initiation of cannabis use: a cross national European perspective. *Journal of Adolescent Health* 39:712-19.
- Kosterman, R., Hawkins, J. D., Guo, J., Catalano, R. F and Abbott, R. D. 2000. The dynamics of alcohol and marijuana initiation: patterns and predictors of first use in adolescence. *Journal of Public Health* 90:360–366.
- Kuehn, B. M. 2013. Teen perceptions of marijuana risks shift: use of alcohol, illicit drugs, and tobacco declines. *JAMA: The Journal of the American Medical Association*, 309(5): 429–430.
- Kunnen, E.S. 2014. Identity development in deaf adolescents. *Journal of Deaf Studies and Deaf Education* 19.4: 496-507.
- Lai, D. T., Cahill, K., Qin, Y. and Tang, J. L. 2010. Motivational interviewing for smoking cessation. *Cochrane Database Syst Rev* 1:CD006936
- Lakhanpal, P. and Agnihotri, A. K. 2007. Drug Abuse an International Problem: A short Review with Special reference to African Continent. *Journal of Medicine and Toxicology*, 1(1), 1-11.
- Lambo, J. A. 1960. Medical and Sopcial Aspects of Drug Addition in West Africa with special emphasis on Psychiatric Aspects. *Bulletin on Narcotics* 17:(1) 3-13.
- Lancet. 2012. A manifesto for the world we want. 380(9857), p. 1881. In UNESCO 2013, [www.unesco.org/sexuality-education](http://www.unesco.org/sexuality-education)
- Larimer, M., Kilmer, J. and Lee, C. 2005. College students drug prevention: a review of individually oriented prevention strategies. *Journal of Drug Issues*: 35(2): 431-457.
- Latimer, W and Zur, J. 2010. Epidemiologic trends of adolescent use of alcohol, tobacco, and other drugs. *Child and Adolescent Psychiatric Clinics of North America*. 19(3): 451–64.
- Lewis, T. F and Mobley, A. K. 2010. Substance abuse and dependency risk: The role of peer perceptions, marijuana involvement, and attitudes toward substance use among college students. *Journal of Drug Education*. 40:299-314.
- Liddle, H. A., Rowe, C. L, Dakof, G. A., Henderson, C. E. and Greenbaum, P. E. 2009. Multidimensional family therapy for young adolescent substance abuse: twelve-month outcomes of a randomized controlled trial. *Journal of Consulting Clinical Psychology*. 77(1):12–25.



- Losing generations. 1993. Adolescents in high-risk settings. Washington: National Academies Press. Retrieved on May 13, 2016 from: [http://www.nap.edu/openbook.php?record\\_id=2113&page=1](http://www.nap.edu/openbook.php?record_id=2113&page=1)
- Lopez-Quintero, C. and Neumark, Y. 2010. Effects of risk perception of marijuana use on marijuana use and intentions to use among adolescents in Bogotá, Colombia. *Drug and Alcohol Dependence*.109(1-3):65-72.
- Lundahl, B. W., Tollefson, D., Kunz, C., Brownell, C. and Burke, B. 2009. Meta-analysis of motivational interviewing: twenty five years of research. *Research on Social Work Practice*.16(5): 32-45.
- Lynskey, M. T., Heath, A. C., Bucholz, K. K. 2003. Escalation of drug use in early-onset cannabis users Vs co-twin controls. *JAMA*. 289(4):427-433
- Macedo, E. O. S. de, and Conceição, M. I. G. 2013. Group actions to promote adolescent health. *Journal of Human Growth and Development*; 23,(2): 222-230. Retrieved on May 13, 2016 from <http://www.revistas.usp.br/jhgd/article/view/61310/64359>.
- Maher, L. and Daly, K. 1996. Women in the street-level drug economy: continuity or change? *Criminology* 34: 465-491.
- Makanjuola, A.B., Daramola, T.O. and Obembe, A.O. 2007. Psychoactive substance use among medical students in a Nigerian university, *World Psychiatry* Vol. 6, no. 2: 112-114, Viewed at Google Scholar on May 26, 2016.
- Makanjuola, A., Abiodun, O., and Sajo, S. 2014. Alcohol and psychoactive substance use among medical students of the University of Ilorin, Nigeria, *European Scientific Journal*, vol. 10, no. 8: 69–83. Viewed at Google Scholar on May 26,2016.
- Malpica, K. 2005. In [www.mind-surf.net/drogas](http://www.mind-surf.net/drogas) in Rafael Escandon and Cesar Galvez (2005) Free from drugs and addictions. Madrid, Spain. Talleres Graficos Penalara- Ctra. De Villaviciosa de Odon a Pinto.
- Manbe, D. A. 2008. Crime and drug abuse among Nigerian youths: a critical examination in World Health Organization (WHO), *Expert Committee on Drug Dependence*, 28<sup>th</sup> Report (unpublished). In Fareo, Dorcas Oluremi. 2012. Drug abuse among Nigerian adolescents strategies for counselling. *The Journal of International Social Research*: 5: 20-29. Uluslararası Sosyal Ara\_tirmalar Dergisi
- Marlatt, G. A. and Gordon, J. R. Eds. 1985. Relapse prevention: maintenance strategies in the treatment of addictive behaviours. New York: Guilford Press.
- Marques, A. C. P. R and Cruz, M. S. 2000. O adolescente eo uso de drogas. *Revista Brasileira de Psiquiatria*, 22: 32-36.
- Martino, S., Carroll, K., Kostas, D., Perkins, J. and Rounsaville, B. 2002. Dual diagnosis motivational interviewing: a modification of motivational interviewing for substance-abusing patients with psychotic disorders. *Journal of Substance Abuse Treatment*, 23: 297-308.



- Mattick, R. P and Baillie, A. Eds. 1992. An outline for approaches to smoking cessation: quality assurance in the treatment of drug dependence project. Canberra: Australian Government Publishing Service.
- McGlothlin, W. H. and West, L .J. 1968. The marijuana problem: An overview. *Annual Journal of Psychiatry* 125: 1126-1134.
- McNeely, C. and Blanchard, J. 2009. The teen years explained: a guide to healthy adolescent development. Baltimore: Johns Hopkins Bloomberg School of Public Health, Centre for Adolescent Health. Available from: <http://www.jhsph.edu/adolescenthealth>
- Measham, F. 2002. Doing gender—doing drugs: conceptualising the gendering of drugs cultures. *Contemporary Drug Problems*. 29:335-373.
- Meier, M. H., Caspi, A., Ambler, A. 2012. Persistent cannabis users show neuropsychological decline from childhood to midlife. *Proc Natl Academy of Science* 109: E2657–664.
- Menghrajani, P., Klaue, K., Dubois-Arber, F. and Michaud, P. A. 2005. Swiss adolescents' and adults' perceptions of cannabis use: a qualitative study. *Health Education Research*. 20(4): 476–484.
- Millman, B. 1988. Drug Testing in the workplace, A symposium held by the Committee on Public Health and the section on Occupational Medicine of the New York Academy of Medicine.
- Miller, N. E., and Dollard, J. 1941. Social learning and imitation. New Haven: Yale University Press.
- Miller, W.R., Forcehimes, A.A. and Zweben, A. 2011. *Treating addiction: a guide to professionals*. New York, USA: The Guilford Press.
- Miller, W. and Rollnick, S. 1991. Motivational interviewing: preparing people to change addictive behaviours. New York: Guilford Press.
- Miller, R. L. 2002. *The encyclopaedia of addictive drugs*, Westport (Connecticut): Greenwood Press.
- Miller, W. R. and Rollnick, R. 2013. *Motivational Interviewing: Preparing People for Change* 3<sup>rd</sup> ed. New York: Guilford Press.
- Miller, W.R. and Rollnick, S. 2002. *Motivational Interviewing: Preparing People for Change*. New York: Guilford Press.
- Ministers of Public Health of Belgium, France, Germany, The Netherlands, Switzerland (MPH), 2002. Cannabis 2002 Report. Technical Report of the International Scientific Conference, Ministry of Public Health, Belgium.
- Monti, P. M., Miranda, R. (Jr), Nixon, K., Sher, K. J., Swartzwelder, H. S., Tapert, S. F., White, A. and Crews, F. T. 2005. Adolescence: booze, brains and behaviour. *Alcohol, Clin. Exp. Res* 29:207-220.

- Monti, M., Colby, S. M., Barnett, N. P., Spirito, A., Rohsenow, D. J., Myers, M., Woolard, R. And Lewander, W. 1999. Brief intervention for harm reduction with alcohol-positive older adolescents in a hospital emergency department. *Journal of Consulting and Clinical Psychology* 67:989-994.
- Morojele, N. K. and Brook, J. S. 2001. Adolescent precursors of intensity of marijuana and other illicit drug use among adult initiators. *J. Genet. Psychol.* 162:430–450.
- Moronkola, O .A. 2003. Essays on issues in health, Ibadan: Royal People (Nigeria) Limited.
- Mulye, T. P, Park, M. J, and Nelson, C. D. 2009. Trends in adolescent and young adult health in the United States. *J Adolesc Health.* 45(1):8-24. Retrieved on May 13, 2016 from: <http://download.journals.elsevierhealth.com/pdfs/journals/1054-139X/PIIS1054139X09001244.pdf>
- Najavits, L. M. and Lester, K. M. 2008. Gender differences in cocaine dependence. *Drug & Alcohol Dependence* 97:190-194.
- National Association of School Psychologists, 2002. 4340 East West Highway, Suite 402, Bethesda, MD
- National Drug Law Enforcement Agency (NDLEA). 1996. Drug data collection report.
- National Drug Law Enforcement Agency (NDLEA). 1993. Drug data collection report.
- National Drug Law Enforcement Agency (NDLEA). 1992 and 1993. Drug collection, Lagos. Drug Demand Reduction Unit.
- Nakamura, N., Dawe, M., McGuire, F., Rudzinski, K., Rehm, J and Fischer, B. 2010. Gender differences in cannabis use related characteristics in high frequency using Canadian university students: an exploratory study. National Research Council, Panel on High-Risk Youth, Commission on Behavioural and Social Sciences and Education.
- National Institute on Drug Abuse (NIDA). 2003. National Institutes of Health -U.S Department of Health and Human Services: Preventing drug use among children and adolescents. 2nd Edition.
- National Institute on Drug Abuse (NIDA). 2009. Info Facts. Marijuana. Retrieved on February 29, 2016 from: [www.drugabuse.gov/PDF/ InfoFacts/Marijuana06.pdf](http://www.drugabuse.gov/PDF/InfoFacts/Marijuana06.pdf).
- Nnabugwu, F. 2015. The thriving hard drug trade in Abuja. Vanguard, 25 October, 2015. Pg.11.
- Nnachi, R. O. 2007. Advanced psychology of learning and scientific enquiries. Enugu:J. J. Classic Publishers Ltd.
- New Mexico State University (NMSU). 2008. Alcohol, Drugs (youth) Department of Health and Human Services/ Substance Abuse and Mental Health Services Administration.

- Nordstrom, B. R and Levin, F. R. 2007. Treatment of cannabis use disorders: a review of the literature. *American Journal of Addictions*. 16: 331-42.
- Novins, D. K. and Mitchell, C. M. 1998. Factors associated with marijuana use among American Indian adolescents. *Addiction* 93:1693-1702.
- Obiamaka, V. O. 2004. Problem behaviours in Nigerian secondary schools. *Nigeria Society for Educational Psychologists (NISEP)* 69-75.
- Obinawu, H. 2005. Emerging serious psychopathology associated with abuse of cannabis (Indian hemp, marijuana). *Tropical Journal of Pharmaceutical Research* 4, (1): 329-330.
- Obidoa M. A. and Ifelunni, I. C. S. 2010. *Counselling youths in contemporary Nigeria*. Nsukka, Nigeria. Chuka Educational Publishers.
- Obot, I. S. 1993. *Drinking behaviour and Attitudes in Nigeria: the Middle Belt study*. Jos Centre for Development Studies, University of Jos.
- Obot, I. S. 2003. *Assessing Nigerians Drug Control Policy 1994-2000*, Centre for Research and Information on Substance Abuse Jos Nigeria. Retrieved on 26 June 2016 from <http://www.countthecosts.org/sites/default/files/Assessing-Nigeria's-Drug-Control-Policy.pdf>
- Observatorio Español sobre Drogas (OED). 2002. Report no 5. Ministerio del Interior. Delegación del Gobierno para el Plan nacional sobre Drogas, España, pp. 25–26. Retrieved on May, 31, 2016 from: <http://www.pnsd.msc.es/Categoria2/publica/pdf/oed-5.pdf>
- Odejide, A. O., 2000. Research, prevention and treatment of alcohol and drug abuse in Nigeria: Problem and Prospects, Paper presented at the 10th Anniversary Lecture of CRISA JOS.
- Odejide, A. 1979. Alcohol use in sub-group literature Nigerian. *African Journal of Psychiatry*, Vol. 5, 15-20.
- Odejide, A.O. 1980. Problems of drug abuse in Nigeria. "A review of the existing literature and suggestions on preventive measures". *Nigerian Medical Journal* (10): 5-11.
- Office of Applied Studies. 2001b. Summary of findings from the 2000 National Household Survey on Drug Abuse (DHHS Publication No. SMA 01-3549, NHSDA Series H-13. Retrieved on May 13, 2016 from <http://www.samhsa.gov/oas/nhsda.htm>). Rockville, MD: Substance Abuse and Mental Health Services Administration.
- Ogunremi, O. O. and Okonfua, F. E. 1977. Abuse of drugs among Nigerian youths. *African Journal of Psychiatry*. Vol 8: 107-112.
- Ogunremi, O. O. and Rotimi, D. O. 1979. The Nigerian teenage and the use of drug. *African Journal of Psychiatry*, Vol. 5(1 & 2): 21-27.

- Ohaeri, J. U and Odejide, O. A. 1993. Admissions for drug and alcohol-related problems in Nigeria psychiatric care facilities in one year. *Drug Alcohol Depend.*31: 101-9.
- Okafor, E.E 2011. Youth unemployment and implications for stability of democracy in Nigeria *Journal of sustainable Development in Africa* 13: 358-373.
- Okorodudu, R. and Okorodudu, G. N. 2004. An overview of conduct problems of the Nigerian child. *Journal of the Nigerian Society for Educational Psychologists. (NICEP) Vol 8:* 76-83.
- Okoye, N. N. 2001. The adolescents and hard drugs: a psychological concern in R.U.N, Okonkwo and R.O. Okoye Eds. 2010. *The Nigerian adolescent in perspective.* Nigerian Society for Education.
- O'leary, T. T. and Monti, P. 2004. Motivational enhancement and other brief interventions for adolescent substance abuse: foundations, applications and evaluations. *Addiction.* 99(S2): 63-75.
- Olievenstein, C. 1990. *A clínica do toxicômano.* Porto Alegre: Artes Médicas.
- Oliveira, M. C and Conceição, M. I. 2008. A relação adolescente-drogas e as perspectivas da nova legislação sobre drogas. *Revista de Informação Legislativa,* 45, 253–262.
- Olley, B.O. 2008. Child sexual abuse, harmful alcohol use and age as determinants of sexual risk behaviours among freshmen in a Nigerian University. *African Journal of Reproductive Health,* vol. 12, no. 2: 75–88, 2008. Viewed at Google Scholar on May 26, 2016.
- Omage, E. I. 2005. The incidence of drug abuse among young adults in Oredo Local Government Area of Edo State. Department of Adult and Non-Formal Education, University of Benin. Unpublished Case Studies. 2005.
- Onifade, P., Somoye, E., Ogunwobi, O., Ogunwale, A., Akinhanmi, A and T.A Adamson. 2011. Descriptive survey of types, spread and characteristics of substance abuse treatment centres in Nigeria. Retrieved 26 June 2016 from <http://www.substanceabusepolicy.com/content/6/1/25>
- Onofa, 2006. Prevalence and pattern of drug abuse among students of three tertiary institutions in Abeokuta. A dissertation for West Africa College of Physicians.
- O'Shea, M., McGregor, I. S and Mallet, P. E. 2006. Repeated cannabinoid exposure during perinatal adolescent or early adult ages produces similar long lasting deficits in object recognition and reduced social interaction in rats. *J Psychopharmacol:* 20: 611–21.
- Oshodi, O. Y., Aina, O. F and Onajole, A. T. 2010. Substance use among secondary school students in an urban setting in Nigeria: prevalence and associated factors. *African journal of psychiatry.* 13(1): 52-57.
- Oshikoya, K. A and Alli, A. 2006. Perception of drug abuse amongst Nigerian undergraduates. *World Journal of Medical Sciences,* 1(2):133-139. Retrieved June 2, 2016 from [http://idosi.org/wjms/1\(2\)2006/16.pdf](http://idosi.org/wjms/1(2)2006/16.pdf)

- Pacula, R. and Lundberg, R. 2014. Why changes in price matter when thinking about Marijuana policy: a review of the literature on the elasticity of demand. *Public Health Review*. 35: (2), 1–18.
- Pagliari, L. A and Pagliaro, A. M. 2011. Explaining child and adolescent use of the drugs and substances of abuse. L.A Pagliaro and A.M Pagliaro. Eds *Handbook of child and adolescent drug and substance abuse*. Hoboken, NJ, USA: John Wiley & Sons, Inc.243-288.
- Pajares, F. 2002. Overview of social cognitive theory and self-efficacy. <http://www.emory.edu/EDUCATION/mfp/eff.html>. Retrieved on May 20,2015.
- Parraga, I.M. 1990. Determinants of food consumption. *Journal of America Dietetics Association* 90:661-663.
- Patton, C. C., Degenhardt, J., Lynskey, L., Hall, M. and Wayne, G. C. C. 2002. Cannabis use and Mental health in young people: cohort study. *BMJ*. 325(7374):1195–1198. Retrieved on June 13, 2016 from: <http://dx.doi.org/10.1136/bmj.325.7374.1195>.
- Patton, G., Coffey, C., Carlin, J., Degenhardt, L., Lynskey, M and Hall, W. 2002. Cannabis use and Mental health in young people: cohort study. *Centre for Adolescent Health*, 355: 1195-1198.
- Pape, H., Hammer, T and Vaglum, P. 1994. Are “traditional” sex differences less conspicuous in young cannabis users than in other young people? *Journal of Psychoactive Drugs* 26:257-263.
- Pedersen, W. 1990. Adolescents initiating cannabis use: cultural opposition or poor mental health? *Journal of Adolescence*. 13: 327–339.
- Pela, O. A 1989. Patterns of adolescent psychoactive substance abuse in Benin City, Nigeria, *Adolescence*, 14(95):569-574.
- Peltzer, K., Malaka, D. and Phaswana, N. 2001. Psychological correlates of substance use among South African university students. *Social Behaviour & Personality*. 29:799-806.
- Petersen, R.C. 2009. Drug dependence. *Microsoft Encarta Premium 2009 [DVD]*. Redmond, WA: Microsoft Corporation. 2009.
- Petratis, J., Flay, B. and Miller, T. 1995. Reviewing theories of adolescent substance use: Organizing pieces in the puzzle. *Psychology Bulletin*. 117(1): 67-86.
- Plan Nacional sobre Drogas (PND) (National Drug Plan), 2001, 2003, Tu guia. Drogas: Mas informacion, menos riesgos (Your Guide. Drugs: More Information, Fewer Risks). Madrid. Rafael Escandon and Cesar Galvez 2005. Free from drugs and addictions. Madrid.Talleres Graficos Penalara- Ctra. De Villaviciosa de Odon a Pinto.
- Poikolainen, K., Tuulio-Henriksson, A., alto-Setala, T., Marttunen, M., Anttila, T. and Lonnqvist, J. 2001. Correlates of initiation to cannabis use: a 5- year follow-up of 15-19-year-old adolescents. *Drug Alcohol Depend*. 62:175-180.

- Popoola, B. and Alao, K. 2006. Secret Cults in Nigerian Institutions of Higher Learning, *Journal of School Violence*, 5(2): 73-85.
- Poulin, C., Hand, D., Boudreau, B. and Santor, D. 2005. Gender differences in the association between substance use and elevated depressive symptoms in a general adolescent population. *Addiction*. 100:525–535.
- Prather, J. E. and Fidell, L. S. 1978. Drug use and abuse among women: an overview. *The International Journal of the Addictions*, 13, 863-885.
- Prochaska, J. O., Di Clemente, C. C. and Norcross, J. C. 1992. In search of how people change. Applications to addictive behaviours. *Am Psychology*. 47:1102-1402.
- Prochaska, J. and DiClemente, C. 1984. *The trans-theoretical model: crossing the traditional boundaries of therapy*. Malabar, FL: Krieger.
- Rafael, E. and Cesar, G. 2005. *Free from drugs and addictions*. Madrid, Talleres Graficos Penalara-Ctra. De Villaviciosa de Odon a Pinto.
- Ray, O. and Ksir, C. 2004. *Drugs, society and human behaviour*. Boston, McGraw Hill.
- Reddy, P., Resnicow, K., Omardien, R and Kambaran, N. 2007. Prevalence and correlates of substance use among high school students in South Africa and the United States. *Am Journal of Public Health* 97: 1859-1864.
- Resnicow, K., Smith, M., Harrison, L. and Drucker, E. 1999. Correlates of occasional cigarette and marijuana use: Are teens harm reducing? *Addictive Behaviours* 24:251-266.
- Renard, J., Krebs, M. O., Jay, T. M. and Le Pen, G. 2013. Long-term cognitive impairments induced by chronic cannabinoid exposure during adolescence in rats: a strain comparison. *Psychopharmacology (Berl)* 225: 781–90.
- Ritter A, and Cameron J. 2007. Australian clinician attitudes towards contingency management: comparing down under with America. *Drug Alcohol Dependence*. 87(2-3):312-5.
- Rodham, K., Hawton, K., Evans, E and Weatherall, R. 2005. Ethnic and gender differences in drinking, smoking and drug taking among adolescents in England: a self-report school-based survey of 15 and 16 year olds. *Journal of Adolescence* 28:63-73.
- Rohsenow, D.J., Monti, P.M., Rubonis, A.V., Gulliver, S.B., Colby, S.M and Binkoff, J.A. 2001. Cue exposure with coping skills training and communication skills training for alcohol dependence: 6- and 12-month outcomes. *Addiction*. 96:1161-74.
- Rollnick, S and Miller, W. 1995. What is motivational interviewing? *Behaviour Cognitive Psychotherapy*. 23:325-34.
- Romo, N., Marcos, J., Rodriguez, A., Cabrera, A. and Hernan, M. 2009. Girl power: Risky sexual behaviour & gender identity amongst young Spanish recreational drug users. *Sexualities*. 12, 355-377.



- Room, R., Fischer, B., Hall, W. D., Lenton, S and Reuter, P. 2008. Cannabis policy: moving beyond stalemate. *The global cannabis Commission Report*. Oxford, Beckley Foundation.
- Rubak, S., Sanbaek, A., Lauritzen, T. and Christensen, B. 2005. Motivational Interviewing: a systematic review and Meta-analysis. *BrJ Gen Pract.* 2, 55: 305-12.
- Schenker, M. and Minayo, M. C. de S. 2005. Fatores de risco e de proteção para o uso de drogas na adolescência. *Ciência & Saúde Coletiva*, 10(3): 707-717.
- Shehu, A and Idris, S. H. 2008. Marijuana smoking among secondary school students in Zaria, Nigeria: Factors responsible and effects on academic performance. *Annual African Med*, 7:175-9.
- Shell, D.F., Newman, I.M, and Xiaoyi, F (2010). The influence of cultural orientation, alcohol expectancies and self-efficacy on adolescent drinking behavior in Beijing. *Addiction*, 105: 1608-15.
- Skosnik, P.D., Spatz-Glenn, L. and Park, S. 2001. Cannabis use is associated with schizotypy and attentional disinhibition. *Schizophr Res.* 48: 83-92.
- Smedslund, G., Berg, R.C., Hammerstrøm, K.T., Steiro, A., Leiknes, K.A. and Dahl, H.M. 2011. Motivational interviewing for substance abuse. *Cochrane Database System Rev.* 5:CD008063.
- Smyth, N. J. 1996. Motivating persons with dual disorders: a stage approach. *Families in Society: The Journal of Contemporary Human Services*, 77:605–614.
- Steedly, K., Dragoo, K., Arefeh, S. and Luke, S.D. 2008. Effective mathematics instruction evidence for education
- Substance Abuse and Mental Health Services Administration (SAMSHA). 2009. Office of Applied Studies. Treatment Episode Data Set (TEDS ): Discharges from substance abuse treatment services, *DASIS*.
- Substance Abuse and Mental Health Services Administration (SAMHSA). 2005. *Treatment Episode Data Set (TEDS). Highlights– 2003. National Admissions to Substance Abuse Treatment Services*. DASIS Series:S-27, DHHS Publication No. (SMA 05-4043). Rockville, MD: SAMHSA.
- Substance Abuse and Mental Health Services Administration (SAMHSA). 2005. Results from the 2004 National Survey on Drug Use and Health (NSDUH): *National Findings*. Series H-25. DHHS Pub. No. 04-3964. Rockville,MD: SAMHSA.
- Substance Abuse and Mental Health Services Administration (SAMHSA). 2004. Treatment episode Data Set (TEDS): 1992-2002. National admissions to substance abuse treatment services. Rockville, MD. Document Number).



- Substance Abuse and Mental Health Services Administration (SAMHSA). 2007. Results from the 2006 National Survey on Drug Use and Health: National Findings. Rockville (MD): Office of Applied Studies; 2007. (NSDUH Series H-32, DHHS Publication No. SMA 07-4293).
- Sue, D., Sue, D. W and Sue, S. 2006. Understanding abnormal behaviour 8th ed. Boston: Houghton Mifflin Company.
- Staff, K. 2012. Drug use on the rise among Nigerian youths. Retrieved on May 26,2016 from <http://news2onlinenigeria.com/news/top-stories/144286-drug-use-on-the-rise-among-Nigeria-youths.html> .
- Steinberg, L. 2008. A social neuroscience perspective on adolescent risk-taking. *Developmental Review*, 28(1):78-106.
- Stephens, R. S., Roffman, R. A. and Curtin, L. 2000. Comparison of extended versus brief treatments for marijuana use. *Journal Consulting Clinical Psychol.*; 68(5):898-908.
- Stephens, R. S., Roffman, R. A., and Simpson, E. E. 1994. Treating adult marijuana dependence: A test of the relapse prevention model. *Journal of Consulting and Clinical Psychology*, 62:92-99.
- Stephens, R. S., Wertz, J. S. and Roffman, R. A. 1993. Predictors of marijuana treatment outcomes: The role of self-efficacy. *Journal of Substance Abuse*. 5:341-353.
- Steyl, T and Phillips, J. 2011. Actual and perceived substance use of health science students at a university in the Western Cape, South Africa, *African Health Sciences*, vol. 11, no. 3:329-333, Viewed at Google Scholar on May 26,2016.
- Swift, W., Copeland, J. and Hall, W. 1997. Cannabis dependence among long-term users in Sydney, Australia. NDARC Technical Report No. 47. Sydney: National Drug and Alcohol Research Centre.
- Szalay, L. B., Strohl, J. B. and Doherty, K. T. 1999. Psycho-environmental forces in substance abuse prevention. New York: Kluwer Academic Publishers.
- Tashkin, D. P. 2013. Effects of marijuana smoking on the lung. *Annals of the American Thoracic Society*, Vol., 10, No. 3:239-247.
- Tesfaye, G., Derese, A and Hambisa, M.T. 2014. Substance use and associated factors among University Students in Ethiopia: a Cross-Sectional Study. *Journal of Addiction*, vol.8: 11-18. Article ID 969837. Viewed at Google Scholar on May 26,2016.
- Ter Bogt, T., Schmid, H., Gabhainn, S.N., Fotiou, A. and Vollebergh, W. 2006. Economic and cultural correlates of cannabis use among mid adolescents in 31 countries. *Addiction*, 101: 241-251.
- The National Cross Site Evaluation of High Risk Youth Programs In Obidoa M. A and Ifelunni, I. C. S. 2010. Counselling youths in contemporary Nigeria. Nsukka, Nigeria. Chuka Educational Publishers

- The Higher Education Centre for Alcohol and Other Drug Abuse and Violence Prevention. 2008. Marijuana use among students at institutions of higher education. Retrieved on June 13, 2016 from [www.higheredcenter.org/files/product/marijuana.pdf](http://www.higheredcenter.org/files/product/marijuana.pdf) CORE marijuana rates.
- Thomas, J. L., Bosson, N., Kaji, A. H., Ji, Y., Sung, G., Shavelle, D. M and Niemann, J. T. 2014. Treatment and outcomes of ST segment elevation myocardial infarction and out-of-hospital cardiac arrest in a regionalized system of care based on presence or absence of initial shockable cardiac arrest rhythm. *American Journal of Cardiology*.14(7):968-971.
- Thomas, G., Kloner, R.A. and Rezkalla, S. 2014. Adverse cardiovascular, cerebrovascular and peripheral vascular effects of marijuana inhalation: what cardiologists need to know. *American Journal of Cardiology*.113:187-190.
- Thornton, L. K., Baker, A. L., Johnson, M. P and Lewin, T. 2013. Perceived risk associated with tobacco, alcohol and cannabis use among people with and without psychotic disorders. *Addictive Behaviours*. 38(6):2246-2251.
- Trujillo, A. M., Fornsi-Santacana, M and Perez-Gomez, A. 2007. Substance use and risk perception: comparative study of adolescents in Bogota and Barcelona. *Addictions*.19(2):179-189.
- Turchik, J. A., Garske, J. P., Probst, D. R. and Irvin, C. R. 2010. Personality, sexuality, and substance use as predictors of sexual risk taking in college students. *J Sex Res*. 47:411-419.
- Ubom, I. U. 2004. Behaviour problems of children: Counselling interventions, *Nigerian Society for Educational Psychologists (NISEP)*.47-58.
- UNODC, 2011. World drug report, viewed May 13, 2016, [http://www.unodc.org/documents/data-and-analysis/WDR2011/The\\_cannabis\\_market.pdf](http://www.unodc.org/documents/data-and-analysis/WDR2011/The_cannabis_market.pdf)
- UNODC, 2005. World Health Organization Expert Committee on Dependence Producing Drugs. Fourteenth Report Urban Adolescent. *Child Development*, 61:2032-2046.
- United Nations Office on Drugs and Crime . 2007. Drug abuse and drug dependence treatment situation in Nigeria. Retrieved on May 13, 2016 from [http://www.unodc.org/docs/treatment/CoPro/Web\\_Nigeria.pdf](http://www.unodc.org/docs/treatment/CoPro/Web_Nigeria.pdf)
- United Nation International Drug Control Programme, (UNDCP), 1997. World drug report. New York, Oxford University Press.
- United Nations Office on Drugs and Crimes. 2011. World drug report. Austria. Retrieved on May 13, 2016 from [http://www.unodc.org/documents/data-and-analysis/WDR2011/World\\_Drug\\_Report\\_2011\\_ebook.pdf](http://www.unodc.org/documents/data-and-analysis/WDR2011/World_Drug_Report_2011_ebook.pdf)
- United Nations Office on Drugs and Crime. *World drug report 2013* (United Nations publication no. E.13.XI.6). Vienna, Austria: United Nations Office on Drugs and Crime; 2013.
- University of Twente website on Theory Clusters Retrieved on May 21 from [www.utwente.nl/cio/theoriesoverzicht/Theory%20clusters](http://www.utwente.nl/cio/theoriesoverzicht/Theory%20clusters).

- Van Etten, M .L and Anthony, J. C. 2001. Male-female differences in transitions from first drug opportunity to first use: searching for subgroup variation by age, race, region, and urban status. *Journal of Women's Health Gender*. 10:797-804.
- Van Etten, M. L. and Anthony, J. C.1999. Comparative epidemiology of initial drug opportunities and transitions to first use: marijuana, cocaine, hallucinogens and heroin. *Drug and Alcohol Depend*. 54:117-125.
- Vogel, D. Michaels, M. and Gruss, N. 2009. Parental attitudes and college students intentions to seek therapy. *Journal of Clinical and Social Psychology*. 28 (6): 689-713.
- Volkow, N. D., Baler, R. D., Compton, W. M. and Weiss, S. R. B. 2014. Adverse health effects of marijuana use. *New England Journal of Medicine*, 370(23):2219-2227.
- Von Sydow, K., Lieb, R., Pfister, H., Hofler, M. and Wittchen, H. U. 2002. What predicts incident use of cannabis and progression to abuse and dependence? A 4-year prospective examination of risk factors in a community sample of adolescents and young adults. *Drug and Alcohol Depend*. 68:49-64.
- Watt, K., Purdie, D. M., Roche, A. M and Mecure, R. J. 2004. Risk of injury from acute alcohol consumption and the influence of confounders. *Addiction*. 99:1262-12273.
- Weiss, C and Millman, B. 1989. Alcohol and drug abuse in the workplace in broad perspective. *Bulletin of New York Academy of Medicine* Vol. 65 (2):173-184.
- Weinstein, N. 1988. The precaution adoption process. *Health Psychology*. 7:355-86.
- Weller, B. F and Wells, R. T. 1990. *Nurses dictionary*: 21<sup>st</sup> ed. London: Bailliere Tindall Limited.
- West, L and Graham, C. 2005. A survey of substance abuse prevention efforts at Virginia's colleges and universities. *Journal of American College Health*. 53(3):185-198.
- Whichstrom, L. and Hegna, K. 2003. Sexual orientation and suicide attempt: a longitudinal study of the general Norwegian adolescent population. *Journal of Abnormal Psychology*. 112:144-151.
- Wolfe, D. A. and Mash, E. J. Eds. 2006. *Behavioural and emotional disorders in adolescents: nature, assessment and treatment*, New York Guilford Press. 719-729.
- World Health Organisation (WHO), Expert Committee on Drug Dependence, 1987. 23rd Report Geneva:. Tech. Rep. Ser., No. 741.
- World Book Encyclopaedia. 2004. Vol. 6, Chicago: World Book.
- World Drug Report. 2004. United Nations Office on Drugs and Crime. United Nations Publications, New York, NY 10017. Retrieved May 13, 2015 from [www.unodc.org/unodc/en/data-and-analysis/WDR-2004.html](http://www.unodc.org/unodc/en/data-and-analysis/WDR-2004.html)

- Yamaguchi, K. and Kandel, D. B. 1984. Patterns of drug use from adolescence to young adulthood: III. Predictors of progression. *Journal of Public Health* 74:673-681.
- Yeh, M. Y. 2006. Factors associated with alcohol consumption, problem drinking and related consequences among high school students in Taiwan. *Psychiatry Clinical Neuroscience*. 60:46-54.
- Zins, J.E., Weissberg, R.P., Wang, M.C. and Walberg, H.J. 2004. Building academic success on social and emotional learning: What does research say? New York: Teachers College Press.
- Zweben, J. E. and O'Connell, K. 1992. Strategies for breaking marijuana dependence. *Journal of Psychoactive Drug.*, 24:165-171.
- Zweben, A., Bonner, M., Chaim, G. and Santon, P. 1988. Facilitative strategies for retaining the alcohol-dependent client in outpatient treatment. *Alcoholism Treatment Quarterly*.5:3-24.

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## APPENDIX 1

**TITLE: Motivational Enhancement therapy and cannabis usage amongst undergraduates in private universities in South Western, Nigeria**

### **Package in the Treatment**

#### **Experimental Group 1 – Motivational Enhancement Therapy (MET)**

**Week 1:** General orientation

**Week 2:** Pretest Administration

**Week 3:** Provide Psycho education, e.g feeling good, ask questions.

**Week 4:** Explore Motivation to Change- Phase 1 of MI Strategies.

**Week 5:** Rate importance and confidence in making a change.

**Week 6:** Explore options for making a change.

**Week 7:** Negotiate a Change Plan and Coping with Relapse.

**Week 8:** Conclusion and administration of posttest.

#### **Control Group: No treatment**

**Week 1:** General orientation

**Week 2:** Administration of pre test

**Week 3:** General discussion of conventional topics

**Week 4:** Regular conventional discussion

**Week 5:** Regular conventional topic

**Week 6:** Regular conventional topic

**Week 7:** Regular conventional topic

**Week 8:** Posttest administration

#### **Treatment Package (Motivational Enhancement Therapy)**

##### **Week One: Session 1: General orientation**

The researcher/ therapist warmly welcomed all participants to the therapeutic treatment session by doing the following:

- i. Preliminary conversation to build empowering atmosphere intended for mediation.
- ii. Justification of curriculum as well as benefits to be gained by the participants by close curriculum.
- iii. Regulatory codes, such as Ground Rules for projected behaviours from partakers during development of the curriculum

##### **Week 2: Administration for pre-test questionnaire**

- iv. Orientation: Pre-test:

### **Week 3: Explanation of the Motivational Enhancement Therapy package.**

**Objective:** By close each period, partakers must identify those concerns that brought him/her for treatment. Also, the motivation for change relies solely on the participant's own natural change processes and resources.

**Lecture:** What is Motivational Enhancement Therapy? Administration of pre-test.

**Environment:** The environment chosen was silent, devoid of distraction and conducive.

#### ***MET1—Motivation-Building Period***

##### **Main Facts:**

- Establish relationship with participants.
- Acquaint with client about the expectations for him/her from management.
- Activate procedure for evaluating besides establishing participant's inspiration in addressing their cannabis difficulty.
- Appraisal of individual response report for participants.

**Conveying Process:** MET-focused individual treatment

##### **Meeting Stages and Duration:**

1. Building mutual trust besides positioning for management (20 minutes)
2. Evaluating the PFR plus responses toward it (30 minutes)
3. Upshot from the day's meeting as well as planning of subsequent meeting (10 minutes)

**Duration:** 1 hour total

##### **Worksheets:**

- Two duplicates from participant's personalized feedback report
- *An Instructional book for Leaving Cannabis* brochure
- A positioning sheet named Greetings!

##### **Items needed:**

- A portable file

#### ***Week 4: MET2—Objective-Setting Meeting***

##### **Main Facts:**

- Evaluating improvement, thinking, as well as responses ever since meeting 1.
- Cooperate on scenery for management objective otherwise objectives aimed at the outstanding management meetings.
- Present the notion for functional breakdown.
- Ready for set treatment meetings.

**Conveying Process:** MET-focused individual treatment

**Meeting Stages and Duration:**

1. Evaluating improvement (15 minutes)
2. Objective-setting (20 minutes)
3. Functional breakdown (20 minutes)
4. Readiness for group (5 minutes)

**Duration:** 1 hour total

**Worksheets:**

- An individual objective worksheet
- Blank individual consciousness worksheets for functional breakdown (named Information Remains Authority)
- A set readiness page named Knowledge plus Anticipations Set Slips.

**Week 5: CBT3—Cannabis (Refusal) Declination Skills****Main Facts:**

- A person's societal group slowly get smaller as cannabis usage rises. Pure associates are evaded while interaction with consumers rises. A central issue is that participants trying to discontinue smouldering cannabis cultivate repudiation abilities.
- It is best to Avoidance of persons that place consumers on great danger should be done if possible nevertheless it might not always be conceivable.
- Consumers must grow repudiation abilities in managing stress efficiently.
- Once being stressed in using cannabis, instant as well as operative act is required.
- Rehearsal rise probability by which consumers utilize their cannabis repudiation abilities efficiently once stressed.

**Conveying Process:** Cognitive behavioural set treatment

**Meeting Stages and Duration:**

1. Acquainting set participants with one another besides summary evaluation of improvement (20 minutes)
2. Evaluating actual life repetition (individual consciousness templates) (10 minutes).
3. Cannabis repudiation abilities (30 minutes)

**Duration:** 60 minutes total

**Worksheets:**

- Cannabis repudiation abilities worksheet—sufficient duplicates of every participants as well as the head.



- Cannabis repudiation abilities aide memoire in addition actual life repetition worksheet sufficient duplicates of every participants as well as the head.
- Blank individual consciousness templates (assignment from meeting 2)

**Items needed:**

- Rewards (accomplishment for actual life rehearsal workouts)
- Pens

A session 3 poster

**Week 6:—Augmenting Social Care System as well as Growing Nice Events**

**Main Facts:**

- Communal care induces enhanced assurance of individual’s capacity in handling as well as offers an extra wellsprings for assisting to leave otherwise decreasing an individual’s cannabis use.
- Frequently persons couldn’t get the needed care they wanted.
- Numerous possible wellsprings for care, comprising an individual’s kinfolk, peers, as well as associates are available.

**Conveying Process:** Set cognitive-behavioural treatment

**Meeting Stages and Duration:**

1. Evaluating improvement (15 minutes)
2. Evaluating actual life rehearsal workout (10 minutes)
3. Augmenting care (25 minutes)
4. Growing nice events (10 minutes)

**Duration:** 60 minutes total

**Worksheets:**

- A social supports reminder sheet for each group member
- A social circle worksheet for each member
- A social support practice exercise sheet (entitled Real Life Practice: Seeking and Giving Support) for each member

**Items needed:**

- A drug test equipment for every participant
- Rewards (for accomplishment for actual life rehearsal workout)
- Pens or pencils

A whiteboard, a “inscribe as well as rub” board

- A meeting 4 poster

**Week 7: CBT5—Planning for Emergencies and Coping With Relapse**

**Main Facts:**

- Readinesses against disasters (unforeseen huge-danger recur circumstances) raise probability for operative management.
- The set masterminding occasions which can hasten another recur.
- Work out method will be acquainting with for handling unanticipated occasions.
- A recur stands probable go with responsibility in addition pity, that worsens the difficult.
- Employ disasters in addition to faults of knowledge chances.

**Conveying Process:** Cognitive-behavioural group therapy

**Meeting Stages and Duration:**

1. Evaluating improvement (13 minutes)
2. Evaluating actual-life repetition (10 minutes)
3. Forecasting disasters as well as managing recur (30 minutes)
4. Closure (7 minutes)

**Duration:** 60 minutes total

**Worksheet:**

- An individual disaster strategy worksheet to every participant

**Items needed:**

- A chalkboard, a “inscribe as well as rub” board
- A meeting 5 notice

**Week 8:** Conclusion and Administration of posttest

**Control Group: No treatment**

**Week 1:** General orientation

**Week 2:** Administration of pre test

**Week 3:** General discussion of conventional topics

**Week 4:** Regular conventional discussion

**Week 5:** Regular conventional topic

**Week 6:** Regular conventional topic

**Week 7:** Regular conventional topic

**Week 8:** Posttest administration

## APPENDIX II

Faculty of Education  
Department of Adult Education  
University of Ibadan, Ibadan

### QUESTIONNAIRE

This study centres about effects of Motivational Enhancement therapy for cannabis usage amongst university undergraduates of private universities in the South-West, Nigeria. The information gathered from this will stand preserved in firm assurance as well as employed only aimed at the goal for the study. Your utmost genuineness and cooperation will be of great importance to enable the researcher to obtain accurate information for the success of this research.

#### Section A: Demographic Information

Gender: Male ( ) Female ( )  
Age at first: cannabis usage ( ) Present Age: ( )  
Ethnic group: Yoruba ( ), Igbo ( ), Hausa ( ), others ( )  
Level: 1001 ( ), 2001 ( ), 3001 ( ), 4001 ( ), 5001 ( )  
Course ( )  
Religion: Christianity ( ), Islam ( ) Traditional ( ) Others ( )  
Family type: Parents Living together ( ), Separated ( ), Divorced ( ), Widow ( ), Widower ( )  
Single ( )

### APPENDIX III

#### Adolescent Cannabis Problem Questionnaire (CPQ-A)

**Instruction:** Please write legibly or tick appropriately. This questionnaire is only for research purposes. Thanks (√). Your response will be treated confidentially.

- |   |     |    |
|---|-----|----|
| 1. Have you tended to smoke more on your own than you used to?                  | Yes | No |
| 2. Have you worried about meeting people you don't know when you are stoned?    | Yes | No |
| 3. Have you spent more time with smoking friends than other kinds of friends?   | Yes | No |
| 4. Have your friends criticised you for smoking too much?                       | Yes | No |
| 5. Have you had any debts as a result of needing to buy cannabis?               | Yes | No |
| 6. Have you sold any of your belongings to buy cannabis?                        | Yes | No |
| 7. Have you found yourself making excuses about money?                          | Yes | No |
| 8. Have you been caught out lying about money?                                  | Yes | No |
| 9. Have you been physically sick after smoking?                                 | Yes | No |
| 10. Have you passed out after a smoking session?                                | Yes | No |
| 11. Have you had pains in your chest or lungs after a smoking session?          | Yes | No |
| 12. Have you had a persistent chest infection or cough?                         | Yes | No |
| 13. Have you felt paranoid or antisocial after a smoking session?               | Yes | No |
| 14. Have you had any accidents requiring hospital admission after smoking?      | Yes | No |
| 15. Have you been neglecting yourself physically?                               | Yes | No |
| 16. Have you felt depressed for more than a week?                               | Yes | No |
| 17. Have you felt so depressed you felt like doing away with yourself?          | Yes | No |
| 18. Have you given up any activities you once enjoyed because of smoking?       | Yes | No |
| 19. Have you had less energy than in the past?                                  | Yes | No |
| 20. Have you found it hard to get the same enjoyment from your usual interests? | Yes | No |
| 21. Has your general health been poorer than usual?                             | Yes | No |
| 22. Have you worried about getting out of touch with friends or family?         | Yes | No |
| 23. Have you been concerned about a lack of motivation?                         | Yes | No |
| 24. Have you felt less able to concentrate than usual?                          | Yes | No |
| 25. Have you worried about feelings of personal isolation or detachment?        | Yes | No |
| 26. Do your parent(s) use cannabis on a regular basis?                          | Yes | No |
| 27. Have your parent(s) complained about you smoking?                           | Yes | No |
| 28. Have your parent(s) tried to stop you from having a smoke?                  | Yes | No |
| 29. Have you argued with them about your smoking?                               | Yes | No |
| 30. Have you tried to avoid your parents(s) after you have been smoking?        | Yes | No |

31. Does boy/girlfriend use cannabis on a regular basis?	Yes	No
32. Has he/she complained about your smoking?	Yes	No
33 .Have you argued with him/her about smoking?	Yes	No
34. Has he/she threatened to leave you because of your smoking?	Yes	No
35. Have you avoided him/her after you have been smoking?	Yes	No
36. Have you been less interested or motivated in schoolwork/study?	Yes	No
37. Have you been unable to attend classes because of smoking?	Yes	No
38. Have your school/course marks dropped?	Yes	No
39. Have you gone to classes stoned?	Yes	No
40. Have you been less able to concentrate on your schoolwork/study?	Yes	No
41. Have you smoked on school premises?	Yes	No
42. Have you been unable to complete homework because of your smoking?	Yes	No
43. Have you had complaints from teachers about your work?	Yes	No
44. Have you been disciplined or suspend	Yes	No

Thank you!

Adapted from Martin, G., Copeland, J., Gilmore, S.and, & Swift, W. (2006). The Adolescent Cannabis Problems Questionnaire: Psychometric properties. Addictive Behaviors 31:2238-2248.

## **APPENDIX IV**

### **INFORMED CONSENT FORM**

#### **INTRODUCTION**

This university is a servant-leadership and student friendly university which is committed to providing a safe and conducive environment. Over time, there were observations that some of our students use drugs without prescription, which we believe is harmful to those students and this research is put in place to help everyone in this regard. So, a therapeutic programme is put in place to help everyone that tested positive to cannabis to stop the habit. This therapeutic therapy will be carried out in STRICT PROFESSIONAL CONFIDENCE meaning that NO ONE will be able to link any of your responses to you, not even your parents, roommates, course mates not even the university authority or anyone except the person(s) conducting the therapeutic sessions. All the assistant researchers are bound by professional ethics to abide by this rule of confidentiality.

#### **WHAT DOES THE STUDY INVOLVE?**

If you decide in partaking in the research, an associate from the research group will interview you about your past and current use of drugs (cannabis).

#### **WHAT ARE THE POSSIBLE RISK AND DISCOMFORTS?**

There are no major risks or discomfort of being part of this.

#### **WHAT ARE THE POTENTIAL BENEFITS OF PARTICIPATING?**

Everyone who participates will get drug information leaflet and other tips on how to live a life without drugs. Everyone who is identified as being on great danger of undesirable moments for other substance abuse might be offered additional help. At the end of the day, the benefit will be improved health for you and your community.

#### **WHAT ARE THE CONSEQUENCES OF NOT PARTICIPATING?**

This is a completely voluntary exercise. Nobody will punish or mark you out for punishment for not participating in this exercise. Your refusal to participate will not affect your studentship in this university. You can also withdraw from the therapy anytime you want.

#### **REIMBURSEMENT:**

Your participation is voluntary. You will not receive money or gifts for your involvement. You can discontinue partaking in the research by whichever phase.

**CONFIDENTIALITY:** Your confidentiality will be respected. No one, except the research personnel (who are counsellors and social workers) will be able to link your identity with the information you provide. All information about your identity will be removed before it is sent to affiliated bodies for further analysis and interpretation. All the de-identified data gotten throughout

research period are guided privately and no person other than the researcher will have access to the data.

**Who do I contact if I have questions about the study during my participation? If you have any further questions, please call:**

**Mrs Banjo O.O, 08033645370. Email : [oluwa\\_fikky@yahoo.com](mailto:oluwa_fikky@yahoo.com)**

I have read the agreement template as I was allowed chance in making inquiries and they were answered to my satisfaction. By signing this document I decide in being part of the research. I was provided with the duplicate of this assent form.

---

Partakers's signature & date

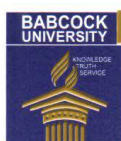
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Witness's signature & date.

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## APPENDIX V: ETHICAL APPROVAL



### BABCOCK UNIVERSITY HEALTH RESEARCH ETHICS COMMITTEE

Our Ref. NHREC/17/12/2013 Your Ref. BUHREC576/17 Date: Nov 29, 2017

**NAME OF PRINCIPAL INVESTIGATOR: BANJO OLUWAFIKAYOMI O.**

**TITLE OF STUDY: EFFECT OF MOTIVATIONAL ENHANCEMENT THERAPY  
ON CANNABIS USE AMONG UNDERGRADUATES IN SOME  
PRIVATE UNIVERSITIES IN SOUTH-WEST, NIGERIA.**

**RESEARCH LOCATION: SOUTH-WEST, NIGERIA.**

#### NOTIFICATION FOR ETHICAL APPROVAL

Babcock University Health Research Ethics Committee has approved your research proposal and other related materials after the necessary reviews and corrections.

The National code for Health Research Ethics requires that you comply with all institutional guidelines, rules and regulations. All forms and questionnaire must carry the assigned BUHREC number. No changes are permitted in the research without prior approval by the committee.

Please, note that the committee will monitor the research study. You are expected to give a progress report of the investigation and submit a final copy of the research to the committee.

Thank you.



Professor D.O. Akinboye  
Chairman, Babcock University Health Research Ethics Committee

*Babcock University Health Research Ethics committee (BUHREC)*

*...A Seventh-day Adventist Institution of Higher Learning  
Ilsharan Remo, Ogun State, Nigeria. buhrec@babcock.edu.ng*

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